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A Critical Interpretation on Pharmaceutico-Analytical Study of Mayurpichha Bhasma

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ABSTRACT
Mayurpiccha Bhasma is a traditional Ayurvedic Kalpa made from peacock feathers that are often used to cure nausea, hiccups, and respiratory illnesses. Siddhayogsangraha and Bhaishyajya Samhita both describe the MayurpicchaBhasma preparation method. Methodology –Mayurpiccha Bhasma was manufactured according to the Siddhayogsangraha technique, in which peacock feathers were burned over a ghee flame and the completed product was submitted to numerous Physico-chemical analyses such as moisture content, ash value, chemical components, and so on. Observations & Result: Observations were made when the finished product was being tested. Conclusion -Observations and test reports were made, and conclusions were drawn.
Keywords: *Mayurpiccha Bhasma, Physicochemical Analysis, Samhita's, etc*

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INTRODUCTION

Ayurveda is a holistic and one of the oldest disciplines of medicine that teaches a person all they need to know about their health. Acharya stated Chikitsa Chatushpada in Ayurveda, which refers to the four pillars of treatment: Bhishak, Dravya, Upasthata, and Rogi. Chikitsa Chatushpada's Dravya section includes Ayurvedic Kalpa [1]. Dravya is an essential component of Chikitsa Chatushpada. Before utilizing any medication (Kalpa), it should be genuinely made and tested. Mayurpiccha Bhasma is a traditional Ayurvedic preparation (Kalpa) made from peacock feathers. It is often used to treat nausea, hiccups, and respiratory illnesses, among other things. Melanin is found in peacock feathers, which gives them their brown color. Manganese, iron, zinc, copper, and other minerals can be found in peacock feathers [2].
Methods of preparing Mayurpiccha Bhasma are discussed in classical texts such as Bhaishajya Samhita and Siddhayog Sangraha [3-4]. It is produced according to Bhaishajya Samhita by offering four Gajaputaand according to Siddhayog Sangraha by burning peacock feathers on a ghee flame. This is an attempt to make Mayurpiccha Bhasma according to the Siddhayog Sangraha process and to test its Physico-chemical criteria [5].

MATERIAL AND METHODS

It is divided into two sections:
A)Mayurpiccha Bhasma preparation
B) Mayurpiccha Bhasma Physico-Chemical Analysis

Collection of Data

- Peacock feathers and ghee were purchased from a local market;
- Raw material was authenticated by specialists from Drvayaguna's Rasashastra and Bhaishajya Kalpana department.

Method of Preparation

Mayurpiccha Bhasma was made according to the instructions of Vamanadhikar's Siddhayog Sangraha (pg.no.45)

- Peacock feathers were chopped into little pieces and burned with ghee.
- The calx was triturated in Khalvayantra till it was reduced to a fine black powder.
- Mayurpiccha Bhasma was preserved by storing it in an airtight container [6].

Physico-Chemical Analysis

Various Physico-chemicaltests like;

- Organoleptic test
- Inorganic elements
- Total Ash
- Moisture content
- Curd test
- Acid insoluble ash
- Water-soluble ash

ORGANOLEPTIC TEST

The completed product was examined for

- Sparsha (touch)
- Roopa (color)
- Rasa (taste)
- Gandha (smell).

INORGANIC TEST

XRF was used to detect inorganic elements in the form of oxides, such as calcium, iron, zinc, and copper.

TOTAL ASH VALUE

5 gm procedure Weigh the sample and keep it in a silicon crucible. This crucible is heated on a gas heater and maintained on wire gauze.[7] It begins to release fumes, and the heating is maintained until the vapors have subsided. The crucible is then placed in a muffle furnace, equidistant from four walls, and the temperature is progressively increased to 450°C over six hours. The total ash is determined in terms of percentage (percent w/w) after full burning and self-cooling.

The percentage value of total ash content = (Weight of ash obtained/Weight of sample taken) X 100

ACID INSOLUBLE ASH

Procedure - 25 mL dilute hydrochloric acid is used to wash the prepared ash into a 100 mL beaker. The above dish is boiled for 5 minutes. The contents are filtered using ash-free filter paper, and the residue is rinsed twice with hot water. Filter paper is put in a silica crucible and burnt in a muffle furnace at 450°C for many hours by progressively increasing the heat. The crucible is removed and placed in a desiccator after full combustion and self-cooling. The mass of ash in a silica crucible is measured. The acid-insoluble ash is then determined as a percentage (percent weighted average).

The percentage value of acid-insoluble ash = (Weight of ash remained in Crucible/Weight of sample taken) X 100

WATER-SOLUBLE ASH

Follow the same steps as previously for preparing the ash, only instead of 25 mL HCl, use 25 mL distilled water. The weight of the ash in the crucible made of silica is recorded. The amount of ash lost in water is then computed, and the amount of water-soluble ash is expressed as a percentage (percent w/w).

The percentage value of water-soluble ash = (Weight of ash dissolved in water/Weight of sample taken) X 100

Weigh a 5-gm sample and keep it in a ceramic crucible. The hot air oven thermostat is set to 105°C and left to stabilize at that temperature for some time.[8] The sample is maintained in a porcelain crucible on an oven tray that is equidistant from the oven's four walls. One hour is spent drying the sample. To avoid moisture absorption, the porcelain crucible is removed and placed in a desiccator. The weight loss on drying is calculated after the self-cooling porcelain crucible containing sample has been weighed. The moisture content is expressed as a percentage (percent weighted average).

Percentage Value of Moisture content = (Weight of sample obtained/Weight of sample taken) X 100

CURD TEST

MayurpicchaBhasma sprinkled on curd and color change in curd is observed.Sprinkled with MayurpicchaBhasma and served with curd. The color of the curd does not alter.

RESULTS

- Pharmaceutical Study
- Analytical Study

PHARMACEUTICAL STUDY

Weight of raw material (Peacock feather)	500gm
Temperature acquired during the procedure	$\sim 200^0C$
Time required	60min
Weight of finish product (*Mayurpiccha Bhasma*)	300gm

ANALYTICAL STUDY

ORGANOLEPTIC STUDY

Organoleptic characters	Observation
Sparsha(Touch)	Soft(*Shlakshna*)
Roopa(Colour)	Blackpowderform
Rasa(Taste)	Tasteless
Gandha(Smell)	Unpleasant

INORGANIC ELEMENTS

Content	Oxide content	Mass %
K2O	1.456	1.345
TiO2	1.875	0.456
CuO	0.756	0.457
MnO	0.357	0.543
Br	0.453	0.4567
O2	-	41.567
Cao	29.643	19.786
SO3	31.435	15.678
Fe2O3	9.0634	9.675
SiO2	11.432	5.678
Al2O3	4.546	2.435
ZnO	3.400	3.456
Cl	2.770	3.456

PHARMACEUTICAL ANALYSIS

Parameters	**Results**
% of Total ash	29%w/w
% **o**f Acid insoluble ash	5%w/w
% of Water-soluble ash	12%w/w
Moisture content (%)	5%

CONCLUSION

With the process described in Siddhayogsangraha, 300gm of Mayurpiccha Bhasma was made from 500gm of peacock feathers. Mayurpiccha Bhasma was discovered to be a black, fine powder with a terrible odour and no flavour. XRF investigations were used to estimate inorganic elements quantitatively. CaO, SO3, Fe2O3, SiO2, Al2O3, ZnO, Cl, K2O, TiO2, CuO, MnO, Br, O2 are all present in the sample. The Mayurpiccha Bhasma was subjected to a physico-chemical analysis, and the results are reported. The findings might be extremely valuable in establishing Mayurpiccha Bhasma's pharmacopoeial standards.

Conflict of Interest -Nil
Source of Support -Nil

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