



A Physio-Chemical Examination Of Palash Kshar And Apamarga Kshar

Gaurav Jaiswal¹, Jyoti Yadav², Anil Kumar³, Shiv Ji Gupta⁴

^{1,2}Ph.D. Scholar, ³Assistant Professor, ⁴ Professors

¹Department of Shalya Tantra, Faculty of Ayurveda, Institute of Medical Sciences; Banaras Hindu University, Varanasi, Uttar Pradesh, India

Abstract: Kshar is a type of remedy mentioned in Ayurveda scriptures. It is alkaline material derived from the residues of various medications. It is a medicine, created from the ash of dried plants soluble in water by a unique procedure referred to as Kshar kalpana. Apamarga Kshar, Palash Kshar are part of Ksharashtak in Rasatarangini and applied in different conditions.

Objective: To arrange and contrast physicochemical properties of apamarga and palash Kshars

Materials and Methods: Apamarga & Palash Kshar was made according to Rasatarangini and defined by sensory properties, physical-chemical attributes, numerical chemical examinations.

Results: This research clearly showed that the percentage yield of apamarga kshar and Palash Kshar, procured from fully dried panchanga of apamarga and stem bark of Palash. The bark and fruit have values of 6.9, 10.2, respectively. Apamarga and Palash Kshar exhibited variations in the levels of sodium, potassium, and chloride percentages. Carbonate, iron, calcium, sulfate, and phosphate ions. Conclusion: palash kshar possesses the pH value 10.20, humidity level 2.96%, potassium 51.7%, Carbon 15.3% Oxygen 30.1% and trace of Copper 0.3% Aluminum 1.4% while Apamarga Kshar contains the potassium at 65.50% , Oxygen 28.4% and Chloride 3.4% Sodium 1.0% Copper 0.9% iron at 0.2% Phosphorus 0.5%.

I. INTRODUCTION

In Bhaishajya, there are five fundamental kalpanas: Swaras, Kalka, Kwath, Hima, and Phanta. However, different Upakalpanas are also detailed in bhaishajya kalpana such as vati, arka, Lavana, kshar, etc. Kshar kalpana is a crucial kalpana in Ayurveda. Kshar is a type of treatments outlined in Ayurveda scriptures. It is a basic material derived from the residues of burning of various medications. It is a medication, made from the water-soluble ashes of dried plants by a unique procedure referred to as Kshar kalpana. Kshar kalpana holds significant importance because they possess broad therapeutic applicability and are needed in small amounts. Since the time of samhita, ksharas have been employed in the treatment of numerous illnesses. Sushruta has detailed kshara in detail in Sushruta Samhita. Kshar stands out as the foremost among shashttra (sharp tools) and anushashttra (supporting tools), as it carries out tasks such as excision, cutting, Scraping alleviates all three doshas and is appropriate for use with specific techniques utilized both externally and internally as a treatment for different ailments. Thanks to its gunakarma, kshar holds significant value in Kaya chikitsa and Shalya chikitsa. The illness that cannot be treated with any other medication or in cases where surgical intervention is not feasible the A parasurgical method like ksharkarma is highly effective. Apamarga kshara & Palash kshara are part of Ksharashtak in Rasatarangini. Apamarga kshara is frequently utilized in parasurgical techniques in the shape of Ksharsutra, and as a component of different kalpa and Palash kshar are regularly utilized in numerous ailments in the oral manner and as components of different kalpa. To determine if there are any variations in Physico-chemical properties. The current study is conducted on Apamarga Kshar, Palash Kshar.

Materials

Apamarga Panchanga was collected in the month of Nov. Dec. 2022, Palash Twak was in the month of February-March 2022

Methods

The entire process was additionally segmented into three stages:

Stage 1: Preparation of the ash from Apamarga Panchanga & Palash bark.

Stage 2: Preparation of kshar jala.

Stage 3: Preparation of kshar

1: Kshar Preparation

Raw materials were gathered fresh and measured using a weighing scale and were permitted to dry in the sun. Physical impurities were eliminated from the dried apamarga panchanga & Palash were measured and placed in a large iron pan and incinerated totally. Following self-cooling, the collected white-grey ashes were weighed.

2: Ksharjala Preparation

A portion of ash was gathered in a steel container, and four times the amount of water was added to it. The contents were fully mashed by hand and allowed to sit undisturbed for 3 hours (one yam). Subsequently, the transparent supernatant liquid was poured through a saline tube. Subsequently, it was screened. layers of cotton cloth once and additionally with filter paper once then assessed with measuring container.

3: Kshar Preparation

The filtrate (Ksharjala) was placed in a steel container and heated on the gas stove until all the water parts become vaporized. After evaporation, a faint dull white Kshar forms. Kshar was gathered, ground into a fine powder, weighed, and kept in a sealed glass jar. Apamrga kshar & Palasha Kshar were analyzed to assess the organoleptic properties and physicochemical properties including water solubility assessment of moisture content loss at 105°C, measurement of ash value, assessment of acid-resistant ash measurement of pH with a pH meter, assessment of sodium and potassium percentages using XRD, along with the measurement of iron and calcium through TEM & SEM, carbonates, sulphates and phosphates through FTIR.

OBSERVATIONS AND RESULTS

Showing result obtained during preparation of ash of apamarga, palash

plant material	Fresh (weight) (Kg)	After dried (weight) (Kg)	Weight of ash (Kg)	Weight of ash in (%)	Percentage loss after drying	Duration for ash preparation (hours)
Apamarga (whole plant)	50	20	2	10	60	8
Palash (stem bark)	50	20	2	10	60	10

Apamarga Kshar (AK), Palash kshar (PK)

	Apamarga kshar			Palash kshar		
Ash (gm)	2000	-	-	2000	-	-
Water (ml)	8000	4000	2000	8000	4000	2000
Dissolution time (hours)	12	6	6	12	6	6
Filtrate obtained (ml)	6500	3500	1700	6500	3500	1700
% of filtrate obtained	81.25	87.50	85.00	81.25	87.50	85.00
Heating time (hours)	72 at 41° C	40 at 41° C	20 at 41° C	72 at 41° C	40 at 41° C	20 at 41° C
Kshar obtained (gm)	200	85	37	200	85	37
% of obtained kshar	10%	4.2%	1.85%	10%	4.2%	1.85%

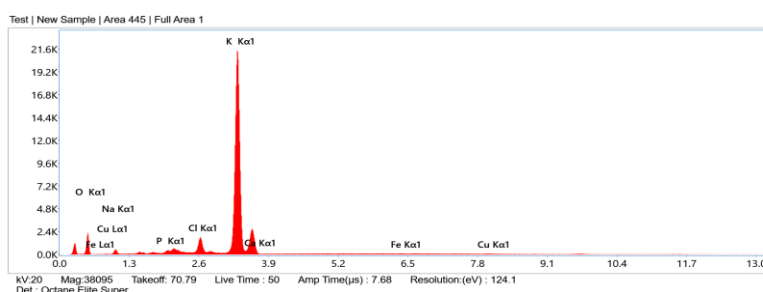
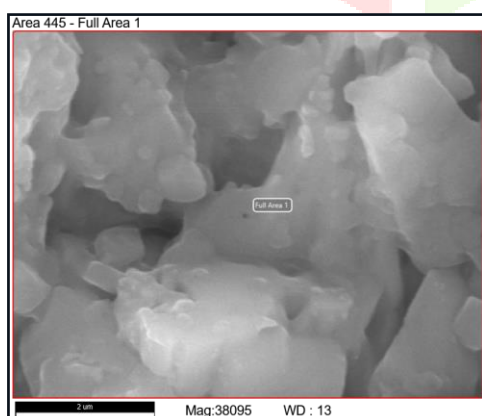
DISCUSSION

Apamarga kshar has been specifically noted in shwas roga (bronchial asthma), Piles (Hemorrhoids) Skin Diseases, Wound Healing & Piles (Hemorrhoids). Apamarga possesses the characteristics of kapha-meda nashan and chedan property, which is why it is utilized in shwas disease. Oil treated with Apamarga kshar is specifically utilized in badhirya. Palash kshar is specially utilized in raktaja gulma (uterine fibroid) and mutrakrucho, ashmari. both act on pranvaha srotas, particularly in shwas mutravaha and annavaha srotas as well, and palash kshar affect the functioning of annavaha srotas and mutravaha srotas. The time needed for the preparation of ash varies for each of the ksharas. It took 12 hours for Apamarga panchanga and 16 hours for palash. The raw materials need to be chopped into smaller sections for faster combustion. The ash acquired from Apamarga panchanga was 7%, while the ash from palash was 9%, while the highest yield came from palash twak, possibly due to the abundance of fibers in palash bark. To prepare ksharjala, 300 grams of ash is required for each specimen of two ksharas was gathered in a steel container to avert potential chemical reactions. Responses. Subsequently, after adding water four times to the ashes, the prepared ash needs to be sieved to eliminate coal particles. Ashes of apamarga panchanga, palash bark were manually crushed for thorough blending in water and then held steady for 3 hours, while palash needed 6 hours. Every sample of two ksharas was collected in a metal container to prevent possible chemical interactions. Afterward, once water has been added four times to the ashes, the prepared ash must be sieved to remove coal particles. Ashes from apamarga panchanga, palash tree bark, and tamarind fruit bark. were manually crushed for complete mixing in water and then held.

CONCLUSION

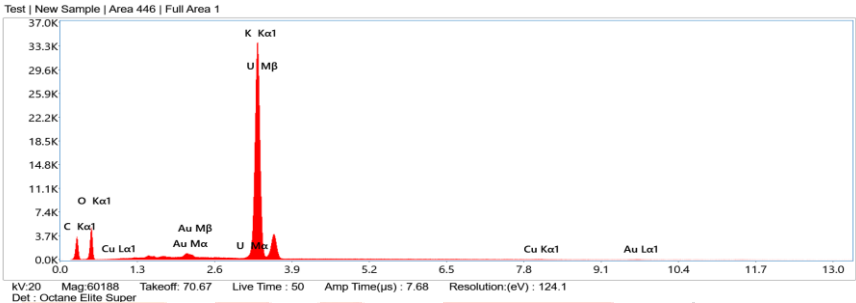
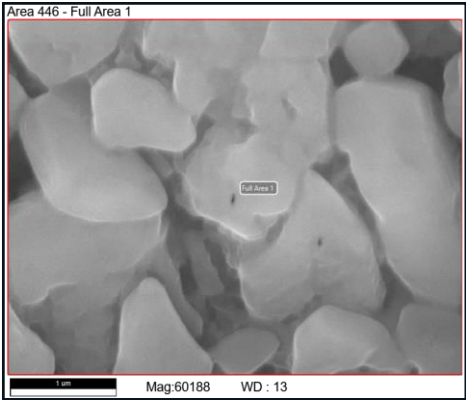
In this research, the apamarga kshar & palash kshar exhibit certain physicochemical. The pH levels observed were 11.95 in Apamarga panchanga kshar and 10.20 in Palash twak kshar. it can be inferred that Apamarg kshar had a higher amount alkaline and has a greater corrosive quality than Palasha kshar. The loss during drying was recorded as 0.99% in apamarga kshar and 2.96% in palash kshar. The moisture levels mentioned above were considered to be within standard limits. Palash ashes was more hygroscopic than apamarga kshara. Total ash was observed at 98% in apamarga kshar, 96 % in palash kshar. Sour Insoluble ash was observed at 0.90% in apamarga kshar, 0.96% in palash kshar. The acid-insoluble ash mentioned above fell within normal ranges. Apamarga kshar possesses the highest percentage of Potassium was 65.5% %, while in palash kshar it was 51.7%. Palash kshar contains the greatest percentage of oxygen was 30.1% %, whereas apamarga kshar contained 28.4%. Apamarga kshar possesses the greatest percentage of Chloride measured 3.4%, whereas in palash kshar Chloride found in trace. Both the Kshar have the peak of carbonate in FTIR study. The percentage of sulphate was observed at 38.88% in palash kshar, 16.07% in apamarga kshar.

Apamarga Kshar



Element	Weight %	Atomic %
O K	28.4	49.0
Na K	1.0	1.2
P K	0.5	0.5
Cl K	3.4	2.6
K K	65.5	46.2
Ca K	0.0	0.0
Fe K	0.2	0.1
Cu K	0.9	0.4

Palasha Kshar



eZAF Quant Result - Analysis Uncertainty: 12.43 %

Element	Weight %	Atomic %
C K	15.3	28.4
O K	30.1	41.8
K K	51.7	29.4
Cu K	0.3	0.1
Au L	1.4	0.2
U M	1.2	0.1



Burring of Apamarga Panchang



Burring of Palasha Bark



Burring of Palasha Bark



Ashing of Palasha Bark



Ash of Palasha Bark



Steering with D/w water



Filtration of Kshar Jala



Drying of Ksharjala



Dry Powder of Kshar

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