

PHARMACEUTICO ANALYTICAL STUDY OF "DURJALAJETA RASA"**S.D. Pawale¹ R.M. Suryawanshi² R.Ingole³**

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ABSTRACT

Ayurveda is a highly evolved and codified system of life and health science based on its own unique and original concept and fundamental principles. *Bhaishajya Kalpana* as a science of drug manufacturing briefs the principles in compounding drug as general outlines. It involves the science of identification, selection, preservation and standardization also. *Rasashastra* is a branch of Ayurveda which deals with the various pharmaceutical processes of *Rasoushodhis*, which are used therapeutically in practice of Ayurveda. *Durjalajeta Rasa* is one of the important rasayoga among them, which is mentioned in well-known rasa text *Rasachandanshu*. **Materials and methods:** To set the SOP for *Durjalajeta Rasa* we prepared its *three* batches. To standardize the sample on physico-chemical parameters it was tested in analytical laboratory and results were documented. **Results:** As a pharmaceutical and physico-chemical analysis there were no much more difference found in all three samples of *Durjalajeta Rasa*. **Discussion and conclusion:** *Durjalajeta Rasa* was prepared by following the method prescribed in *Rasachandanshu*. Analytical study revealed the uniformity of the procedures in all the three samples, as evidenced by the observation of the analytical values of the three samples were not much variation found.

Key words: *Durjalajeta Rasa*, pharmaceutical study, analytical study.

INTRODUCTION

Pharmaceutical study is the study of drug manufacturing. As like healing drug manufacturing too is an art. In treating an ailment the first and foremost thing is preparation of the drug should be proper. Hence the present study is planned to prepare the selected drug following all the methods mentioned in classical texts.

Most of the drugs as such are not easily absorbable to the biological system. So, to make them absorbable and to bring the therapeutic effect, some modifications are required through the specialized techniques

called pharmaceutical process. Standards are living documents, which reflect science, technology & system. To maintain their value they should be first decided, achieved, set and then periodically, reviewed to maintain their currency. In this attempt to set process standardization in the preparation of *Durjalajeta Rasa* three batches of trial drug were prepared and analysed. While actually testing the utility of any pharmaceutical process, it should be viewed with two aspects.

The first is inherent in the process and the materials it involves. They are such that they actually do not much alter the results.

The other aspect is of handling this process & materials. If the process along with the materials involved is very vulnerable to time, space, season, gravitational pull, heat man handling etc. then there is every possibility that it will not yield constant & persistently uniform results over a period variation or place variation.

OBJECTIVES OF THE STUDY:-

- 1] To validate the standard method of preparation of *Durjalajeta Rasa*.
- 2] To find out difficulties in the preparation.
- 3] To know difference in *Durjalajeta Rasa* prepared in three different batches at pharmaceutical grounds.
- 4] To Analyse the trial drug through various physico-chemical tests.

MATERIALS AND METHODS:-

Materials and methods used in this preparation are based on availability, feasibility in classical indication of Rasa Shastra, traditional value and expert opinions. All the raw materials were procured from the SG Phytopharma pharmacy, Kolhapur, Maharashtra. Pharmaceutical processes carried out during the study are as follows –

- Removing foreign material from crude drugs.
- *Kapardika Shodhana*.
- *Kapardika Marana*.
- *Vatsnabaha Shodhan*.
- Preparation of powder of *Shuddha Vatsnabha and Maricha*.¹
- Preparation of *Aadraka Swarasa*.
- Preparation of *Durjalajeta rasa* pills (*vati*).

After removing the foreign matter the entire ingredients were offered for further pharmaceutical processes.

Kapardika Shodhana: *Kapardika shodhana* was done with the reference of *Rasatarangini* 12/89. For purification process net 500gm *kapardika* was taken. *Shodhana* was done using *Dolayantra* filled with *Nimbuswarasa*. About 3 hrs (*Iprahara*) heat was given for *swedana* process. (Results shown in table 1)

Kapardika Marana: It is done with reference from *Rasatarangini* 12/93. For the incineration process net 480 gm *shuddha kapardika* was taken. *Shuddha kapardika* was triturated with *Kumariswarasa* (Aloe vera juice) in a stone mortar for 6 hrs manually. (Results shown in table 2)

Bhasma pariksha: *Bhasma pariksha* was carried out after 3 *puta* and results are Shown below:-

<i>Sookshmatva:</i>	+ Ve
<i>Shlakshnatva:</i>	+ Ve
<i>Varitaratva:</i>	- Ve
<i>Mrudutva:</i>	+ Ve
<i>Rekhapurnatva :</i>	+ Ve
<i>Dantagreakachikachitatva:</i>	+ Ve

• *Vatsanabha Shodhan :*

It was done with the reference from *Rasatarangini* 24/19-22. For purification process 500gm *Ashuddha Vatsanabha* and 1 lit. Cow urine was taken. (Results shown in table 3)

• **Preparation of *Durjalajeta Rasa vati***

The pills were made with the reference of *Rasa Chandanshu*. (Results shown in table 4)

ANALYTICAL STUDY²:

All the three samples of *Durjalajeta rasa* have been analyzed for following organoleptic and physico-chemical parameters.

OBSERVATION AND RESULTS: Table No.1 Showing Organoleptic characters of 3 samples of *Durjalajeta Rasa*:-

Character	S ₁	S ₂	S ₃
Colour	Brown	Brown	Dark Brown
Taste	<i>Katu, Kashaya, Tikta</i>	<i>Katu, Kashaya, Tikta</i>	<i>Katu, Kashaya, Tikta</i>
Odour	Faint	Faint	Faint
Texture	<i>Khar, Mrudu</i>	<i>Khar, Mrudu</i>	<i>Khar, Mrudu</i>

Table No.2 Showing Physico chemical parameters of 3 samples of Durjalajeta Rasa³:-

Sr.No.	Name of Test	S ₁	S ₂	S ₃	Mean
1	Disintegration Time	35 min	37 min	27 min	33 min
2	Hardness	01	03	2.5	2.16 kg/cm ²
3	Loss on Drying	4.07	4.47	8.4	5.64 %
4	Total Ash	27.53	24.63	22.34	24.83 %
5	Water soluble Ash	19.01	15.03	10.24	14.76 %
6	Water soluble Extractive	23.91	23.98	23.32	23.76
7	Acohol soluble Extractive	8.82	7.19	9.62	8.55
8	pH	8.69	8.49	8.59	8.59
9	Friability	Nil	Nil	Nil	Nil

Table No. 3 showing RF values of three samples of Durjalajeta Rasa.

Sr.no	S ₁		S ₂		S ₃	
	RF value	colour	RF value	Colour	RF value	Colour
1	0.6	Gray	0.6	Gray	0.6	Gray
2	0.12	Gray	0.12	Gray	0.12	gray
3	0.28	Gray	0.28	gray	0.28	Gray
4	0.32	Light gray	0.32	Light gray	0.32	Light gray

DISCUSSION

This study was carried out to fix the SOP of *Durjalajeta Rasa*. In this study three samples of the trial drug were prepared. All the genuine raw materials for the preparation of the drug were collected from SG Phyto-Pharma Pharmacy. For the preparation of

trial drug various procedures like *Vatsanabha Shodhana*, *Kapardika Shodhana* and *marana*, Powdering of crude drugs were carried on.

Table No. 4 shows results of *Kapardika-Shodhana*⁴

Features	Before <i>shodhana</i>	After <i>shodhana</i>
Appearance	Solid, Heavy	Solid, Light weight
Odor	No specific odor	No specific odor
Color	Yellow : Shiny	Light yellow, Less shining
Taste	<i>Kshariya</i>	<i>Amleeya</i>
Weight	500 gms	480 gms

Kapardikashodhana was done according to the specification mentioned in *Rasatarangini*. Here fresh *Nimbuswarasa* was used for *shodhana* process. *Swedana* by *Dolayantravidhi* was applied for *shodhana*. *Nimbuswarasa* was taken in the quantity, that *kapardikapottali* should dip completely

Putra	Colour	Lusture	Odour	Weight	Touch	Taste
1 st Putra	Light yellowish	Dull	Faint	460 gm.	Slight soft	Astringent
2 nd Putra	White	Dull	Faint	450 gm.	Soft fine	Slight Astringent
3 rd Putra	White	Dull	Faint	440 gm	Soft fine	Slight Astringent

Kapardikamarana also done with reference of *Rasatarangini*. *Kumariswarasa* was used for trituration and total three puta were given for proper bhasma preparation. The % loss observed after first puta was

in it. At the end of *shodhana* process 480gms of *shuddha kapardika* was obtained. Here loss of 20 gms was observed, it may be due to the impurities of raw *kapardika*.

Table No. -5 Shows results of *Kapardika Marana*

4.16, after second *puta* 2.17 and that of third *puta* was 2.22%. This loss in yield may be due to handling during preparation.

Table No. -6 Shows results of *Vatsanabha Shodhana*

Features	Before Shodhana	After Shodhana
Appearance	Solid, Heavy, Rough	Solid, Light, Smooth
Odour	<i>Tikshna</i>	<i>Gomutra</i> smell
Colour	Dark brown	Light brown
Weight	500 gm	350 gm

Vatsanabha shodhana was carried out according to the method prescribed by *Rasatarangini*. Here the process using *Gomutra* was adopted. As *Vatsanabha* is an established toxic drug and *Gomutra* contains a *Vishahara* property. Simultaneously, *Gomutra* potentiates the *Vata-kaphahara* properties of *Vatsanabha*, being a *Vata-kaphahara dravya* itself. After *shodhana* process, the yield of *Shuddha Vatsanabha* was about 70% as compared with the weight of *ashuddha* one. The loss could be attributed due to two reasons i.e. in making

pieces of *Vatsanabha* and washing out of soluble part of *Vatsanabha* while replacing *Gomutra* daily and at last, in washing with hot water.

***Durjalajeta Rasa* pills preparation:** There are various references mentioned in the text for the preparation of *Durjalajeta Rasa*. But here we have made pills according to the reference of *Rasa-Chandanshu*. Three samples, having same ingredients were prepared for the present study.

Table 7- Showing Result of Three Samples of *DURJALAJETA RASA*¹

	Sample 1	Sample 2	Sample 3
<i>S.Vastanabha</i>	50 gm	50 gm	50 gm
<i>Kapardika</i>	125 gm	125 gm	125 gm
<i>Maricha</i>	225 gm	225 gm	225 gm
<i>Adrakaswaras</i>	500 ml	500 ml	500 ml

Total Quantity	400 gm	400 gm	400 gm
Final yield	420 gm	430 gm	445 gm

Here the gain in the final yield of all three samples may be due to addition of extract of trituration drug i.e. *aadraka swarasa*. From above data it was seen that, there was no much difference found in the final yield of three samples, as same procedure was followed during preparation.

Analytical study: Analytical study deals with the analysis of the values of some physical constants and chemical values of the prepared formulation. In present research work, for physico-chemical standardization, three samples of *Durjalajeta Rasa* were prepared as per *Rasachandanshu* specification (S₁, S₂, and S₃) in the departmental laboratory of *Rasashastra*. Here an attempt was made to put physico-chemical standards for this formulation. (Table 2 & 3)

CONCLUSION

Durjalajeta Rasa prepared as per the *Rasachandanshu* specification shows the increase in weight of sample1, sample2, sample3 that is due to addition of extract from 3 *Bhavanas*, found to be 5%, 7.5%, 11.25% respectively as compared with the initial weight. Analytical study of *Durjalajeta rasa* revealed the uniformity of the procedures in the three samples of *Durjalajeta rasa*, as evidenced by the observation of the analytical values of the three samples were not much variation found.

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