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Analytical Study of *Darvyadi Raskriya*: an Ayurvedic Formulation

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ABSTRACT

Ayurveda is a treasure of herbs that are being used in both preventive and curative aspect of life. *Ayurveda* is rich in various already prepared formulations mentioned by our *Acharyas* that need to be explored. There is need of making these formulation patent and standardization. All these formulations demand scientific study and standardization. One of such formulation is *Darvyadi Raskriya* mentioned in our classics in context of *Sharangdhar Samhita (Netraroganashak Upchaar)*. **Materials and method:** To standardize the sample on physiochemical parameter, it was tested in analytical laboratory and results were documented. **Result:** The result shows the organoleptic character, sterility and clarity. **Conclusion:** *Darvyadi Raskriya* was prepared by following the method prescribed in *Sharangdhar Samhita*. Pharmaceutical and analytical profile of *Darvyadi Raskriya* was established on the basis of microscopic features, TLC fingerprint profiles and the physiochemical parameters.

KEYWORDS

Ayurveda, Darvyadi Raskriya, Analytical study



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INTRODUCTION

Raskriya is a semisolid form of drug, which is prepared by boiling prescribed juice (*swaras*) or decoction (*Kwatha*) till it become thicker¹. *Darvyadi Raskriya* is an effective formulation for dry eye, burning sensation and painful eyes². Almost all the contents of this formulation have *Chakshushya* property that is good for eyes. Foremost component of *Darvyadi Raskriya* is *Daruharidra* (*Berberis aristata*) which is being quoted as *Netra-karanasyaroganutta*³ i.e. pacifies eyes and ear disorders. *Glycyrrhiza glabra* is being considered *Chakshushya* in various treatise of *Ayurveda*⁴. *Acharya BhavPrakash* has also seated *Nelumbo nucifera* as *Chakshushya*⁵. This paper also presents the analytic study of this formulation which is a new asset for the researchers as well as practitioners to relay on its use.

AIMS AND OBJECTIVES

- A) To analyze the physical or organoleptic Character of drug.
- B) To find out the clarity and sterility test of *Darvyadi Raskriya* formulation prepared by classical and modified methods.

MATERIALS AND METHODS

Collection of raw materials

The raw drugs for the study were procured from the Hansa Pharmacy Premnagar Ashram, Haridwar Uttarakhand. (Figure 1-6).



Figure1 Berberis Aristata



Figure 2 Glycyrrhiza glabra



Figure 3 Azadirachta indica

The final product i.e. *Darvyadi Raskriya* was prepared in the Hansa Pharmacy Premnagar Ashram, Haridwar Uttarakhand (Figure 1-6).

Method of preparation of *Darvyadi Raskriya*

The *Darvyadi Raskriya* was first prepared by classical method of *Ghana Satva* in



Figure 4 Prunuspuddum



Figure 5 Nelumbonucifera



Figure 6 Trichosanthesdioica

Table 1 Contents of *Darvyadi Raskriya*:

<i>Drug</i>	<i>Latin Name</i>	<i>Family</i>	<i>Part use</i>	<i>Ratio</i>
<i>Daruharidra</i>	<i>Berberis aristata</i>	Berberidaceae	Root	700gm
<i>Patol</i>	<i>Trichosanthes dioica</i>	Cucurbitaceae	Leaf	700gm
<i>Mulaithi</i>	<i>Glycyrrhiza glabra</i>	Fabaceae	Root	700gm
<i>Prapondreek(kamalnaal)</i>	<i>Nelumbo nucifera</i>	Nymphaeaceae	Stem	700gm
<i>Padmak</i>	<i>Prunus pudum</i>	Rosaceae	Stem	700gm
<i>Utpal</i>	<i>Nelumbo nucifera</i>	Nymphaeaceae	Petals	700gm
<i>Nimbachhal</i>	<i>Azadirachta indica</i>	Meliaceae	Stem bark	700gm

which all the ingredients were taken in equal amount (i.e. 700gm each) and soaked in 8 times of water (i.e. 6.0 liter) for 8 hours, decoction was made i.e. 1/4th of total, then that 1/4th part of decoction was filtered and again boiled till it become thicker (*Ghana*)⁶. After that all that *Ghana Satva* was dried in tray drier at temperature 35-40°C and then powdered. (Figure 7)

Now all that powdered *Ghana Satva* was soaked in 10 times rose water (*GulabArka*) for approx 48 hours, after that it was filtered by filter paper and then passed through UV rays in UV-chamber and then filled into 5ml eye drops container.(Figure 8)The contents of *Darvyadi Raskriya* and there proportion is mentioned in Table 1.

Analytical study

Prepared final product (*Darvyadi Raskriya*) was analyzed by employing various analytical parameters.

Figure 7 Preparation of *Ghana Satva*



Physical Characterization Description or Organoleptic study

Organoleptic characteristics for various sensory characters like appearance, color, taste, odour etc were carefully noted down.

Table 2

Table 2 Organoleptic parameters of *Darvyadi Raskriya*

Parameters	Specification
Appearance	Liquid
Colour	Brown
Odour	Characteristic
Taste	Characteristic

pH value

pH was determined by using Digital pH meter and the measurement of pH was 4.4.

Darvyadi Raskriya was further subjected to Thin Layer Chromatography (TLC) study.

TLC Profile

Instrument used was silica plate. The stationary phase used was silica gel G60F254 and mobile phase was Toluene, Ethyle acetate, Formic acid (6:3:1). The plate was visualized under iodine vapours, Rf value were recorded 0.23, 0.45, 0.45, 0.67. (Figure 9)



Figure 9 TLC profile



Clarity test

Drug was transferred into a flat bottomed test tube of neutral glass 15 to 25 mm in diameter; test tube was filled to a depth of 40 mm to examine a suitable volume of the *Darvyadi Raskriya* solution. Into another matched test tube, same volume of the freshly prepared opalescence standard was added. After 5 minutes, contents of the test tube were compared against a black background by viewing the tubes under diffused light at vertical axis.

Sterility test

Sterility test was done by the method mentioned under IP 2007, Vol-2, which shows that the tested drug was sterile.

Alkaloid estimation

Alkaloid estimation test was done by the method mentioned under A.P.I –II, Vol-1, which shows the result 0.012% w/w.

RESULTS AND DISCUSSION

Pharmacognostical Analysis Organoleptic evaluation was performed at finished product (Observations of organoleptic analysis are tabulated in (Figure1)

Thin Layer Chromatography (TLC) Chromatographic study (TLC) was carried out under 254 and 366 nm UV to establish finger printing profile. It showed Rf values 0.23, 0.45, 0.45 and 0.67 were recorded,

which may be responsible for expression of its pharmacological and clinical actions.

CONCLUSION

Pharmacognostical evaluation of *Darvyadi Raskriya* illustrated the specific characters of this preparation. For the first time, pharmaceutical and analytical profile of *Darvyadi Raskriya* was established. On the basis of microscopic features, TLC fingerprint profiles and the physiochemical parameters dealt within this paper may be used for standardization and quality evaluation of *Darvyadi Raskriya* compound formulation and may be useful infuture for other scholars.



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