



## PHARMACEUTICAL PREPARATION OF *HARIDRA MALAHARA* AND ITS ANALYTICAL EVALUATION

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### ABSTRACT

In developing countries like India people have a fast phase of life. As a result, injuries are common. Economically a huge amount is spent on wound management. In olden days substances derived from animals, minerals and plants were used as crewed remedies in the management of wounds. *Haridra* is used as a household remedies from time unknown. This study is aimed at introducing one such ethno-medicine *Haridra* into a *Malahara* form. *Haridra* was converted into a tropical *Malahara* form after extracting oil from it. This approach was done to make it more user friendly, so that its shelf life and acceptability among the people would be increased. Analytical study was carried out for the same. A homogenous consistency with a strong smell of *siktha* was noted. The colour obtained after was light yellowish in nature. The pH value was 7.4. Spreadability value was 172.23 – gm-cm/sec. The measurement of viscosity of the sample was done using Brookfield viscometer. It would be cost effective and with less complication hence various formulations need to be revived, tested and used in the treatment of wounds. Through this study an attempt has been made to convert a household drug into an acceptable form. The result of analytical study was found to be encouraging and it could be taken up for other studies.

**Keywords:** Wound healing, *Haridra Malahara*, *Vrana*, *Malahara*

**INTRODUCTION:** According to a statistical survey in India, cutaneous wounds have an incidence of 15 per 1000; in which 10.5 corresponds to acute cases while 4.5 are chronic<sup>1</sup>. Humans have complexly surrounded themselves with fast moving life style, gadgets (digitalization) along with the advent of globalization and industrialization due to which various kinds of accidents have increased affecting the life span of all age groups. Attending these accidents for the basic wound healing has always been the topmost priority in health care system. An obvious and significant part of wound treatment includes topical applications. In present medical practice, Povidone Iodine is commonly used in wound management as a topical antimicrobial agent.

In *Ayurvedic* classics, *Acharya Sushruta* has elaborated the varieties of *Vrana* and its management in eight different chapters<sup>2</sup>. The management of *Vrana* is evident by the 60 *Upakramas* (treatment modalities) mentioned by the *Acharya*<sup>3</sup> *Alepa* is the second among these *Upakramas* and said to be having the properties like-*Vranaropana*, *Vranashodhana*, *Vedanahara*, *Shophahara*<sup>4,5</sup> etc. *Acharya Sushruta* has mentioned *Haridra* in several *Ropanayogas* which has been proven globally for its antimicrobial activity. *Nighantukaras* have mentioned *Haridra* with the following attributes like *Vranahara*, *Shophahara*, *Krumihara* and *Kanduhara* etc.<sup>6,7,8,9</sup>. Due to its *Tridoshahara* properties it facilitates

wound healing. Yogarathnakara mentioned *Malahara Kalpana*, it removes *Mala* from *Vrana vidradhi and Twakvikaras*<sup>10</sup>. A convenient and effective mode of administering *Haridra* in *Malahara* form is to be analyzed. The study to standardized the preparation of *Haridra Malahara* in *Sadyovrana* has been taken up.

### AIM AND OBJECTIVES

The aim and objectives were to prepare *Haridra Malahara* and evaluate it analytically.

### MATERIALS AND METHODS

#### I. Identification and collection of drugs

Fresh rhizome of *Haridra (curcuma longa)* (*Zinzeberceae* family), was procured from authentic source in local areas of Moodabidri, Dakshina Kannada, Karnataka. Cleaned well and washed.

#### II. Pharmaceutical preparation:

Pharmaceutical preparations such as *Haridra taila* and *Haridra Malahara* was carried out under the supervision of experts from the *Rasa shastra* and *Bhaishajya Kalpana* Laboratory, Alva's Ayurveda Medical College, Moodabidri.

*Haridra Taila*: The preparation was carried out as per classical references of *Taila kalpana*<sup>11,12</sup>. *Kalka* (paste of raw drug) was taken from the same drug. Sesame oil was used as *snehadravya* in the preparation. The preparation was carried out in mild intensity of fire, with frequent stirring, till the attainment of *Taila Paka Sidhi Lakshana*. Further it was filtered using a clean cloth, preserved in an airtight container. The ingredients of the *Haridra taila* are depicted in Table. 1.

**Haridra Malahara:** *Haridra Malahara* is a modified preparation without any classical references. The procedures were according to the rules of *Malahara kalpana*<sup>13</sup>. The ratio followed was 1:6. To *Haridra taila*, small pieces of bee wax was slowly added and stirred carefully. Preparation was carried out in mild intensity fire. After complete dissolution of wax, filtered properly using a clean cloth. The *Malahara* was later filled into the tubes. The composition of *Haridra Malahara* is depicted in Table 2.

#### III. Analytical study

A study can never be valued without any scientific basis. Standardization of herbal medicine has become the present-day need. To achieve this, one must carry out necessary analysis to detect any factors which hinders the genuiness of the product. Analytical studies were carried out from Srinivas College of Pharmacy, Valachil, Mangaluru, according to standard procedures of Laboratory guide for analysis of *Ayurveda* and *Sidhha* formulations<sup>14</sup>. The parameters considered for analysis includes:

**Organoleptic evaluation:** Carried out by sensory organs. It includes:

1. *Sparsha*- consistency, 2. *Rupa* - appearance, colour, 3. *Gandha* - odour

**Physico- chemical evaluation:** This includes:

1. Determination of pH
2. Viscosity

**Topical sensitivity test**

### RESULTS

#### Pharmaceutical preparation

**Table 1: Ingredients of Haridra taila**

Sl. No	Ingredients	Quantity Used	Quantity Obtained
1	<i>Haridra Kalka</i>	400 G	1200 L
2	<i>Water</i>	6400 ml	
3	<i>TilaTaila</i>	1600 ml	

**Table 2: Ingredients of Haridra Malahara**

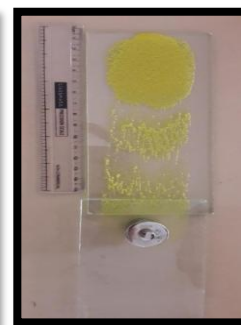
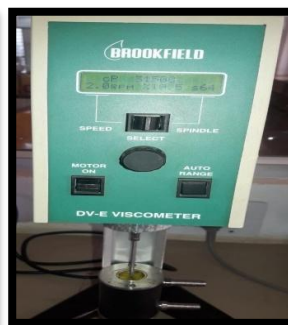
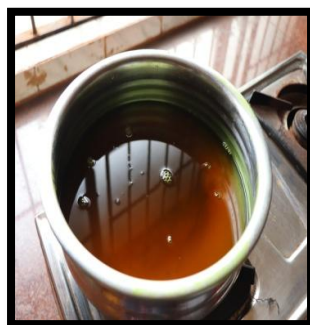
Sl. No	Ingredients	Ratio	Quantity Used	Quantity Obtained
1	Haridra Taila	6 Parts	1200 ml	1300 g
2	Beeswax	1 Part	200 ml	

**Organoleptic Characters****Table 3: Organoleptic Characters:**

Parameters	Results
Colour	Light Yellow
Odour	Strong Characteristic Odour Of <i>Siktha</i>
Consistency	Homogenous and Free from Lumps

**Table 4: Physico- Chemical Analysis:**

Parameters	Results
pH	7.2
Spreadability (Gm.Cm/S)	171.23
Microbial Contamination	18 Colonies of Bacteria

**Topical Sensitivity Test: Negative.****Fig1: Haridra taila****Fig2: Haridramalahara****Fig3: Viscometer****Fig4: Spreadability**

**DISCUSSION: Drug:** *Haridra* is used in the traditional system of medicine. It is used as an anti-oxidant and possess various beneficial properties such as anti-inflammatory, anti-allergic, anti-septic, blood cleansing etc. Curcumin is a derivative from *Haridra* it has excellent result in reepithelization, neovascularization. These results gave me an idea to develop such a pharmacological agent.

**Pharmaceutical preparation:** Initially standard preparation method of *Taila kalpana*, the *kalka*, was taken from the *haridra* Rhizome. The ratio was 1:4:16. *Tila taila* was used as the *Snehedraya*. *Madhyama paka* was obtained after stirring continuously. The *paka siddhi lakshanas* were obtained. According to

classical reference the ration of *siktha* to *taila* is 1:5 or 1:6, 1:6 ratio gave us a homologous mixture. A homologous butter like substance with light yellow color was obtained.

**Analytical study:**

In the present work various Analytical studies were carried out to check the genuity and the quality of the medicine. The organoleptic characters of the drug were analysed by the *Pancha Gyanendriyas*. The consistency of the drug was homogenous and free from lumps. The *malahara* has a strong characteristic order of *siktha*. The colour pursued with *chakshurendriya* was light yellowish. The organoleptic study was satisfactory. The pH value was observed to be 7.2. 7.2 pH denotes a slight alkalinity it is because of

the contents used in the preparation line *tila taila* & beewax. *Haridra Malahara* was applied to the elbow of the hand and observed for any adverse effects like redness of the skin, irritation and inflammation. The observed result was negative. There was no evident adverse effect noted. Spreadability testing is done to assess the spreading properties of liquids, cosmetic oils and emollients. The test method was developed to study the amount of spread that a simple exhibit and be able to characterize materials based on their spreadability. The value was found to be 171.23 GM.CM/S. *Haridra malahara* shows good amount of spreadability. Thermal stability determines the likelihood of a material to undergo phase transitions in response to thermal stress which may occur due to manufacturing process or storage conditions. *Malahara* shows a temperature range of 40-45 C.

Extrudability is the measure of force required to extrude the material from a collapsible tube when certain amount of force has been applied on it in the form of weight. The value signifies, the percent of ointment extruded was good. Loss on drying at 105 C indicates the presence of all evaporating solvents along with water.

**CONCLUSION:**In the present study, *Haridra* was modified into a topical ointment form. The ointment was prepared using *Sikta* (Beewax) as the base substance and the method adopted was with accordance with *Malahara Kalpana*. Analytical evaluation of the formulations was found to be satisfactory.

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