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# Analytical Study of *Shreshthadi Kwath Vati*: An Ayurvedic Herbal Formulation

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## ABSTRACT

Eyes are contemplated as key sense, as the world is visible to us because we are blessed with eyesight. Importance of vision has been described in our classics by stating *Drishti Pradhantamavata*. *Timira* is one of the *Drishtigata Rogas* specified by *Ayurveda Acharyas* which presents with blurred vision initially and if left untreated may lead to complete loss of vision. *Shreshthadi Kwath Vati* is a modified form of traditional *Ayurvedic* herbal formulation. *Shreshthadi Kwath* mentioned in *Yoga Chintamani*. The formulation is believed to cure ocular disease such as *Naktyandha*, *Timra*, *Kacha* and *Patala Rogas*. To overcome the problems of palatability, feasibility, shelf life with *Kwath* form of drug, effort is made to modify it into *Vati* form i.e. *Shreshthadi Kwath Vati*. This paper is made to standardize the formulation through pharmacognostical and pharmaceuticals measures. Pharmaceuticals analysis of *Vati* preparation was done according to API and protocol of drug testing of PLIM. The formulation is safe for use, as heavy metals were below acceptable limit and free from any pathogenic microbes.

**Key Words** *Drishti*, *Timira*, *Shreshthadi Kwath Vati*

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## INTRODUCTION

*Ayurveda* is an unique inherited tradition of health and longevity. *Ayurveda* aims at maintaining good health in a healthy person and to cure the person who is diseased.<sup>1</sup> A wide variety of single and compound formulations have been found to have effective against number of ocular disease. Many preparations have been developed in *Ayurvedic* medical system. *Vati Kalpana* is an important secondary preparation in *Ayurveda* pharmaceuticals. *Vati Kalpana* is widely acknowledged in clinical practices because of its

precision in dosage, longer shelf life and palatability. It is the result of *Kalka Kashaya Kalpana*. *Panchvidha Kasaya Kalpana* are the fundamental preparation.<sup>2</sup>

*Shreshthadi Kwath* is an *Ayurvedic* herbal formulation mentioned in *Yoga Chintamani* having its indication in *Naktyandha*, *Timira*, *Kacha* and *Patala Rogas*<sup>3</sup>. Due to advantages such as easy administration, palatability, convenient form for dispensing, effort is made to modify it into *Vati*. In the present study *Shreshthadi Kwath Vati*

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is selected in context of *Timira*.The composition of the formulation is mentioned in Table 1.

### AIMS AND OBJECTIVES

(1)To examine the physical or organoleptic character of drug.

(2)To figure out the sterility test and physicochemical test of *Shreshthadi Kwath Vati* formulation prepared by traditional and modified methods.

### MATERIAL AND METHODS

**Table 1**Ingredients and Composition of *Shreshthadi Kwath Vati*

DRUG	NAME/ FAMILY	GUNA	DOSHA KARMA	PART USED	COMPOSITION
<i>Haritaki</i>	<i>Terminalia chebula</i> Combretaceae	Laghu Ruksha	Tridosha Shamaka	Fruit	1
<i>Vibhitaki</i>	<i>Terminalia bellirica</i> Combretaceae	Laghu Ruksha	Tridosha Shamaka	Fruit	1
<i>Amalaki</i>	<i>Emblica officianalis</i> Euphorbiaceae	Guru Ruksha	Tridosha Shamaka	Fruit	1
<i>Nimba</i>	<i>Azadirachta indica</i> Meliaceae	Laghu	Kapha-Pitta Shamaka	Leaves	1
<i>Patola</i>	<i>Trichosanths dioica</i> Cucurbitaceae	Laghu Ruksha	Tridosha Shamaka	Leaves	1
<i>Nagarmotha</i>	<i>Cyperus rotundus</i> Cyperaceae	Laghu Ruksha	Kapha-Pitta Shamaka	Rhizome	1
<i>Rajani</i>	<i>Curcuma longa</i> Zingiberaceae	Laghu Ruksha	Tridosha Kapha-Pitta Shamaka	Rhizome	1
<i>Trymana</i>	<i>Gentiana kurroo</i> Gentianaceae	Laghu Ruksha	Tridosha Vata-Kapha Shamaka	Root	1
<i>NagKesar</i>	<i>Mesua ferrea</i> Guttiferae	Laghu Ruksha	Kapha-Pittahar	Stigma	1
<i>Giloy</i>	<i>Tinospora cordifolia</i> Menispermaceae	Guru Snigdha	Tridosha Shamaka	Stem	1

### Method of preparation of *Shreshthadi Kwath Vati*:

*Shreshthadi Kwath Vati* was prepared as per classical method by mixing ingredients *Haritaki, Vibhitaki, Amalaki, Nimba, Patola, Nagar motha, Rajani, Trymana, Nagkesar, Giloy* in equal

### COLLECTION OF RAW MATERIALS

The raw drug for *Shreshthadi Kwath Vati* preparation were obtained from the Hans Pharmacy Premnagar Ashram, Haridwar Uttarakhand. The P.G. Department of Dravyaguna, Rishikul Campus, Haridwar identified the ingredients, and the voucher (DG/RC/UAU-132:02/02/2023) of the specimen sample was kept in department. The final product was prepared in the Hans Pharmacy Premnagar Ashram, Haridwar Uttarakhand.

quantity. The subject was ignited with mild flame for preparation of *Kwatha*. After that *Kwatha* was filtered in another vessel and again heated with mild flame maintaining temperature in between 90 to 100<sup>0C</sup> till consistency become solidified. The *Ghana* was acquired after boiling procedure. Then

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*Emblica officinalis*



*Terminalia bellirica*



*Terminalia chebula*



*Azadirachta indica*



*Trichosanthes Dioica*



*Cyperus rotundus*



*Curcuma longa*



*Gentiana kurroo*



*Mesua ferrea*



*Tinospora cordifolia*

granules were prepared through sieve no.20. At last, the granules form of drugs were compressed in a rotatory multi-station punching machine and punched into tablets. Due to the elimination of heat and moisture from the granules, stability of the formulation may increase. Store and pack the

*Vatis* in an air tight container to protect them from moisture and light.

**METHOD OF EVALUATION OF SHRESHTHADI KWATH VATI:**

The tablets were evaluated by employing parameters mentioned in Ayurvedic

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Pharmacopeia of India & protocol of Ayurvedic drug testing of PLIM, Ghaziabad, UP, India<sup>4-5</sup>.

**Organoleptic study or Physical characterization description**

Organoleptic characteristics for many sensory characters like colour, taste, odour etc was carefully noted down.

**Table 2** Organoleptic properties and Physical parameters of *Shreshthadi Kwath Vati*

Test parameters	Results
<b>Appearance</b>	A dark-brown coloured round shaped uncoated tablet
<b>Colour</b>	Dark Brown
<b>Odour</b>	Characterstic
<b>Average weight(mg)of a tablet</b>	495.7
<b>Uniformity of weight(%)</b>	Within limits
<b>Disintegration time(minutes)</b>	54-55 min

**Uniformity of weight:** The test for uniformity of weight performed by weighing 20 tablets randomly from the tablet batch and ascertaining their weights. The individual weights are compared with the average weight<sup>6</sup>.

**Disintegration time test:** For tablets, the prime step to drug dissolution is a breakdown of the tablets into granules or original powder particles, a process known as disintegration. The equipment consists of a basket-rack assembly containing six open-ended transparent tubes held vertically upon a 10-mesh stainless steel wire screen. While testing, a tablet was placed in each of the basket's six tubes and through a mechanical device, the basket was raised lowered in a bath of fluid at 30 to 32 cycles per minute for 15 minute<sup>7</sup>.

**Physicochemical parameters of *Shreshthadi Kwath Vati***

Various test for physical and chemical parameters of *Shreshthadi Kwath Vati* such as loss on drying, ash number (total ash and acid insoluble ash) and extraction value (water and alcohol) was carried out to establish a new combination drug.

**Table 3** Physicochemical parameters of *Shreshthadi Kwath Vati*

Test parameters	Results
<b>Total ash(%w/w)</b>	11.11
<b>Acid insoluble ash(%w/w)</b>	1.20
<b>Water-soluble extractive(%w/w)</b>	60.13
<b>Alcohol soluble extractive(%w/w)</b>	28.97
<b>Loss on drying</b>	3.83

**Heavy metals test**

Spectrometry of the sample was carried out for the existence of heavy metals such as Cadmium(Cd), lead(Pb), mercury(Hg), arsenic(As)

**Table 4** Heavy metals in *Shreshthadi Kwath Vati*

Heavy metals	Values in ppm
<b>Lead(Pb)ppm</b>	2.76
<b>Arsenic(As)ppm</b>	<0.50
<b>Cadmium(Cd)ppm</b>	0.05
<b>Mercury(Hg)ppm</b>	<0.13

**Microbial Analysis**

*Shreshthadi Kwath Vati* was evaluated for total fungal count and total bacterial count. Total aerobic microbial count determine by plate count method mentioned in A.P.I, Part II, Vol-I, Appendices 2.4.

**Table 5** Microbiological limits test in *Shreshthadi Kwath Vati*

Microorganism	Results
<b>Total bacterial count</b>	70000 cfu/g
<b>Yeast and mould count</b>	200cfu/g
<b>Pseudomonas aeruginosa</b>	Absent
<b>Staphylococcus aureus</b>	Absent
<b>Escherichia coli</b>	Absent
<b>Salmonella sp.</b>	Absent

**RESULTS AND DISCUSSION**

Standardization of every new formulation is essential to ensure the quality of



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formulation. Present study showed all parameters within normal limit of *Shreshthadi Kwath Vati*.

*Rasayana, Chaksushya, Shothhara* properties. All the ingredients were proven authentic. Physicochemical analysis of *Shreshthadi Kwath Vati* revealed the specific properties of ingredients used in the formulation. Organoleptic features were within normal range. The analysis of all pharmaceutical parameters is within normal range. On that basis the present study on *Shreshthadi Kwath Vati* used for standard and quality evaluation.

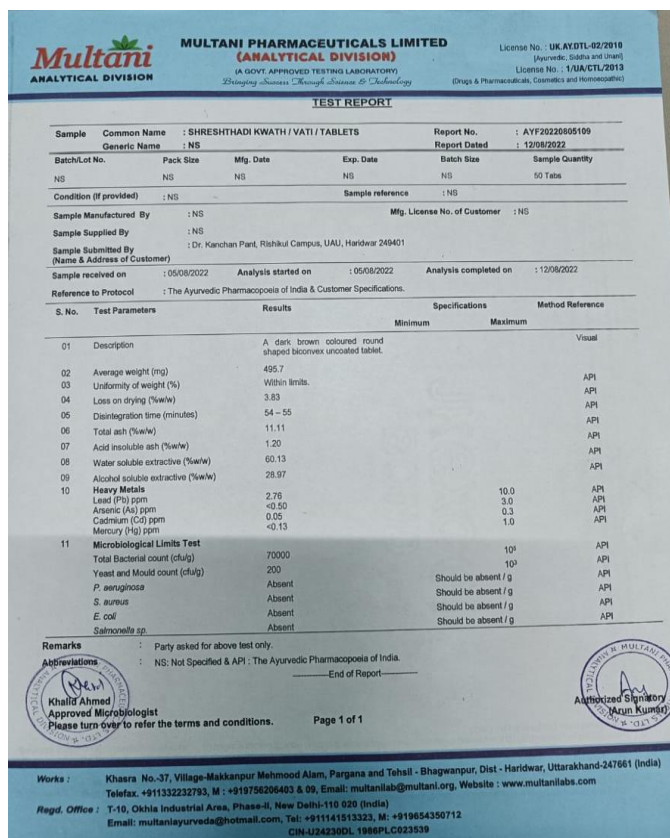


Figure 1 Analytical Report from Multani Pharmaceuticals Ltd.

Organoleptic characters of the sample were dark brown in colour and characteristic odour.

Physicochemical analysis showed that Loss on drying was 3.83%w/w as material gains very little moisture during storage, therefore quality of the product is not much affected. The microbiological study of *Shreshthadi Kwath Vati* showed quality of *Vati* in standard condition. The quantity of heavy metal also within normal range.

## CONCLUSION

The contents of *Shreshthadi Kwath Vati* are predominantly *Tridosha Shamaka*, work on vitiated *Doshas*. *Shreshthadi Kwath Vati* possess

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