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Analytical Study of *Shigru Taila* - An Ayurvedic Formulation

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ABSTRACT

In Ayurveda, medicated oils are used for treatment of almost every disease. For the treatment of *nasarog ShigruTaila* is described in *Vangasen Samhita*. The contents of *Shigru Taila* are *Shigru, Priyangu, Vacha, Shunthi, Pippali, Marich, Munnakka, Surasa (Tulsi), Sendhawa*¹. It contains predominantly *vatakaphadoshashamak dravya*. *ShigruTaila* prepared according to The Ayurvedic Pharmacopoeia of India with standard operative procedure which is described for oil preparation. The present study was undertaken to standardize the formulation of *ShigruTaila* which is prepared by classical method of *Tailapaka*.

KEYWORDS

ShigruTaila, Standardization, Pharmacodynamic, Physiochemical profile



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INTRODUCTION

Shigrutaila is *ayurvedic* medicated preparation which is mentioned for *nasya* therapy in *nasaroga*¹. *Pratishyaya* is one of *nasaroga*, which is described by *acharyas* with great emphasis. *Vatajpratishyaya* is a type of *Pratishyaya* and symptoms of *vatajpratishyaya* are similar to Allergic Rhinitis. In *Ayurveda*, *taila* is a form of *snehakalpna* used in various therapeutic procedures because of its specific properties. *Taila* alleviates *vata-dosh* and

does not aggravate *kapha*². During the *snehapaka* procedure *taila* have a specific property to assimilate the properties of added drugs and maintains its own properties³. In present study *shigrutaila* is taken for the management of *vatajpratishyaya* because of its contents which are predominantly *vata-kaphashamak*. Contents of *shigrutaila* are - *Shigru*, *Priyangu*, *Vacha*, *Shunthi*, *Pippali*, *Marich*, *Munnakka*, *Surasa (Tulsi)*, *Sendhawa*. [Table No-1]

Table 1 Composition of *ShigruTaila*

S.N;	DRUG	LATIN NAME	FAMILY	RATIO
1	<i>Shigru</i>	<i>Moringaoleifera</i>	Moringaceae	2
2	<i>Priyangu</i>	<i>Callicarpamacrophylla</i>	Verbenaceae	1
3	<i>Vacha</i>	<i>Acoruscalamus</i>	Araceae	1
4	<i>Shunthi</i>	<i>Zingiberofficinale</i>	Zingiberaceae	1
5	<i>Pippali</i>	<i>Piper longum</i>	Piperaceae	1
6	<i>Marich</i>	<i>Piper nigrum</i>	Piperaceae	1
7	<i>Munnakka</i>	<i>Vitisinifera</i>	Vitaceae	1
8	<i>Surasa (Tulsi)</i>	<i>Ocimumsantum</i>	Labiatae	1
9	<i>Sendhawa</i>	-	-	1

MATERIALS AND METHODS

Collection of raw materials

All raw drugs which are used for oil preparation (shown in figure) were taken from Hansa Pharmacy, Premnagar Ashram Sidkul, Haridwar Uttarakhand except *shigru* stem bark which was collected from *shigru* tree from Haridwar Uttarakhand and final product i.e. *ShigruTaila* was prepared in the Hansa Pharmacy Sidkul, Haridwar Uttarakhand. The ingredients were

identified by PG Department of Dravyaguna, Rishikul campus Haridwar.

Method of preparation of *Shigru Taila*

The *ShigruTaila* was prepared as per standard operative procedures of The Ayurvedic Pharmacopoeia of India for oil preparation. For the preparation of *ShigruTaila* 2 kg *TilTaila* was taken and all the raw drugs were taken in equal amount i.e. 60gm each in dry form but *shigru* stem bark was taken in fresh form so it was taken



in double amount i.e. 120 gms mentioned in *SharangdharaSamhita*⁴. All the content drugs are shown in figure 1 to 9 and tabulated in Table 1. All the drugs mixed and made a homogeneous coarse powder methodically. After this the powder was soaked in water overnight and used as *kalka* form. 2 kg *Til Taila* was taken in a medium size vessel for *murchhana* and heated on mild flame. When the *taila* heated then *murchhanadravya-Nagarmotha, Lodhra, Manjishtha, daruhaldi, Kamalpuspa, Sugandhabala* were added for fifteen minutes. Required quantity of *kalka* ($\frac{1}{4}$ of *tiltaila*) was added in to *MurchchitaTil Taila* and 4 times of water was added to it. After pouring *kalkadravya* and water, heating was continued on mild flame with continuous stirring, till water evaporated completely and only oil left. Heating was stopped when *varti* was formed. *Varti* was tested for absence of crackling sound. *Taila* was filtered while hot through a muslin cloth and allowed to cool. After that, the

taila was packed tightly. (Respectively shown in Figure 10-12).

Analytical Study:

Prepared final product i.e. *ShigruTaila* was analyzed by employing various analytical parameters.

Organoleptic Study

Organoleptic characteristics like color, appearance of *ShigruTaila* were observed.

[Table No-2]

Physiochemical Analysis

Table 2 Organoleptic Parameters of ShigruTaila

S.NO.	TEST	RESULT
1.	Color	Brown
2.	Appearance	Oily liquid
3.	Refractive index	1.4732
4.	Weight/ml (gm) at 25°C	0.9217
5.	Acid value	0.79
6.	Peroxide value	1.68
7.	Saponification value	184.44
8.	Iodine value	115.96

Physiochemical analysis such as Acid value, Peroxide value, Saponification value, Iodine value, Refractive index, weight/ml (gm) at 25°C tests were carried out.

Table 3 Pharmacodynamics of *Shigru Taila*⁵

<i>Dravya</i>	<i>Rasa</i>	<i>Guna</i>	<i>Virya</i>	<i>Vipak</i>	<i>Dosh-shamak</i>
<i>Shigru</i>	<i>Katu, Tikta</i>	<i>Lagh, Rukha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha, Vata</i>
<i>Priyangu</i>	<i>Tikta, Kashaya, Madhura</i>	<i>Guru, Ruksha</i>	<i>Sheet</i>	<i>Katu</i>	<i>Tridosha</i>
<i>Vacha</i>	<i>Katu, Tikta</i>	<i>Laghu, Tikshana</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha, Vata</i>
<i>Shunthi</i>	<i>Katu</i>	<i>Laghu, Snigdha</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Kapha, Vata</i>
<i>Marich</i>	<i>Katu</i>	<i>Laghu, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vata, Kapha</i>



<i>Pippali</i>	<i>Katu</i>	<i>Laghu, Snigdha</i>	<i>Anushnashe et</i>	<i>Madhur</i>	<i>Kapha, Vata</i>
<i>Munakka</i>	<i>Madhur</i>	<i>Snigdha, Guru</i>	<i>Sheet</i>	<i>Madhur</i>	<i>Vata, Pitta</i>
<i>Tulsi</i>	<i>Katu, Tikta</i>	<i>Laghu, Ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Vata, Kapha</i>
<i>Sendhava</i>	-	<i>Laghu, Snigdha</i>	<i>Sheet</i>	<i>Katu</i>	<i>Vata, Pitta, Kapha</i>

TLC Profile

Instrument used was Silica plate. The stationary phase used was TLC plates silica gel F 254 and mobile phase was Toluene: Ethyl acetate (90:10). The plate was sprayed with vanillin-sulphuric acid reagent and the spots were detected after heating at 105°C for 10 min. R_f value of each spot was recorded. . (Test report and R_f values are shown in figure 13 and 14)

Table 4 Heavy Metals

S.No.	Heavy Metals	Result
1.	Lead (pb) p.p.m.	2.36
2.	Arsenic (As) p.p.m.	< 0.50
3.	Cadmium (Cd) p.p.m.	0.02
4.	Mercury (Hg) p.p.m.	0.29

Table 5 Microbial Load estimation of formulated *Taila*

Heavy Metal Analysis Heavy metal analysis reveals Lead, Cadmium, Arsenic, Mercury mentioned. [Table No-4]

Microbiological limit test

Microbial load estimation shows total bacterial count and total Yeast and mould count. Test for other specific pathogen is negative. [Table No-5]

DISCUSSION

ShigruTaila is explained in *Vangasen Samhita* in *nasarog* for *nasya* therapy but

detailed method of *ShigruTaila* preparation is not available. For optimum therapeutic efficacy *ShigruTaila* was prepared according to The Ayurvedic Pharmacopoeia of India and highest level of hygiene was maintained in all processes till the manufacturing and packaging of finished product was completed in 5ml sterile bottles. In present oil preparation *murcchita til taila* was used to remove bad odor of oil and *amadasha*. *ShigruTaila* is prepared by *Til Taia* and nine other drugs which are predominantly *vata* and *kapha shamak* so the prepared oil will also be predominantly *vatakapha shamak* as summarized in table 3. The obtained values of all tests are found within normal limits which indicate good quality of prepared oil.

CONCLUSION

Pharmaceutical and Analytical results with

S.No.	Test	Result
1.	Total bacterial count (cfu/g)	260
2.	Yeast and mould count (cfu/g)	10
3.	<i>E. coli</i>	Absent
4.	<i>S. aureus</i>	Absent
5.	<i>P. aeruginosa</i>	Absent
6.	<i>Salmonella sp.</i>	Absent

TLC fingerprints are essential parameters for quality and efficacy of prepared oil. Results of physical characters, heavy



metals, microbial, TLC were found within normal limits as given in The Ayurvedic Pharmacopoeia of India. Normal limits

showed that prepared oil is physically and chemically stable and can be used for *nasya* therapy.

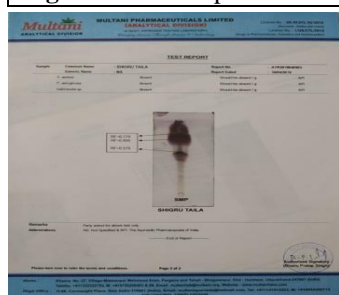


Figure 13 Test Report

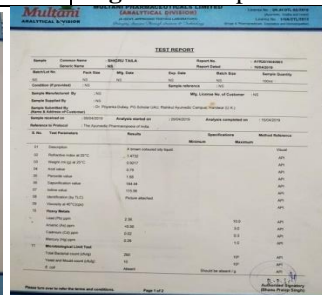


Figure 14 Test Report



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