ISSN 2456-3110
Vol 5 · Issue 5
Sept-Oct 2020

Journal of Ayurveda and Integrated Medical Sciences

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences

Charaka Publications

Indexed

Journal of
Ayurveda and Integrated Medical Sciences
ISSN 2456-3110
ORIGINAL ARTICLE Sept-Oct 2020

Physico-Chemical analysis of *Gandharvahasta Taila* - A Polyherbal formulation

Vd. Sachin Seth[1], Vd. Gangaprasad Asore[2], Vd. Vishakha Vivek Sonawane[3]

[1]Assistant Professor, [2]HOD & Associate Professor, [3]Post Graduate Scholar, Department of Rasashastra and Bhaishajya Kalpana, APM's Ayurved Mahavidyalaya, Sion, Mumbai, Maharashtra, INDIA.

ABSTRACT

Sneha Kalpana, a group of medicated *Taila* and *Ghrita* is an important dosage form described in Ayurveda. It is the only dosage form that can be administered conveniently both internally and externally depending on the diseased conditions. Among these, *Taila Kalpana* is considered as the drug of choice for *Vatavikaras*. *Gandharvahasta Taila* is mentioned in Ashtanga Sangraha in the context of *Vidradhivrudhi Chikitsa* indicated in *Vidradhi, Pleeha, Vata* disorders, etc. **Aim:** The aim of the study was to prepare and analyze the physicochemical parameters of *Gandharvahastadi Taila.* **Materials and Methods:** *Gandharvahasta Taila* was prepared as per the reference in *Ashtanga Sangraha*. The obtained product was subjected to organoleptic and physicochemical analysis. **Results:** Physicochemical parameters obtained are refractive index at 25°C - 1.463, saponification value - 190 mg/g, unsaponifiable matter - 1.4%, specific gravity at 30°C - 0.9201, and viscosity at 30°C - 880cp. **Conclusion**: The values obtained after analysis were found to be within the permissible limits of API.

Key words: *Sneha Kalpana*, *Taila Kalpana, Gandharvahasta Taila.*

INTRODUCTION

Taila Kalpana is an important dosage form of Ayurvedic Pharmaceutics described under *Sneha Kalpana*. It is a pharmaceutical process that ensures the transformation of active therapeutic properties of raw materials into oil. *Sneha Kalpas* are excellent as compared to other dosage forms due to their advantages such as extraction of both fat soluble and water soluble active principles from the raw material. *Gandharvahasta Taila* is mentioned in *Ashtanga Sangraha* in the context of *Vidradhivrudhi Chikitsa*.[1] It is indicated in *Vidradhi, Udavarta, Sopha, Udara* and *Mahavataroga*. Classical *Siddhi Lakshanas* have their limitations, and sometimes it is insufficient to characterize only by organoleptic characters.

Thus it is important to characterize a formulation by Analytical characters. The aim of the study is to analyze the physicochemical properties of *Gandharvahasta Taila*.

Address for correspondence:
Vd. Vishakha Vivek Sonawane
Post Graduate Scholar, Department of Rasashastra and Bhaishajya Kalpana, APM's Ayurved Mahavidyalaya, Sion, Mumbai, Maharashtra, INDIA.
E-mail: vizisonawane13@gmail.com

Submission Date: 28/09/2020 Accepted Date: 22/10/2020

Access this article online

Quick Response Code

Website: www.jaims.in

DOI: 10.21760/jaims.5.5.36

AIM

The aim of the study was to prepare and analyze the physicochemical parameters of *Gandharvahastadi Taila*

MATERIALS AND METHODS

Collection, Identification and Authentication of raw materials

Raw materials were collected from local market.

Identification and Authentication of raw materials was done from certified lab.

ISSN: 2456-3110 ORIGINAL ARTICLE Sept-Oct 2020

Table 1: Showing ingredients of *Gandharvahasta Taila*[2]

SN	Name of Drugs	Botanical Name	Part used	Quantity in text	Quantity converted
Kwatha Dravyas					
1.	*Gandharvahasta Mula (Eranda)*	*Ricinus communis*	Root	1 *Tula*	4.8 kg
2.	*Yava*	*Hordeum vulgare*	Seeds	1 *Aadhaka*	3.07 kg
3.	*Nagara (Shunthi)*	*Zingiber officinale*	Rhizome	1/2 *Kudava*	96 gm
4.	*Ksheera*	Cow's milk	_	2 *Prastha*	1.54 L
5.	Water			1 *Drona*	24.58 L
Reduced to				1/4th	6.14 L
Sneha Dravya					
1.	*Eranda Taila*	_	Oil	1 *Prastha*	768 gm
Kalka Dravyas					
1.	*Gandharvahasta Mula (Eranda)*	*Ricinus communis*	Root	1 *Kudava*	192 gm
2.	*Nagara (Shunthi)*	*Zingiber officinale*	Rhizome	1 *Pala*	48 gm

Preparation of drug

All the raw materials were weighed, washed and dried properly. Decoction of the *Kwatha Dravyas* was prepared. It was allowed to boil until water reduces to 1/4th of the mentioned quantity. *Kwatha* was filtered and was subjected to heat on medium flame in a vessel. Addition of *Ksheera* and *Sneha Dravya* was done to the above *Kwatha* mixture. *Kalka* was prepared from the *Kalka Dravyas* and added to the above mixture. Continuous boiling with stirring was done until *Sneha Siddhi Lakshanas* were seen. The Oil was then filtered and taken further for analytical tests.

Organoleptic Characters

Organoleptic Characters such as Appearance, Colour, Odour & Taste of the finished product were determined and noted.

Physico-Chemical Analysis

Physico-chemical parameters such as loss on drying, specific gravity, refractive index, viscosity, iodine value, saponification value, unsaponification matter were determined and noted.

1. Specific gravity[3]

Specific gravity is the ratio of the weight of the substance in air at a specific temperature to that of an equal volume of water at the same temperature.

$$\text{Specific gravity} = \frac{\text{weight of the substance in air}}{\text{equal volume of water}}$$

2. Refractive Index[4]

R.I at 30°C was checked by Abbe's refractometer.

Then, R.I at 40°C was calculated by the formula:

R=R1 +K (T1−T).

R = Refractometer reading to the specified temperature.

R1 = Reading at temperature T1 °C.

K = 0.000385 for oils

T1 = Temperature at which R1 taken.

T = specified temperature (40°C).

3. Viscosity[5]

Viscosity is a fluid's resistance to flow. Also described as a fluid's thickness. It is measured with the help of a Viscometer.

Viscosity of liquid may be determined by any method that will measure the resistance to shear offered by the liquid

4. Iodine Value[6]

The iodine value (IV) indicates the degree of unsaturation of a fat or oil. It is defined as

ISSN: 2456-3110 ORIGINAL ARTICLE Sept-Oct 2020

the number of grams of iodine absorbed by 100 g of fat.

5. Saponification Value[7]

Saponification value expressed as the amount of potassium hydroxide in mg required to saponify 1 g of fat/oil.

$$\text{Saponification value} = \frac{\text{Blank} - \text{titre value X } 1.006 \text{ X } 28.5}{\text{Weight of the sample}}$$

Ester value = Saponification value − Acid value

6. Unsaponification matter[8]

The unsaponifiable matter consists of substances present in oils and fats, which are not saponifiable by alkali hydroxides and are determined by extraction with an organic solvent of a solution of the saponified substance being examined.

RESULTS

Evaluation of Organoleptic characters

Test	Result
Appearance	Hazy Oil
Colour	Light brown
Odour	Faint
Taste	Bitter

Physico-chemical Parameters

SN	Parameters	Result
1.	Specific gravity	0.9201
2.	Refractive index at 25˚C	1.463
3.	Viscosity	880cp
4.	Iodine Value	110
5.	Saponification Value	190
6.	Unsaponification matter	1.4mg/g

DISCUSSION

The formulation *Gandharvahasta Taila* was evaluated for organoleptic and physico-chemical characters. It's a hazy oil, light brown in colour and bitter to taste. *Eranda Taila* (castor oil) has a saponification value in between 176 & 187.[9] The *Gandharvahasta Taila* contains milk as one of the *Drava-Dravya* which contains ghee in it. Ghee has a saponification value of not more than 225.[10] Hence the saponification value of *Gandharvahasta Taila* is 190.

The results obtained from the analytical tests were found to be in compliance with the API standards.[11]

CONCLUSION

Gandharvahasta Taila is mentioned in *Vidradhivrudhi Chikitsa* in *Ashtanga Sangraha*. Its indications are *Vidradhi* (Abscess), *Pleeha* (Splenic disease), *Gulma* (Abdominal pain), *Udavarta, Sopha* (Swelling), *Udara* (Abdominal disease) and *Mahavata Roga* (diseases due to vitiated *Vata*). The detailed method of preparation is explained in *Ashtanga Sangraha*. With the help of classical reference, *Gandharvahasta Taila* was prepared with SOP, and subjected for analytical study. The results obtained were in compliance with the API standards that indicate the prepared *Gandharvahasta Taila* is of standard quality.

REFERENCES

1. Indu, (2008), Shashileka Sanskrit commentary, Astanga Samgraha of Vriddha Vagbhata, Chikitsasthana, 15/25. Chaukhambha Sanskrit Series Office, Varanasi, pp 521
2. The Ayurvedic Formulary of India, (2003), published by The controller of publications, civil lines, Delhi on the behalf of Government of India, Department of Indian system of Medicine & Homeopathy, part 1, 8/12 pg no. 379
3. The Ayurvedic Pharmacopoeia of India, e-book, Part II, Volume II, Appendix 3.2 page no. 212
4. The Ayurvedic Pharmacopoeia of India, e-book, Part II, Volume I, Appendix 3.1 page no. 232
5. The Ayurvedic Pharmacopoeia of India, e-book, Part II, Volume I, Appendix 3.7 page no. 240

ISSN: 2456-3110 **ORIGINAL ARTICLE** Sept-Oct 2020

6. The Ayurvedic Pharmacopoeia of India, e-book, Part II, Volume I, Appendix 3.11 page no. 242
7. The Ayurvedic Pharmacopoeia of India, e-book, Part II, Volume I, Appendix 3.10 page no. 241
8. The Ayurvedic Pharmacopoeia of India, e-book, Part II, Volume I, Appendix 3.14 page no. 244
9. The Ayurveda Pharmacopeia of India, Part-I. 1st ed. Vol. 4. New Delhi: AYUSH; 2008. p. 224.
10. The Ayurveda Pharmacopeia of India, Part-I. 1st ed. Vol. 4. New Delhi: AYUSH; 2018. p. 204.
11. The Ayurvedic Pharmacopoeia of India, e-book, Part II, Volume I, page no. 121

How to cite this article: Vd. Sachin Seth, Vd. Gangaprasad Asore, Vd. Vishakha Vivek Sonawane. Physico-Chemical analysis of Gandharvahasta Taila - A Polyherbal formulation. J Ayurveda Integr Med Sci 2020;5:255-258.
http://dx.doi.org/10.21760/jaims.5.5.36

Source of Support: Nil, **Conflict of Interest:** None declared.

****