

PHARMACEUTICAL STANDARDIZATION OF ASHWAGANDHADILEHYA

Dr. Priyanka Triwedi*¹ and Dr. Rakesh Sharma²¹Lecturer, Deptt. of Kaumarbhritya, S.A.C. Pilani, Rajasthan, India.²Reader and H.O.D., PG Deptt. of Kaumarbhritya, R.G.G.P.G.A.C. Paprola (H.P.), India.

*Corresponding Author: Dr. Priyanka Triwedi

Lecturer, Deptt. of Kaumarbhritya, S.A.C. Pilani, Rajasthan, India.

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ABSTRACT

Ashwagandhadilehya is a polyherbal medicine described in *Sahasra Yoga* 7/10. Although there are so many indications of this preparation and one of them are *brumhana* and *balya* pharmacological properties. *Balya* and *Bruhmana chikitsa* for undernourished children is an interesting area in the field of *Kaumarbhritya*. The *Bruhmana Chikitsa* accelerates the body growth and development without causing any untoward effects. *Ashwagandhadilehya* is an *Ayurvedic* formulation containing *Ashwagandha* (*Withania somnifera*), *Pippali* (*Piper longum*), *Jaggery* etc as contents. Here, the pharmaceutical aspects and standardization parameters of *Ashwagandhadilehya* are discussed in this article.

KEYWORDS: Polyherbal medicine, *Ashwagandha*, *Pippali*, Standardization.**INTRODUCTION**

With the ever-increasing use of herbal medicines worldwide and the rapid expansion of the global market for these products, the safety and quality of medicinal plant materials and finished herbal medicinal products have become a major concern for health authorities, pharmaceutical industries and the public.^[1] India has a rich heritage of traditional medicines which has been flourishing since very long time. In recent years there is an upsurge in global acceptance of these traditional herbal medicines. Herbal medicines are very much in demand everywhere because of its efficacy and safety measures but its effectiveness and acceptability greatly depends on its quality which is attributed mainly by following standard operating procedures which is described in our *Ayurvedic* classics. The standard operating procedures need scientific validation in current era. The world health Organization (WHO) defined the herbal drugs as “a finished labeled products that contain active ingredients such as aerial or underground parts of plant or other plant material or combinations of thereof, whether in the crude state or as plant preparations^[2]”. *Ashwagandhadilehya*^[3] is a classical *Ayurvedic* polyherbal formulation explained in Classical text *SAHASRAYOGAM* 7/10. The main ingredients of this formulation are *Ashwagandha* (*Withania somniferum* Linn), *Tila* (*Sesamum indicum* Linn.), *Masha* (*Phaseolus mungo* Linn.), *Pippali* (*Piper longum* Linn.). These all ingredients are having *Balya* and *Brimhana* Pharmacological properties. Hence, combination of these herbs along with *Jaggery* and *Ghrta* as in this formulation has better efficacy and acceptability. Roots of *Ashwagandha* are useful in Marasmus of children^[4]

and it has rejuvenative effect^[5] on the body, and is used to improve vitality and aid recovery after chronic illness.^[5] *Ashwagandha* has been described to have *tikta*, *kasaya rasa* (taste) and *madhura* in *vipaka*, *Bruhmana* and *Balya* properties so indicated in *daurbalya*, *balshosha* and *kshaya roga*.^[4] *Pippali* has hepatoprotective^[6], immunomodulatory^[7], antihelminthic and digestive property so, useful in anorexia.^[4] *Masha* has been reported as tonic and nutritious with good appetizer.^[8] *Tila* has hepatoprotective and digestive property and chemically it has been proven that *tila* contains Neutral lipids, glycolipids, arginine, cystine, histidine, isoleucine, leucine, lysine, methionene, phenylalanine, p-amino benzoic acid, ascorbic acid, biotin, choline, folic acid, inositol, niacin, nicotinic acid, pantothenic acid, pyridoxine, riboflavin, thiamine, sucrose, myristic, oleic, palmitic, phytic and stearic acid^[9], So helps to overcome emaciation condition. *Ashwagandhadilehya* is a semisolid preparation of herbal drugs and *ghrita* prepared with the base of *jaggery*.

AIMS AND OBJECTIVE

- Pharmaceutical development of *Ashwagandhadilehya* formulation.
- Evaluation of physico-chemical properties of *Ashwagandhadilehya*.
- Identification of prepared medicine.

MATERIAL AND METHODS

- Procurement of Raw materials.
- Preparation of *Ashwagandhadilehya*.

Procurement of raw materials

Raw materials *Ashwagandha*, *Tila*, *Masha*, *Pippali* were procure from the authorized raw drug store of Palampur (H.P.). Jaggery and ghritha were purchased from local

market of Paprola (H.P.). All ingredients were separated from physical impurities like small stones and sand particles etc. Details of ingredients and their quantity are given in the table no.1.

Table no. 1: Ingredients of *Ashwagandhadilehya*.^[3]

Sr. No.	Official Name	Botanical Name	Parts used	Quantity
1.	Ashwagandha	<i>Withania somniferum</i> Linn.	Root	7 kg.
2.	Tila	<i>Sesamum indicum</i> Linn.	Seed	7 kg
3.	Masha	<i>Phaseolus mungo</i> Linn.	Fruit	7 kg
4.	Pippali	<i>Piper longum</i> Linn.	Seed	7 kg
5.	Guda	Jaggery		7 kg
6.	Ghritha	Clarified butter from cow's milk		7 kg

Preparation of *Ashwagandhadilehya*

The formulation was prepared in the *Charak Ayurved* Pharmacy, Paprola under the supervision of deptt. of *Rasa-Shastra* and *Bhaishajya-kalpana*.

Procedure

All ingredients in pharmacopial quantity were taken. The ingredients *Ashwagandha*, *Tila*, *Masha*, *Pippali* of formulation composition, were washed, cleaned and dried. They were powdered and passed through 180 µm IS (sieve number 85) to obtain fine powder. Jaggery was taken into S. S. Vessels and added sufficient quantity of water then boiled to dissolve and filtered to muslin cloth and prepared a jaggery syrup of thicker consistency by gentle boiling & stirring continuously. Fine powder of

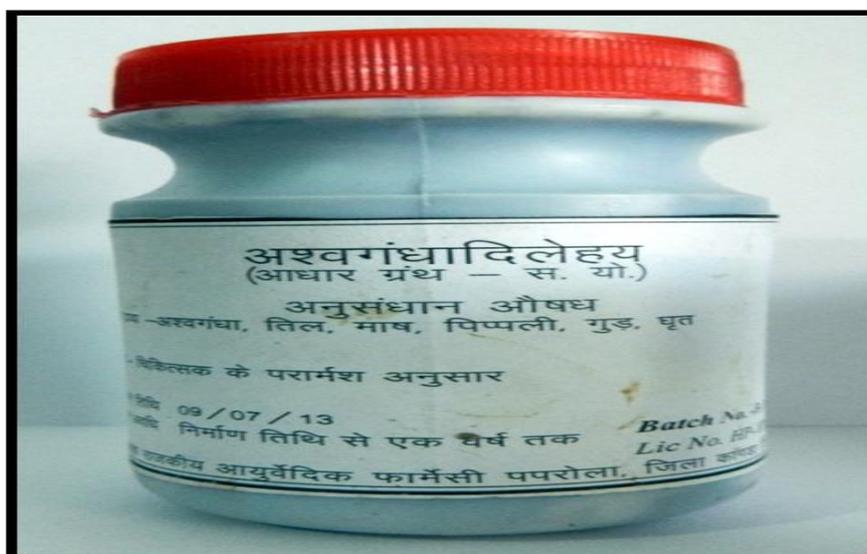
ingredients no.1 to 4 was added when jaggery syrup cooled to room temperature. *Ghritha* was added and lavigated the whole product in the endrunner mill thoroughly to prepare a homogenous mass. It was stored in containers and packed in air-tight containers to protect from light and moisture.

Physico-chemical parameters of *Ashwagandhadilehya*

Macroscopic Description & Physico-chemical analysis, qualitative test and Thin Layer Chromatography study were conducted at Drug Testing Laboratory RIISM, Jogindernagar, Himachal Pradesh. Organoleptic parameters like Appearance, color, odour, taste were assessed.

Table no. 2: Macroscopic Description & Physico-chemical Tests and Identification Tests of *Ashwagandhadilehya* (Results of Tests/ Analysis with Protocols of test applied as per ASU Pharmacopoeia).

Sr.no.	Parameters	Result
Macroscopic Description & Physico-chemical Tests		
01.	Appearance	Semi solid mass
02.	Color	Blackish Brown
03.	Odor	Characteristics
04.	Taste	Sweetish and Pungent
05.	Ph	4.77
06.	Loss on Drying	17.73%
07.	Total Solid	82.27%
08.	Total Ash	3.01%
09.	Acid insoluble Ash	0.52%
10.	Water soluble Extractive	38.11%
11.	Methanol Soluble Extractive	23.90%
Identification Tests		
12.	Qualitative test	Positive test for carbohydrates, alkaloid
13.	Thin Layer Chromatography	<p>Solvent System Tol : EA : FA 10% H₂SO₄ Spray Tol : EA Ansd. spray</p> <p>Rf. values 0.10,0.20,0.27,0.37,0.48,0.62, 0.72,0.86 0.10,0.20,0.30,0.40,0.56,0.70,0.86,0.93</p> <p>Remarks Shows the presence of <i>Tila</i>, <i>Pippali</i>, <i>Ashwagandha</i>, <i>Masha</i></p>



DISCUSSION AND CONCLUSION

Standardization is an important aspect for maintaining and assessing the quality and safety of the polyherbal formulation as these are combinations of more than one herb to attain the desired therapeutic effect⁹. (Vikas Saroch, IJPRBS, 2012: VOL 1(3): 96-119). The polyherbal formulation has been standardized on the basis of organoleptic properties, physical characteristics, and physico-chemical properties. TLC & HPTLC fingerprint profile are used for identification of formulation as well as for deciding the purity and strength and also for fixing standards for the *Ayurvedic* formulation. The *Ashwagandhadilehya* was prepared classically. The *lehya* was evaluated organoleptically as well as physico-chemical characterization such as color, odor, taste, pH, loss on drying, total Ash value, Acid insoluble Ash value, Water soluble extractive, methanol soluble extractive. The prepared *Ashwagandhadilehya* was semisolid in appearance, brown blackish in color, sweetish pungent in taste, with characteristic odor. Obtained result of physico-chemical parameters like pH value was 4.77, total Ash value 3.01% w/w, Acid insoluble Ash value 0.52% w/w, Water soluble extractives 38.11% w/w, methanol soluble extractives 23.91% w/w and loss on drying at 105⁰ C was 17.73% w/w. Major herbal ingredients of the prepared medicine have been identified through Thin Layer Chromatography. *Lehya Kalpana* means the pharmaceutical mode which is ingested in the body by the process of licking. *Lehya Kalpana* holds its speciality in many perspectives. The property of licking is very important regarding its mode of action which starts from the tongue itself. The ingredients like *Ashwagandha*, *Pippali*, *Masha* etc. have a synergistic effect in disorders like emaciation, weakness, disability and various other ailments of the body. In pharmaceutical study a quick and easy preparatory procedure as compared to *Avleha kalpana* has been adopted, which prove to be helpful for *Ayurvedic* scholars when they prepare this formulation of their own. This pharmaceutical standardization can help

and encourage in better understanding of preparation. Standardization of any *Ayurvedic* formulation is utmost important now-a-days to prove its scientific validation. Hence this attempt was made to make better understanding with scientific approach for *Ashwagandhadilehya*.

REFERENCES

1. WHO guidelines for assessing quality of herbal medicines with reference to contaminants and residues by World Health Organization 2007; 01.
2. General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine by World Health Organization Annex I. Guidelines for the assessment of Herbal medicines, 2000; 21.
3. SAHASRAYOGAM, Text with English Translation by Dr. K. Nishteswar & Dr. R. Vidyanath, Ed. Third, 2011, Chowkhamba Sanskrit Series Office, Varanasi, Shloka 7/10; 261.
4. Database on medicinal plants used in Ayurveda by CCRAS, 3.
5. Bhattacharya, S; Goel R; Kaur R; Ghosal S; *Phytotherapy Res.*, 1987; 1: 32-39.
6. Rage N, Dhanukar S, Karandukar SM, Hepatoprotective effects of *P. longum* against carbon tetrachloride induced liver damage, *Indian Drugs*, 1984; 21: 569-570.
7. Devan P, Bani S, Suri KA, Satti NK, and Qazi GN, *Int Immunopharmacol*, 2007; 7(7): 889- 899.
8. Database on medicinal plant used in Ayurveda by CCRAS, 8.
9. Database on medicinal plant used in Ayurveda by CCRAS vol.