



PHARMACEUTICAL STANDARDIZATION OF LELITAKA MAAKSHIKA YOGA TABLET AT INDUSTRIAL LEVEL

Dr. Piyush K. Savaliya

P.G. Scholar, Rasashastra Evam Bhaishajya Kalpana, Department, J. S. Ayurveda Mahavidyalaya, Nadiyad

Dr. Upendra U. Zala*

Professor and Pharmacy Superintendent, Rasashastra, Evam Bhaishajya Kalpana Department, J. S. Ayurveda, Mahavidyalaya, Nadiyad
*Corresponding Author

Dr. Dhatri Umaraniya

Assistant Professor, Rasashastra Evam Bhaishajya, Kalpana Department, J. S. Ayurveda Mahavidyalaya, Nadiyad

ABSTRACT

Background: Ayurveda formulations are widely used also in chronic diseases. The formulation Lelitaka Maakshika Yoga Tablet is not described in any classical Ayurvedic text as Tablet dosage form. The present study has been done to modify the Lelitaka Maakshika Yoga into a tablet dosage form. **Aim and Objectives:** The present study was aimed to develop Standard Manufacturing Procedure [SMP] at industrial level & preliminary analytical profile of Lelitaka Maakshika Yoga Tablet. **Materials and Methods:** The study included preparation of Lelitaka Maakshika Yoga Tablet from Shuddha Gandhaka & Maakshika Bhasma by giving ultimate Bhaavana of Aamalaki Swarasa & Gomutra for 7 days. The prepared tablet was analysed for various parameters as per standard protocol i.e. Organoleptic, Physico-chemical. **Results:** The Average yield of Lelitaka Maakshika Yoga Tablet is 18.93 kg, with an average processing loss of only 2.23%. The prepared tablet is Light Greyish in color having bitter taste. The Average value of pH-6.91, Disintegration Time-154 min, Friability-0.27%, Hardness-6.83 Kg/cm². **Conclusion:** The adopted method for preparation of Lelitaka Maakshika Yoga Tablet can be consider as SMP for future work.

KEYWORDS : Lelitaka Maakshika Yoga, Bhaavana, Rasaayana, Kushtha, Tablet, Industry level

INTRODUCTION

Rasashastra Evam Bhaishajya Kalpana is a branch of Ayurved^[1] which deals with development and preparation of formulation, have ingredients derived from plant, animal and mineral sources. The demand of Ayurved medicines is increasing day by day, So need arises to prepare these kind of formulations at industrial level having optimum standards and quality. The various methods for preparation of different dosage forms are mentioned in Ayurveda classics which must be followed during preparation of medicine. At industrial level, it is required to modify the method of preparation without altering classical basic principles of *Aushadha Nirmaana*.

Tablet is oral dosages form^[2] or solid unit dosage form of medication containing active medicine with suitable excipients^[3]. It is prepared by compression of either dry granules or wet granules.

An ideal drug formulation is one which easy to administer, gives quick response and retain its potency for a longer period. The tablet is one of the most admired and prescribed dosage form due to its palatability, dose accuracy, better self life and convenience in its dispensing & transport. Thus, The present study has been conducted to develop S.M.P. of *Lelitaka Maakshika Yoga Tablet* at industrial level.

Aim & Objectives:

To develop Standard Manufacturing Procedure (S.M.P) and preliminary analytical profile of *Lelitaka Maakshika Yoga Tablet* at industrial level.

MATERIALS AND METHODS:

3 Batches of *Lelitaka Maakshika Yoga Tablet* (LMYT) have been prepared in following manners at Sundar Ayurveda Teaching Pharmacy, PG Department of RSBK, JSAM, Nadiad, Gujarat.

Preparation of Lelitaka Maakshika Yoga Tablet

It has been done according to the reference mentioned in (Charak Samhita, Chikitsa Sthana 7 / 70 - 72) (Modified).

Method of preparation of Lelitaka Maakshika Yoga Tablet.

Shuddha Gandhaka (3 parts) and *Maakshika Bhasma* (1 part) were weighed and triturated thoroughly in an edge runner. The mixture has been then subjected to 7 *Bhaavana* with *Aamalaki Swarasa*, followed by 7 *Bhaavanas* with *Gomutra*, ensuring uniform trituration during each *Bhaavana*. After completion of the *Bhaavana* process, 10 % *gum acacia* powder has been added to obtain a cohesive mass. Small boluses were prepared, dried completely in an industrial tray dryer, and then granulated and passed through a 10# sieve to obtain uniform granules. The granules were compressed using a tablet compression machine fitted with suitable die-punches at 13 RPM & 80 psi compression pressure to produce 500 mg tablets. The prepared tablets were finally weighed and stored in airtight containers for further use.

Ingredients-Table 1: Showing Ingredients used for *Lelitaka Maakshika Yoga Tablet* Batches.

Sr.No.	Ingredients	LMYT1	LMYT2	LMYT3	Avg
1	<i>Shuddha Gandhaka Churna</i> (Kg)	12	12	12	12
2	<i>Maakshika Bhasma</i> (Kg)	4	4	4	4
3	<i>Aamalaki Swarasa</i> (L)	18	18	18	18
4	<i>Gomutra</i> (L)	10	10	10	10
5	<i>Gum Acacia</i> (Kg)	1.6	1.6	1.6	1.6

RESULTS-

(A) Pharmaceutical Study Results:

Table 2 : Showing results of *Lelitaka Maakshika Yoga* Batches.

(B) Analytical Study:

The results has been carried out after testing of all the parameters. The following tests were performed for *Lelitaka Maakshika Yoga Tablet* (LMYT) at Quality Control Laboratory, PG Dept. of Rasashastra Evam Bhaishajya Kalpana, JSAM, MAM University, Nadiad, Gujarat.

Table 2 : Showing results of Lelitaka Maakshika Yoga Batches.

Sr.No.	Parameters	LMYT1	LMYT2	LMYT3	Avg
1	Wt. of Ingredients 1 to 2 no. (Kg)	16	16	16	16

2	Gomutra (L)	10	10	10	10
3	Aamalaki Swarasa (L)	18	18	18	18
4	Wt. after Levigations (Kg)	17	16.8	16.9	16.9
5	Addition of Gumacacia (Kg)	1.6	1.6	1.6	1.6
6	Total Wt. of dried granules(Kg)	19.5	19.2	19.3	19.3
7	Total Wt. of Tablet (500 mg each)	19	18.8	18.9	18.93
8	Wt. loss (g)	500	400	400	433.33
9	Wt. loss (%)	2.56	2.08	2.07	2.23

Results-Table 3: Showing Organoleptic & Physico-Chemical Parameters for Lelitaka Maakshika Yoga Tablet.

Organoleptic parameters	RESULTS			Avg
	LYMT1	LYMT2	LYMT3	
Colour	Light Greyish	Light Greyish	Light Greyish	Light Greyish
Shape	Round flat	Round flat	Round flat	Round flat
Taste	Bitter	Bitter	Bitter	Bitter
Odor	Characteristics	Characteristics	Characteristics	Characteristics
Physico-Chemical Parameters	RESULTS			Avg
	LYMT1	LYMT2	LYMT3	
Weight variation (%)	5.6	6.2	5.9	5.9
Hardness(Kg/cm ²)	7	6.5	7	6.83
Friability(%)	0.2	0.4	0.2	0.27
pH	6.95	6.88	6.90	6.91
Disintegration Time(min)	150	152	160	154
Loss on Drying(%w/w)	4.19	4.63	4.4	4.41
Ash Value(%w/w)	22.78	20.5	27.44	23.57
Acid Insoluble Ash(%w/w)	18.66	17.1	12.87	16.21
Alcoholic Soluble Extractive(%w/w)	9.92	8.32	4.48	7.57
Water Soluble Extractive(%w/w)	10.88	9.52	14.88	11.76

DISCUSSION:

Lelitaka Maakshika Yoga acts in *Kushtha* through the synergistic action of its ingredients. *Shuddha Gandhaka*^[5] provides *Kushthaghna*, *Kandughna*, and *Rasaayana* effects and supports skin health. *Maakshika Bhasma*, due to its *Yogavaahi* and *Rasaayana* properties, enhances drug efficacy and promotes tissue repair. *Aamalaki Swarasa*^[6] acts as a potent antioxidant and rejuvenator, while *Gomutra*^[7] contributes immunomodulatory activity. Thus, the formulation helps reduce inflammation, relieves itching, promotes healthy skin regeneration, and is beneficial in the management of *Kushtha*.

Three batches of *Lelitaka Maakshika Yoga Tablet* were successfully prepared using *Shuddha Gandhaka* and *Maakshika Bhasma* (3:1) followed by 7 *Bhaavanaa* each with *Aamalaki Swarasa* and *Gomutra*. During *Aamalaki Bhaavanaa*, the mass became dark grey, harder and drier, whereas *Gomutra Bhaavanaa* produced foam formation and a gradual color change to light greyish, making levigation comparatively easier. The average weight of the formulation increased from 16.0 kg to 16.9 kg, indicating retention of solid constituents from the liquid media. Addition of 10% Gum Acacia produced suitable granules for compression. The average granule yield was 19.3 kg, with Batch 1 showing the highest yield (19.5 kg). The average tablet yield was 18.93 kg, with an average processing loss of only 2.23%, demonstrating good process efficiency and reproducibility across all three batches.

The 3 batches of *Lelitaka Maakshika Yoga Tablet* exhibited comparable physicochemical and tablet quality

characteristics, indicating good batch-to-batch consistency. The tablets showed Average uniform weight variation (5.9%), adequate hardness (6.83 kg/cm²) and low friability (0.27%), confirming satisfactory mechanical strength and compression quality. The formulation exhibited a near-neutral pH (6.91) and low moisture content (LOD 4.41%), suggesting good stability and storage potential. The relatively higher disintegration time (154 min) may be attributed to the presence of *Maakshika Bhasma*, *Gandhaka* & repeated *Bhaavanaa*, resulting in a compact tablet matrix that may support gradual drug release. The high ash value (23.57%) reflects the mineral-rich nature of the formulation, while the alcohol- and water-soluble extractive values confirmed the presence of both lipophilic and hydrophilic phytoconstituents.

CONCLUSION:

The adopted method can be taken as standard for the preparation of *Lelitaka Maakshika Yoga Tablet* at industrial level and will also be helpful in further studies of similar kinds.

REFERENCES

- Sharma S. *Rasatarangini*. 11th ed. Delhi: Motilal Banarsidass Publishers; Reprint 2019.
- Lachman L, Lieberman HA, Kanig JL. *The Theory and Practice of Industrial Pharmacy*. 3rd ed. New Delhi: CBS Publishers & Distributors.
- Rawlins EA. *Bentley's Textbook of Pharmaceutics*. London: Bailliere Tindall.
- Mukherjee PK. *Quality Control of Herbal Drugs*. New Delhi: Business Horizons Publishers.
- Tripathi B, editor. *Charaka Samhita*. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2022. Chikitsa Sthana 7:70–72.
- Chunekar KC, commentator. *Bhavaaprakasha Nighantu*. Reprint ed. Varanasi: Chaukhambha Bharati Academy; 2022.
- Ayurveda Sara Sangraha*. Reprint ed. Nagpur: Sri Baidyanath Ayurveda Bhavan Pvt.Ltd.; 2021.