

PHARMACEUTICAL STUDY OF TALAKANKO RASA – A HERBOMINERAL FORMULATION

Dr. Konkar Sattwashree Balkrishna^{*1}, Dr. Samant Aditya Aravinda², Dr. Sudhindra A. N.³

¹PG Scholar, Post Graduate Department of Rasashastra and Bhaishajya kalpana, Gomantak Ayurveda Mahavidyalaya and Research Centre, Shiroda, Goa.

²Professor, Post Graduate Department of Rasashastra and Bhaishajya kalpana, Gomantak Ayurveda Mahavidyalaya and Research Centre, Shiroda, Goa.

³Professor & HOD Post Graduate Department of Rasashastra and Bhaishajya kalpana, Gomantak Ayurveda Mahavidyalaya and Research Centre, Shiroda, Goa.

Article Received: 05 December 2025 | Article Revised: 26 December 2025 | Article Accepted: 15 January 2026

*Corresponding Author: Dr. Konkar Sattwashree Balkrishna

PG Scholar, Post Graduate Department of Rasashastra and Bhaishajya kalpana, Gomantak Ayurveda Mahavidyalaya and Research Centre, Shiroda, Goa.

DOI: <https://doi.org/10.5281/zenodo.18439259>

How to cite this Article: Dr. Konkar Sattwashree Balkrishna, Dr. Samant Aditya Aravinda, Dr. Sudhindra A. N. (2026) PHARMACEUTICAL STUDY OF TALAKANKO RASA – A HERBOMINERAL FORMULATION. World Journal of Pharmaceutical Science and Research, 5(2), 151-158. <https://doi.org/10.5281/zenodo.18439259>



Copyright © 2026 Dr. Konkar Sattwashree Balkrishna | World Journal of Pharmaceutical Science and Research.

This work is licensed under creative Commons Attribution-NonCommercial 4.0 International license (CC BY-NC 4.0).

ABSTRACT

Rasashastra and Bhaishajya Kalpana deals with the preparation and therapeutic application of medicines made from herbs, minerals, and metals. One of the major benefits of Rasaushadhis is their effectiveness in very small doses compared to purely herbal medicines, making them easier to administer and often minimizing potential side effects.^[1] **Talakanko Rasa**, as mentioned in Bharat Bhaishajya Ratnakara, is specifically indicated for the treatment of Jwara.^[2] It contains Shuddha Haratala, Shuddha Tuttha, Shuddha Mukta Shukti and Churnaka as ingredients. In the present study all the shodhita ingredients were taken in 2:1:1:4 proportion respectively and Bhavana of Kumari swarasa was given to make pellets and one Gajaputa was given. Pharmaceutical procedures were carried out step by step as per classical reference and SOP. The process-related losses and overall yield are recorded.

KEYWORDS: Kharaliya Rasayana, Herbomineral formulation, Rasaushadhi, Talakanko rasa.

INTRODUCTION

Rasashastra and Bhaishajya kalpana is the branch of Ayurveda which mainly deals with preparation of the various medicines. Which includes drugs of herbal origin, metal-mineral and animal origin. Metals / minerals are known to be toxic in their elemental form. They can be used internally only after certain processing with several herbs and some specific samskaras done on them. By this specific pharmaceutical procedures these drugs are reduced into fine

particles. So that these could be easily absorbed into human body and produce their desired effects and minimize their toxic effects. Rasaushadhis are found to be more stable as compared to plain herbal drugs and have additional properties like (alpamatra, Mahavega etc.) Regarding method of preparation Rasaushadhis can be divided into Kharaliya, Parpati, Kupipakva and Pottali. Kharaliya Rasayana stands foremost among all these preparations because of its popularity, wide range of therapeutic utility. Talakanko Rasa is one of the Kharaliya Rasayana used in various types of Jwara. It is a herbomineral preparation. Haratala, Tuttha, Muktaashukti and Churnaka are the ingredients of Talakanko rasa. In this study, TKR was prepared according to classical texts, pharmaceutical standards, and established SOPs. The purification of Haratala, Tuttha, Muktaashukti, and Churnaka followed approved procedures, and every stage from raw-material procurement to final packaging was systematically documented.

MATERIALS AND METHODS

Literature review

References of Talakanko Rasa are compiled from various texts of Rasashastra, published literature in different databases like Pubmed, researchgate till August 2024.

AIMS AND OBJECTIVES

- To review the classical information of Talakanko Rasa.
- To study the preparation method of Talakanko Rasa.

PHARMACEUTICAL STUDY

Procurement of drugs

Following raw mineral drugs required for the preparation of Talakanko rasa were procured from the authentic sources.

1. Haratala (Arsenic trisulphide)
2. Tuttha (Copper sulphate)
3. Muktaashukti (Calcium carbonate)
4. Churnaka (Calcium hydroxide)

And the required Herbal drugs were procured from the local market of Shiroda that are -

1. Kushmanada (*Benincasa hispida*)
2. Nimbu (*Citrus limon*)
3. Kumari (*Aloe barbadensis* Mill.)

AUTHENTICATION

Authentication of raw herbal drugs was done at Dravyaguna Department of GAM&RC and that of mineral raw drugs was done at Department of Post-Graduate studies in Rasashastra and Bhaishajya Kalpana of GAM&RC.

METHOD

Following are the steps involved in method of preparation –

1. Shodhana of raw material
2. Choornikarana of shodhita dravya
3. Mishrikarana of ingredients
4. Bhavana (for the preparation of Chakrika)

5. Samputikarana with sandhibandhana
6. Subjected to one Gajaputa

1. Shodhana of raw material (Purification)

- **Haratala Shodhana** Date: 22/10/2024

Table No. 1: Haratala shodhana details.

Reference	Method	Materials	Equipment
Rasaratnasamucchaya Ch.3 V.70	Dolayantra Swedana for three hours	Ashodhita Haratala: 550 gm Kushmanda Swarasa: 5 lit	Dolayantra, Iron rod, Thread, White cotton cloth, Gas stove, Match box, Khalvayantra

- Shodhana of Patra Haratala was carried out by Dolayantra Swedana method with Kushmanda swarasa.^[3]

Table No. 2: Observations of Haratala before and after shodhana.

Parameters	Ashodhita Haratala	Shodhita Haratala
Appearance	Layered	Layered
Colour	Yellowish orange	Yellowish
Odour	Characteristic odour of Arsenic	Characteristic odour
Weight	550 gm	535 gm

Total wt. loss - 15 gm

- **Mukta Shukti Shodhana** Date: 29/10/2024

Table No. 3: Ashodhita Mukta Shukti shodhana details.

Reference	Method	Material	Equipments
Rasatarangini Ch.12 V.66-67	Swedana in Dolayantra	Ashodhita Mukta Shukti – 350 gm Nimbu Swarasa – 4 lit.	Dolayantra, Iron rod, Thread, White cotton cloth, Gas stove, Match box, Khalvayantra

- Shodhana of ashodhita Mukta Shukti was carried out by Dolayantra Swedana method with Nimbu swarasa for 3 hours.^[4]

Table No. 4: Observations of Mukta Shukti before and after shodhana.

Parameters	Ashodhita Mukta Shukti	Shodhita Mukta Shukti
Colour	Dull cream white	White
Touch	Rough	Smooth
Odour	Characteristic odour	Characteristic odour
Weight	350 gm	342 gm

Total wt. loss - 8 gm

- **Tuttha Shodhana** Date: 26/10/2024

Table No. 5: Ashodhita Tuttha shodhana details.

Reference	Method	Material	Equipment
Rasatarangini Ch.21 V.106	Bhavana by Nimbu swarasa	Ashodhita Tuttha: 350 gm Nimbu swarasa: 80ml	Khalvayantra, Weighing Balance, measuring glass, other Utensils etc.

Shodhana of ashodhita Tuttha was carried out by Bhavana of Nimbu swarasa for 6 hours.^[5]

Table No. 6: Observations of Tuttha before and after shodhana.

Parameters	Ashodhita Tuttha	Shodhita Tuttha
Colour	Deep blue	Sky - blue
Odour	Metallic odour	Slight lemon
Consistency	Solid crystals	Fine powder
Weight	350 gm	338 gm

Total wt. loss – 12gm

- **Churnaka Shodhana** Date: 30/10/2024

Table No. 7: Churnaka Shodhana details.

Reference	Method	Material	Equipment
Aushadhi Gunadharmashastra vijnana	Nirmalikaarana	Water 5 litres	Wide mouthed stainless-steel vessel, Cotton cloth (double folded) etc.

Nirmalikaarana of Churnaka was carried out for physical impurities^[6]

Table No. 8: Observations of Churnaka before and after shodhana.

Parameters	Ashodhita Churnaka	Shodhita (Nirmalikaarut) Churnaka
Colour	Dull White	Dull White
Odour	No odour	No odour
Consistency	Solid	Fine powder
Weight	600 gm	590 gm

Total wt. loss - 10 gm

Precaution

1. Hygiene was maintained throughout all the procedures.
2. Spillage was avoided to prevent loss in Tuttha shodhana.
3. Hair cap, mask and gloves were used while handling the drugs.
4. In Dolayantra Swedana procedure care was taken for the level of liquid media.

2. Choornikaarana of Shodhita Dravyas

Choornikaarana of Shodhita Haratala and of Shodhita Mukta Shukti was done in Khalva yantra.

3. Mishrikaarana of all the powdered dravyas

Table No. 9: Weight of powdered dravyas with classical ratio.

Sr. No.	Powdered Dravya	Weight	Ratio
1	Sh. Haratala	50 gm	2 parts
2	Sh. Tuttha	25 gm	1 part
3	Sh. Mukta Shukti	25 gm	1 part
4	Sh. Churnaka	100 gm	4 parts

- The Mishrikaarana (mixing) of all the above powdered dravyas was carried out in the proportion prescribed in the classical texts.
- The powders were thoroughly blended to obtain a homogeneous mixture, ensuring uniform distribution of all ingredients.

4. Bhavana: Date: 3/01/2025

For the purpose of Bhavana, extraction of Kumari Swarasa was carried out as per classical reference.^[7]

Procedure and precautions

- Chakrikas were prepared manually, maintaining uniform size and weight.
- The prepared Chakrikas were dried in the shade and stored for further use.
- Continuous Bhavana was given for the prescribed duration without interruption.
- Chakrikas were prepared in uniform shape and size to maintain consistency.
- Strict hygienic conditions were maintained throughout the procedure.

OBSERVATIONS

- **Time taken for Bhavana** – 3 hours
- **Quantity of Kumari swarasa** – 100 ml
- **Colour of the mixture** –
 - Before Bhavana – Whitish
 - After Bhavana – Greyish black
- **Weight of single Chakrika** -
 - Before drying – 10 gm
 - After drying – 5-6 gm
- **Total No. of Chakrika obtained** – 20
- **Thickness in cm (at centre)** – 0.53 cm
- **Diameter in cm** - 4.4 cm
- Completely dried Chakrika showed a smooth and flat surface without any crack.
- Prepared Chakrika easily separated without leaving any residue.
- The weight of dried Chakrika was reduced by about 4- 5 gm.

Table No. 10: Talakanko Rasa Nirmana Details.

Reference	Method with Puta	No. of upalas	Requirements
Bharat Bhaishajya Ratanakara	Marana with Gajaputa	1000	Gajaputa pit, Sharava(2), Fuller's clay, Cotton cloth, Chakrika, Pyrometer, Upalas, Match Box, etc.

Date of initiation – 10/01/2025

Date of completion – 22/01/2025

5. Sampuitkarana with sandhibandhana

1. The dried Chakrikas (pellets) were placed in a Sharava (earthen saucer) and arranged in a single-layer format.
2. Another inverted earthen saucer of the same diameter was placed over it, forming a Sharava Samputa.
3. The junction of both Sharavas was sealed with mud-smear cloth strips (Sandhi-bandhana) and allowed to dry completely.
4. After drying, this procedure of coating and sealing was repeated six more times to ensure proper closure.

6. Gajaputa^[8]

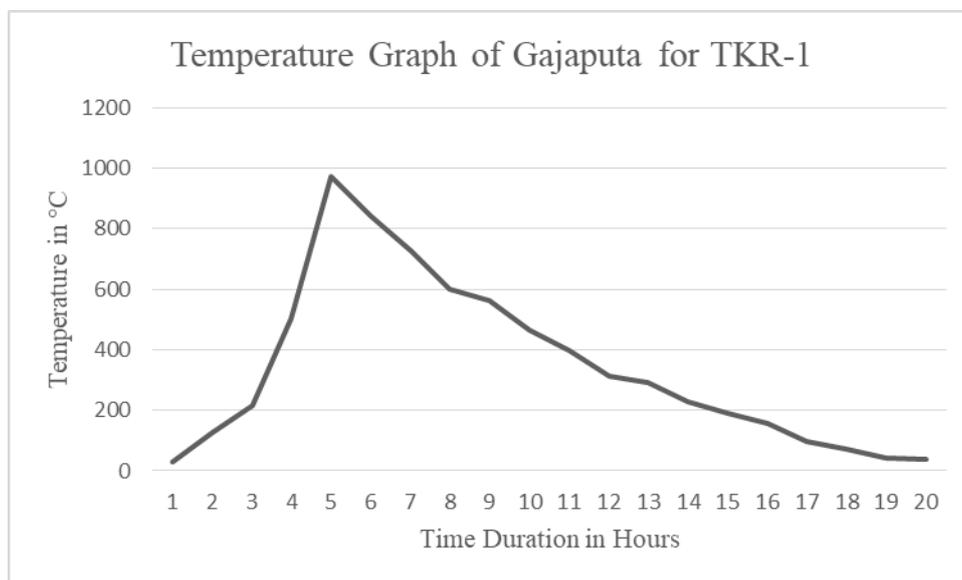
1. A Gajaputa pit was prepared and cleaned.
2. The sealed Samputa was placed in the pit, in which 750 Uplas (cow-dung cakes) were arranged priorly, covering the entire pit area.
3. The Uplas were ignited from all sides simultaneously.
4. The temperature was recorded periodically throughout the procedure to monitor uniform heat exposure.

Precautions

- Both Sharavas taken which were free from cracks and of uniform diameter to ensure proper sealing.
- Chakrikas were arranged strictly in a single-layer format to ensure uniform incineration.
- Each layer of mud-smear cloth (Sandhi-bandhana) was applied only after complete drying of the previous layer.

- While arranging Uplas (cow-dung cakes) in the pit, about two-third of the total were placed at the bottom and the remaining were placed above the Sharava Samputa to maintain uniform heat distribution.

Temperature pattern during TKR



Collection of medicine

- After self-cooling, the Sharava Samputa was removed, cleaned, and the Chakrikas were carefully collected and weighed.
- They were stored in airtight containers and a portion was crushed and triturated in a Khalvyantra to achieve fine consistency.
- The final Talakanko Rasa was then preserved in glass bottles.

Precautions

- Chakrikas were collected from Sharava without any contamination.
- Hygiene was maintained throughout the procedure.

RESULT

Weight of Chakrika	Before procedure	After procedure	Weight loss
	40 gm	24.5gm	15.5gm (38.75%)

DISCUSSION

About 550 g of Ashodhita Haratala was purified in Kushmanda Swarasa using Dolayantra, showing clear changes in colour, odour and medium consistency that indicated effective detoxification. After washing and drying, 535 g of Shuddha Haratala was obtained, reflecting impurity removal and the successful Shodhana process.

About 350 g of Ashodhita Mukta Shukti was purified by Swedana in Nimbu Swarasa for 3 hours, followed by washing and drying, yielding 342 g of Shuddha Mukta Shukti. Noticeable changes included loss of lustre, softening of the pieces and a shift in Swarasa colour, indicating successful Shodhana and improved suitability of the material for further processing.

About 350 g of Ashodhita Tuttha was purified by Bhavana with Nimbu Swarasa for six hours, producing characteristic changes in colour, odour, and consistency that signified effective detoxification. The drug transformed from deep blue crystals to a fine sky-blue powder with a mild lemon smell, indicating successful interaction with the acidic medium. The final yield was 338 g, confirming impurity removal and proper Shodhana.

Churnaka (600 g) was purified by dissolving in water, allowing overnight sedimentation, decanting the supernatant, and drying the settled material, yielding 590 g of Shodhita Churnaka. Shodhita Haratala and Mukta Shukti were then finely powdered in a Khalva Yantra, followed by Mishrikarana of all purified dravyas in the classical 2:1:1:4 ratio to obtain a uniform, pharmaceutically suitable mixture.

Chakrikas were prepared following classical methods using Bhavana with Kumari Swarasa, which produced a uniform, dough-like mass that formed smooth, flat discs. Shade drying ensured crack-free, stable Chakrikas with a weight reduction of 40–45%, and standardized measurements (≈ 4.4 cm diameter, 0.54 cm thickness) ensured uniformity and proper heat distribution during further processing.

Uniform Chakrika weights ensured standardization and consistency, supporting reliable Marana outcomes. In the Gajaputa-based Marana of Talakanko Rasa, Chakrikas were sealed in Sharava Samputa and subjected to controlled, high-intensity heat (peaking at ~ 989 °C), followed by self-cooling and collection of the incinerated product.

The Gajaputa showed a rapid temperature rise to ~ 989 °C within 4–6 hours, followed by gradual cooling over a 20-hour cycle, confirming adequate heat for effective Marana. After retrieval, the intact Sharava and blackish Chakrikas indicated proper transformation, with a typical 60–65% weight loss (down to 3.5–4 g), validating successful incineration.

SUMMARY

TKR was prepared in three batches using authenticated, Shodhita ingredients, with each purification step—Haratala in Kushmanda Swarasa, and Tuttha and Mukta Shukti in Nimbu Swarasa—showing clear physicochemical changes confirming effective detoxification. Chakrikas were formed using Kumari Swarasa and subjected to Gajaputa Marana, achieving temperatures up to 989 °C, yielding a purified, contamination-free final product.

CONCLUSION

The formulation was prepared in three batches using classical Ayurvedic methods while adhering to modern pharmaceutical standards for safety and consistency. Each step was systematically documented and validated, supporting standardization and quality assurance. This integrated approach strengthens the scientific credibility and global acceptability of traditional formulations.

REFERENCES

1. Dr Ravindra Angadi, A Text book of Rasashastra, Chaukhamba Surabharati Prakashan Edition 2021, Ch1, Page 11.
2. Shri Nagindas Chaganlal Shaha, Bharata Bhaishajya Ratnakar, B Jain Publishers, New Delhi, 2012, Volume 2.
3. Acharya Sadananda Sharma, Rasa Tarangini, Translated By Shri KashinathaShastri, 11th Edition, 1979, Motilala Banarsidas, New Delhi, Ch 11, Shloka no. 4-5, Page 244.

4. Acharya Sadananda Sharma, Rasa Tarangini, Translated By Shri KashinathaShastri, 11th Edition, 1979, Motilala Banarsidas, New Delhi, Ch 12, Shloka no.66, Page 296.
5. Acharya Sadananda Sharma, Rasa Tarangini, Translated By Shri KashinathaShastri, 11th Edition, 1979, Motilala Banarsidas, New Delhi, Chapter 21, Shloka no.106, page 540.
6. Shan.Dho.Kulkarni, Aushadhi Gunadharm Shastra Vidnyana
7. Acharya Sadananda Sharma, Rasa Tarangini, Translated by Shri Kashinath Shastri, 11th Edition, Reprint 2004, Motilala Banarsidas, New Delhi, Ch 2, v.50-51, page 21.
8. Vagbhatacharya, Rasaratna Samucchaya, "Rasaprabha" commentary by Dr.Indradev Tripathi, Chowkhamba Sanskrit Bhavan,Varanasi, 2nd edition 2003, Chapter 10, shloka 53-54, Page 114.