WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.453
Volume 14, Issue 23, 997-1005. Research Article ISSN 2277–7105

PHARMACEUTICO -ANALYTICAL STUDY OF ROHINYADI PACHANA KWATHA

***[1]Dr. Varsha, [2]Dr. Radhika Ranjan Geethesh P., [3]Dr. Ravindra Angadi, [4]Dr. Sushmitha V. S., [5]Dr. Ashok Kumar B. N.**

[*1]PG Scholar, [2,5]Professor, [3]Professor and HOD, [4]Assistant Professor
Department of PG and Ph.D. Studies in Rasashatra and Bhaishajya Kalpana'shri
Dharmasthala Manjunatheshwara College of Ayurveda Hospital and Research Centre
Kuthpady Udupi, Karnataka -574118.

Article Received on 02 Nov. 2025,
Article Revised on 22 Nov. 2025,
Article Published on 01 Dec. 2025,
https://doi.org/10.5281/zenodo.17747857

***Corresponding Author**
Dr. Varsha
PG Scholar, Department of PG and Ph.D. Studies in Rasashatra and Bhaishajya Kalpana' Shri Dharmasthala Manjunatheshwara College of Ayurveda Hospital and Research Centre Kuthpady Udupi, Karnataka -574118.

How to cite this Article: *1Dr. Varsha, 2Dr. Radhika Ranjan Geethesh P., 3Dr.Ravindra Angadi, 4Dr.Sushmitha V.S, 5Dr. Ashok Kumar B.N.. (2025) PHARMACEUTICO - ANALYTICAL STUDY OF ROHINYADI PACHANA KWATHA. "World Journal of Pharmaceutical Research, 14(23), 997–1005.

ABSTRACT

Introduction-*Rohinyadi Pachana Kwatha* is mentioned in *Brihat Nighantu Ratnakara*, *Atisara Chikitsa*, indicated for *Sarvatisara*. **Aim-**To prepare *Rohinyadi Pachana Kwatha* and analyse it using various physiochemical parameters. **Materials and Methods-** *Rohinyadi Pachana Kwatha* contains the drugs such as *Rohini, Vacha, Pata, Kushta, Ativisha*. All the drugs were taken in equal quantity *Kwatha* is prepared as per standard operative procedure and pharmaceutico analytical parameters were tested and recorded. **Results-**The physico chemical parameters of *Rohinyadi Pachana Kwatha* were as follows pH-5.03, Refractive index-1.38544, Viscocity-5.00, Total solids – 92.55, Specific gravity-0.993 and TLC blue band at 290 nm. **Discussion-**The pH of Rohinyadi Pachana Kwatha showed its slight acidic nature and total solid represents the concentration of active constituents and dissolved solids. The values of all other parameters also help in proving its effectiveness. **Conclusion-***Rohinyadi Pachana Kwatha* was standardised as per API Guidelines and result of this study can be taken as its preliminary standard profile.

KEYWORDS: *Rohinyadi Pachana Kwatha*, Standardization, *Atisara*.

INTRODUCTION

Standardizing the drugs and formulation establishes a framework for assessing their quality and safety. Formulation quality was evaluated using organoleptic and physical characteristics, as well as qualitative and quantitative analysis. *Rohinyadi Pachana Kwatha* is mentioned in *Brihat Nighantu Rathnakara Atisara Chikitsa* indicated in *Sarvatisara*.[1]

The Efficacy of formulation depends on ingredients present in it. In this study we have standardized it based on API Guidelines.

AIM- To prepare *Rohinyadi Pachana Kwatha* as per *Sharangadhara Samhita* and analyse it using various physicochemical parameters.

MATERIALS AND METHODS

The raw drugs were obtained from the GMP Certified SDM Ayurvedic Pharmacy, Kuthpady, Udupi. Karnataka.

Ingredients of Rohinyadi Pachana Kwatha are tabulated in Table 1 and pictures are depicted in Figures 1-5.

Table 01: Ingredients of *Rohinyadi Pachana kwatha.*

Drug Name	Botanical Name	Part Used	Ratio
Katuki[2]	*Picrorhiza kurroa*	*Mula*	1 Part
Ativisha[3]	*Aconitum heterophylum*	*Kanda*	1 Part
Pata[4]	*Cissampelos pariera*	*Mula*	1 Part
Vacha[5]	*Acorus calamus*	*Kanda*	1 Part
Kushta[6]	*Saussuria lappa*	*Mula*	1 Part

Fig. 1: Katuki.

Fig. 2: Ativisha.

Fig. 3: Vacha.

Fig. 4: Kushta.

Fig. 5: Pata.

Method of preparation of *Rohinyadi Pachana Kwatha*

The drugs were subjected to cleaning and drying process. All the drugs were separately made into course powder through pulverization and then sieved separately. The course powder of all the drugs were mixed homogenously. The course powder of drug is taken in stainless steel and added with 16 parts of water. The vessel was placed over mild fire, boiled and reduced to 1/8th of its original volume. Then *Kwatha* was filter through cloth and remaining residue was discarded.

Table 02: The Analytical parameters done for *Rohinyadi Pachana Kwatha.*

Organoleptic Characters	Physico chemical Analysis	Chromatography
1.Colour 2. Smell 3.Taste 4.Consistency	1.pH 2. Refractive Index 3.Total solids 4.Specific Gravity	1. HPTLC

pH

pH value of an aqueous solution is defined as the common logarithm of reciprocal of the hydrogen ion concentration in grams per litre. This definition indicates acidity or alkalinity of

a solution. pH can be measured potentiometrically using a glass electrode, reference electrode and pH meter.

Preparation of buffer solutions

Standard buffer solution- Dissolve one tablet of pH 4, 7, and 9.2 in 100 ml of distilled water. Determination of pH- 1 ml of sample was taken and make up to 10 ml with distilled water, stirred well and filtered. The filtrate was used for the experiment. Instrument was switched on. 30 minutes time was given for warming pH meter. The pH 4 solution was first introduced and the pH adjusted by using the knob of 4.02 for room temperature 30℃. The pH 7 solution was introduced and ph meter adjusted to 7 by using knob. Then sample solution was introduced and reading was noted. Repeat test four times and the average reading were taken as result.[7]

Refractive Index

The refractive index (n) of a substance with reference to air is the ratio of the sine of the angle of incidence to the sine of the angle of refraction of beam of light passing from air into the substance. It varies with the wavelength of the light used in its measurement. The Abbes refractometer is convenient for the most measurement of refractive index but other refractometer of equal or greater accuracy may be used.

Method-Placed a drop of water on the prism and adjusted the drive knob in such a way that the boundary line intersects the separatrix exactly at the centre. Noted the reading. Distilled water has a refractive index of 1.3325 at 25℃. The difference between the reading and 1.3325 gives the error of the instrument. If the reading is less than 1.3325, the error is minus, then the correction is plus. If the reading is more, the error is plus and the correction is minus. Refractive index of oil is determined using 1 drop of the sample. The correction if any should be applied to the measured reading to get the accurate refractive index. Refractive index of the test samples was measured at 28℃.[8]

Specific gravity

Specific gravity is also known as relative density, that compares the density of the substances to the density of reference substance, usually water.

Method- Cleaned a specific gravity bottle by shaking with acetone and then with ether. Dried the bottle and noted the weight. Cooled the sample solution to room temperature. Carefully

filled the specific gravity bottle with the test liquid, inserted the stopper and removed the surplus liquid. Noted the weight. Repeated the procedure using distilled water in place of sample solution.[9]

Total Solid

Total solids are done to determine the solid particle present in the *Kwatha* or *Arishta*. It provides active pharmaceutical ingredient present in the product.

Method-Transfer accurately weighed 50 g of the sample to an evaporating china dish, which have been dried to a constant weight and evaporate to dryness on a water bath, then dry at 105℃. for 3 hours. After cooling the dish containing the residue in a desiccator for 30 min, weigh it immediately. The weigh of residue should comply with the requirements stated under individual monograph.[10]

HPTLC

Method-10 ml of Kashaya sample was portioned with 20 ml butanol in a separating funnel and kept for 24hr. The butanol fraction was collected and filtered. The butanol was then made to evaporate on a water bath and it is dissolved in 10.0 ml of methanol. 4 and 8 µl of the above samples were applied on a pre-coated silica gel F_{254} on aluminium in chloroform: Methanol (8:2:1.8). The developed plate was visualized under short UV, long UV and scanned under UV 290 nm. Rf, colour of the spots and densitometric scan were recorded.

OBSERVATION AND RESULT

Pharmaceutical study Observation during *Kwatha* preparation

Characteristic odour of its ingredients was observed during and after the *Kwatha* preparation. The colour of *Kwatha* was dark brown after the preparation.

Table 1: Results of Pharmaceutical study of Rohinyadi Pachana Kwatha.

Drugs taken	20 grams each
Total quantity of water	1.6 L
Temperature	80^0 C to 90^0 C
Time taken for reduction	2 hours
Total quantity of *Kwatha* obtained	200 ML

Table 2: Organoleptic Characters.

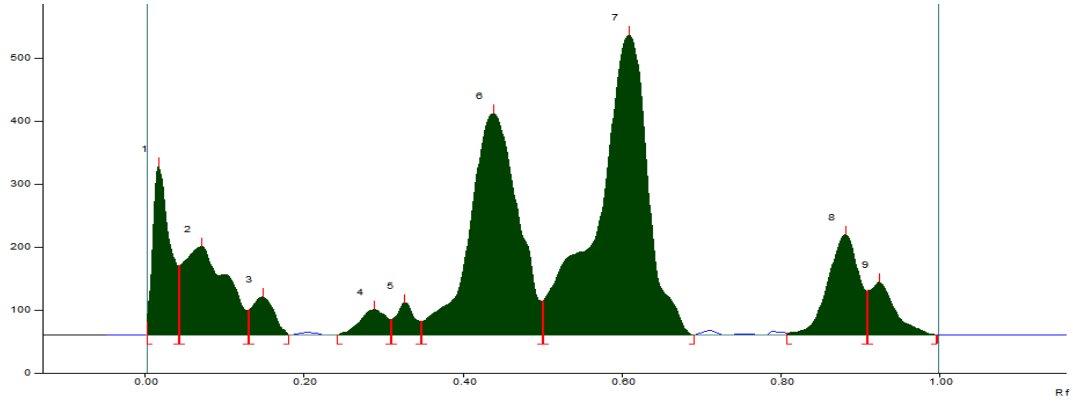
Organoleptic characteristics	Result
Colour	Brown
Taste	*Tikta, Kashaya*
Smell	*Kashaya*
Consistency	Thick liquid

Table 3: Analytical Study Results.

Parameter	Results n-3%w/w
pH	5.03
Total solids	92.55
Specific gravity	0.993
Refractive Index	1.38544

Table 4: R_f Value of Rohinyadi Pachana Kwatha.

Short UV	Long UV
-	0.08 (F. blue)
-	0.13 (F. blue)
-	0.26 (F. blue)
-	0.34 (F. blue)
0.40 (Green)	0.40 (F. Blue)
-	0.47(F. yellow)
-	-
0.55 (Green)	-
-	-
0.79 (Green)	0.79 (F. blue)
-	-
-	0.86 (F. blue)
-	0.91 (F. Blue)



Track 1, ID: Rohinyadi Pachana Kashaya

Peak	Start Position	Start Height	Max Position	Max Height	Max %	End Position	End Height	Area	Area %
1	0.00 Rf	20.9 AU	0.02 Rf	266.9 AU	16.39 %	0.04 Rf	09.6 AU	4070.4 AU	7.37 %
2	0.04 Rf	110.4 AU	0.07 Rf	140.2 AU	8.61 %	0.13 Rf	39.3 AU	5480.2 AU	9.92 %
3	0.13 Rf	39.9 AU	0.15 Rf	60.2 AU	3.69 %	0.18 Rf	0.7 AU	1198.3 AU	2.17 %
4	0.24 Rf	0.0 AU	0.29 Rf	40.3 AU	2.48 %	0.31 Rf	23.9 AU	965.3 AU	1.75 %
5	0.31 Rf	24.4 AU	0.33 Rf	51.3 AU	3.15 %	0.35 Rf	21.9 AU	806.6 AU	1.46 %
6	0.35 Rf	22.0 AU	0.44 Rf	351.2 AU	21.57 %	0.50 Rf	53.1 AU	15160.0 AU	27.43 %
7	0.50 Rf	53.9 AU	0.61 Rf	475.8 AU	29.22 %	0.69 Rf	0.2 AU	21256.5 AU	38.47 %
8	0.81 Rf	3.4 AU	0.88 Rf	158.7 AU	9.74 %	0.91 Rf	70.0 AU	4413.9 AU	7.99 %
9	0.91 Rf	70.4 AU	0.93 Rf	83.8 AU	5.15 %	1.00 Rf	0.2 AU	1907.4 AU	3.45 %

Fig.06- Rohinyadi Pachana Kwatha, R_f - Rf 0.60±0.01(38.47%, Picroside I), 0.43±0.01 (27.43%, Picroside II).

DISCUSSION

Kwatha is derived from the word *Kwathana* which means the process of boiling. *Kwatha* is the liquid dosage form obtained by boiling specific ration of water and then reduced to specific proportion. The drug should be made into *Yavakuta churna*. As per the general method of preparation of *Kwatha Kalpana* 16 parts of water is added and reduced to 1/8th proportion. The main purpose of preparing *Kwatha* is to extract the water-soluble constituents of herbs.

To prepare *Rohinyadi Pachana Kwatha*, the ingredients are made into course powder to increase the surface area to facilitate the extraction of active components easily into the water. All the powders are mixed homogenously and added with 16 parts of water boiled in mild fire. During boiling agitation should be done to remove the froth formation above the upper layer of *Kwatha* and to prevent the settling of *Kwatha Dravya* at the bottom of the vessel. After attaining proper reduction *Kwatha* should be filtered through clean cloth to separate solid particle from the preparation. It took approximately 2 hours. During the process of preparation of *Rohinyadi Pachana Kwatha*, the aroma of the ingredients was elicited and colour changes to brown. The *Kwatha* became thick due to release of starchy compounds from *ativisha* and *Vacha.*

The pH 5.03 of *Rohinyadi Pachana Kwatha* showed its slight acidic nature and total solid 92.55 represents the concentration of active constituents and dissolved solids. Refractive index-1.38544 represents the amount of dissolved solid. Specific gravity-0.993 and densitometric scan at 254 nm of *Rohinyadi Pachana Kwatha* shows maximum area at R_f value 0.60, that is 38.47%.

CONCLUSION

In pharmaceutical study, *Rohinyadi Pachana Kwatha* was prepared according to the general method of preparation of *Kwatha Kalpana* mentioned by *Acharya Sharangadhara* and subjected to specified analytical tests and the values were within the permissible limit and it is standardized as per the standard protocol. Hence it can be concluded that this study can be taken as a preliminary standard profile of this formulations.

REFERENCES

1. Mathura Shri Dattha Rama Shrikrishnalal, (1st ed.). Brihat Nigantu Rathnakara: triteeya/chathurtha Baga: Sarvathisarachikista: verse 1625: Mumbai: Khemaraja Shrikrishna Dasa Prakashana; 1925; 203.
2. Hegde P, A H. A Text Book of Dravyaguna Vijnana. 2nd ed. Vol. II. New Delhi: Chaukhambha Publications, 2024; 382: 764.
3. Hegde P, A H. A Text Book of Dravyaguna Vijnana. 2nd ed. Vol. II. New Delhi: Chaukhambha Publications, 2024; 84: 764.
4. Hegde P, A H. A Text Book of Dravyaguna Vijnana. 2nd ed. Vol. II. New Delhi: Chaukhambha Publications, 2024; 532: 764.
5. Hegde P, A H. A Text Book of Dravyaguna Vijnana. 2nd ed. Vol. II. New Delhi: Chaukhambha Publications, 2024; 675: 764.
6. Shastri J.L.N. Illustrated Dravyaguna Vijnana. 3rd ed. Vol. II. Varanasi: Chaukhambha Publications, 2008; 307: 1134.
7. Lohar D.R. Protocol for Testing of Ayurveda, Siddha & Unani Medicines, (1st ed). Ghaziabad: Pharmacopoeil Laboratory For Indian Medicines, Government OF India, Department of Ayush, Ministry Of Health and Family Welfare, 2008; 112.
8. Honward, SV, A Hand Book of Standardization of Ayurvedic Formulations, Procedures and tests required for Standardisation of Ayurvedic Drugs and Formalations, Chapter 4. Varanasi:Chaukhambha Orientalia, 2012; 94.
9. Honward, S.V, A Hand Book of Standardization of Ayurvedic Formulations, Procedures and tests required for Standardisation of Ayurvedic Drugs and Formulations, Chapter 4. Varanasi: Chankhambha Orientalia, 2012; 95.
10. Honward. S.V. A Hand Book of Standardization of Ayurvedic Formulations, Procedures and tests required for Standardisation of Ayurvedic Drugs and Formulations. Chapter 4. Varanasi:Chaukhambha Orientalia, 2012; 98.

11. Lohar D.R. Protocol for Testing of Ayurveda, Siddha & Unani Medicines, (1st ed). Ghaziabad: Pharmacopoeil Laboratory For Indian Medicines, Government OF India, Department of Ayush, Ministry Of Health And Family Welfare, 2008; 104-107.