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PHARMACOGNOSTICAL AND PHARMACEUTICAL EVALUATION OF *VASADI CHURNA*

Ankit Kumar Garg*[1], Gaurav Balat[2], L. P. Dei[3], Harisha C. R.[4] and V. J. Shukla[5]

[1]MS. Scholar, Department of *Prasuti Tantra* and *Stree Roga.*

[2]PhD. Scholar, Department of *Prasuti Tantra* and *Stree Roga.*

[3]Professor and Head, Dept. of *Prasuti Tantra* and *Stree Roga.*

[4]Head, Department of Pharmacognosy,

[5]Head, Laboratory of Pharmaceutics, IPGT & RA, GAU, Jamnagar.

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***Corresponding Author**
Dr. Ankit Kumar Garg
MS. Scholar, Department of *Prasuti Tantra* and *Stree Roga.*

ABSTRACT

Asrigdara is a common *Artavvikara*, characterized by excessive uterine bleeding with complications. Modern treatment with analgesics and hormonal therapy has limitations, side effects, and which also leads to the recurrence of the disease. Ayurveda has a number of herbal and polyherbal compound drugs useful to manage *Asrigdara* and related symptoms and complications. And These drugs also available on the market in a low cost. *Vasadi Churna* is one of the best drugs that are good results for excessive bleeding. it is the best bleeding stopper. An effort has been made in this paper to scientifically review and explain the role of *Vasadi Churna* in Abnormal uterine bleeding. **Aim:** The present study was aimed at setup a standard profile of Vasadi Churna which was prepared to subject it to detailed Pharmacognostical, Physicochemical and Phytochemical evaluation. **Material and methods:** *Vasadi Churna drugs* intrigants were collected from the Pharmacy of GAU, Jamnagar, were identified and authenticated at Pharmacognosy laboratory, IPGT and RA, Jamnagar and *Vasadi Churna* was prepared in The Pharmacy, GAU, Jamnagar. **Result:** The result of the Pharmacognostical study shows that the presence of Rhomboidal crystal of *Raktachandana*, Strach Gain of *Musta* and *Rasanjana*, lignified stone cell of *Bilva*, annular vessels of *Musta*, epidermal cell of *Raktaarka Pushpa* and *Vasa*, cystolic of *Vasa*. The pharmaceutical analysis showed that Loss on drying 4.06 % w/w, pH 6. The analytical study showed 10 spots at 254 nm and 8 spots at 366 nm. Conclusion: The findings of the study will be useful in the identification and standardization of the Vasadi Churna.

KEYWORDS: *Vasadi* Churna, HPTLC, Pharmacognosy, Pharmaceutics, abnormal uterine bleeding, *Asrigdara*.

INTRODUCTION

Pharmaceutics is the discipline of pharmacy that deals with the process of turning a new chemical entity (NCE) into a medication to be used safely and effectively by patients. It is also called the science of dosage form design. There are many chemicals with pharmacological properties, but need special measures to help them achieve therapeutically relevant amounts at their sites of action. Pharmaceutics helps relate the formulation of drugs to their delivery and disposition in the body. Pharmaceutics deals with the formulation of a pure drug substance into a dosage form.

A healthy woman is the image of healthiness. In a present era with the changing role of women in society, occupational was about and with increased stress, there is an increase in gynaecological disorders. In today's scenario, the disorder of menstruation is the commonest amongst all the gynaecological complaints which have a direct effect on the physical as well as psychological health of the females. Menstrual health also reproductive health. The length of *Rituchakra* (menstrual cycle) is lunar month i.e. 28 days the duration of bleeding is normally 3-5 days and 50-80 ml in quantity so any changes in the quantity and duration are known as "*Asrigdara*".[1]

The word *Asrigdara* explains about prolonged, cyclic, or acyclic excessive menstrual bleeding in Ayurveda. In this type of bleeding disorder, the quality and quantity of menstrual fluid are mainly affected.[2]

Normal menstruation denotes the healthy state of the female reproductive system. When the cycle turns to be abnormal i.e. excessive and prolonged bleeding or associated with pain or appearing at irregular intervals than it is suggestive of some underlying pathology. Menorrhagia is defined as cyclic bleeding at normal intervals; the bleeding is either excessive in amount (>80 ml) or duration (> 7days) duration. Metrorrhagia is irregular acyclic bleeding. DUB is excessive uterine bleeding without any pelvic pathology. All these conditions are considered in AUB (Abnormal uterine bleeding).[3]

Vasadi Kwatha is indicated for incurable *Pradara*. Most of the drugs in Vasadi Churna, having *Sheeta*, *Laghu*, *Raktastambhaka*, and *Raktadoshahara*, *Pitta-Kaphahara*, *Grahi*

properties. will help in pacifying *Pitta*, *Raktadosha*, and also stop the bleeding.[4] The *kwatha Yoga* mentioned in the classics So 7 *Bhavana* of *Vasadi Kwatha* in *Vasadi Churna* for better immediate effect.

MATERIAL AND METHODS

Collection of Raw Drug

Vasadi Churna drug ingredient was collected from the Pharmacy of GAU, Jamnagar, were identified and authenticated at pharmacognosy laboratory, IPGT, and RA, Jamnagar. The ingredients and parts used in the preparation of the final products are listed in Table No. [1]

Preparation of the Drug

The powder was prepared in the pharmacy of Gujarat Ayurved University, Jamnagar.

Table 1: *Vasadi Churna.*

No.	DRUG	LATIN NAME	PART USED	RATIO
1.	*Vasa*	*Adhatoda vasica* Nees	*Patra*	1 part
2.	*Rasanjan*	*Exctractum Berberis*	*Sara*	1 part
3.	*Musta*	*Cyperus rotundus* Linn.	*Prakanda*	1 part
4.	*Bhunimba*	*Swertia chirata*	*Panchang*	1 part
5.	*Raktachandan*	*Pterocarpu ssantalinus Linn.*	*Kasthsara*	1 part
6.	*Bilva*	*Aegle marmelos Corr.*	*Shalatu*	1 part
7.	*Arkapushpa (Red)*	*Calotropis procera*	*Pushpa*	1 part

Organoleptic Study

The Organoleptic characters of Ayurvedic drugs are very important and give the general idea regarding the genuinely of the sample. Organoleptic parameters like Taste, Color, odor, and touch were scientifically studied in Pharmacognosy laboratory, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar, Gujarat, India.[5]

Microscopic study

Vasadi was powdered and dissolved with water and microscopy of the sample was done without stain and after staining with phloroglucinol + HCL. A microphotograph of Vasadi Churna was taken under Corl-Zeiss trinocular microscope.[6]

Pharmaceutical evaluation

Physico-chemical parameters

This Churna was analyzed using various standard physicochemical parameters such as Loss on drying [3], pH [4], water-soluble extract [5], and methanol soluble extract [6] as per API [7] at the pharmaceutical chemistry lab, IPGT& RA.[7]

High Performance Thin Layer Chromatography (HPTLC)

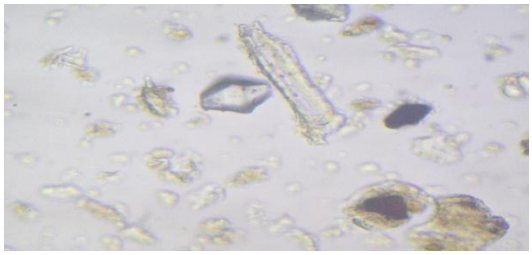
HPTLC was performed as per the guideline provided by API. A methanolic extract of the drug sample was used for the spotting. HPTLC was performed using Toluene+ Ethyl acetate + Acetic acid (14:4:2) solvent system and observed under visible light. The color and Rf values of resolved spots were noted.[7] An analytical study showed 10 spots at 254 nm and 8 spots at 366 nm.[8]

RESULT AND DISCUSSION

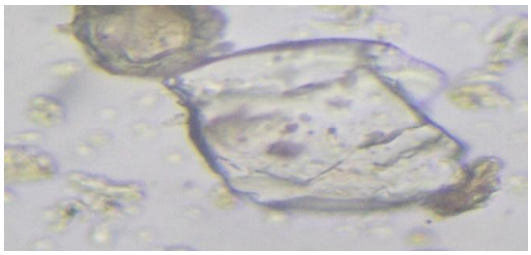
Microscopic Characters of *Vasadi Churna*

Microscopic evaluation of *Vasadi Churna* was conducted, Characters were noted down and microphotographs were taken they are Fig-01 *Churna* of *Vasadi.*

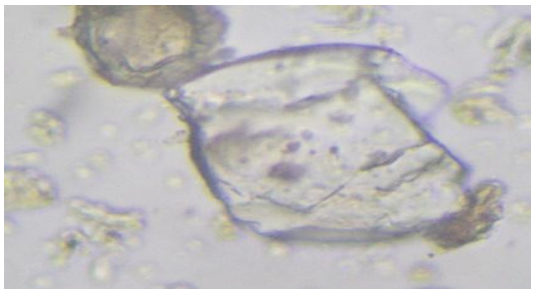
Fig-01 *Churna* of *Vasadi.*



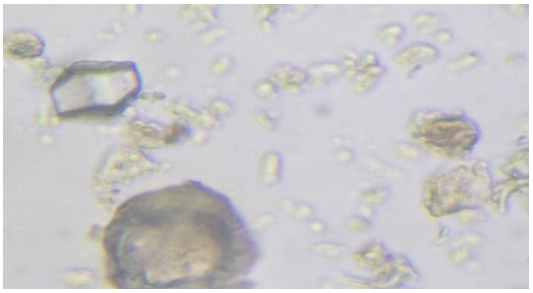
Rhomboidal crystal of *RaktaChandana*



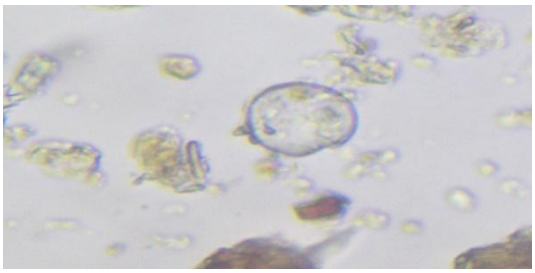
Prismatic crystal of *Bilwa*



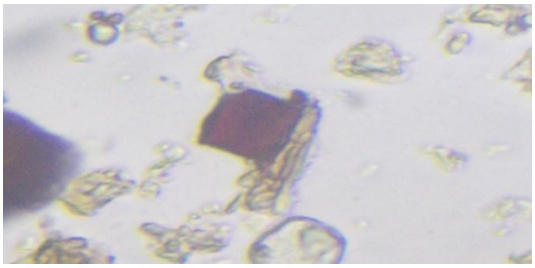
Cystolic of *Vasa*



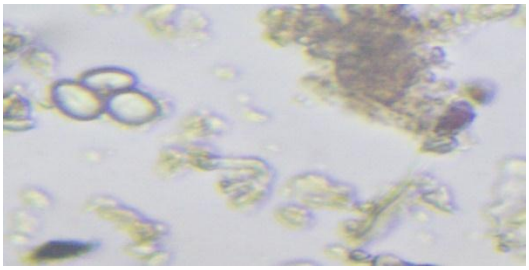
Rhomboidal crystal of *Rasanjana*



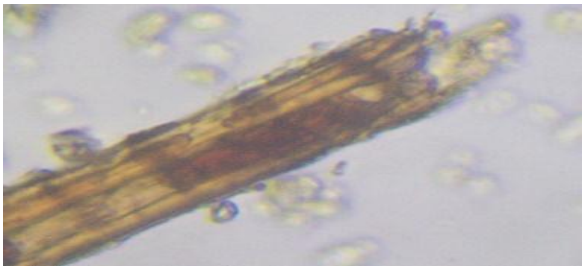
Starch grain of *Musta*



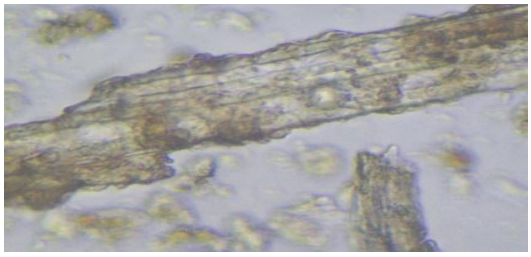
Raddish color material of *Raktachandana*



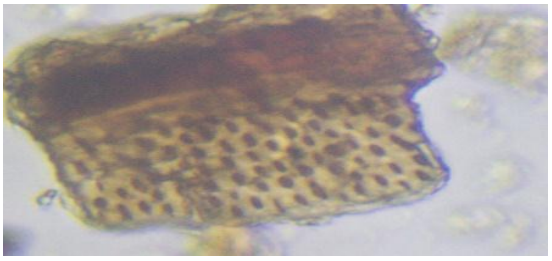
Strach grain of Rasanjana



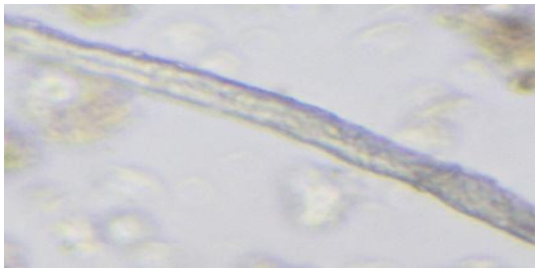
Blunted fibre of *Raktachandana*



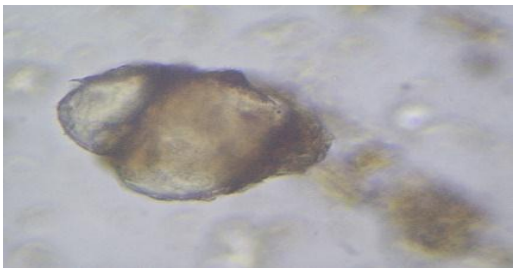
Fibres of *Bilwa*



Border Pitted veselles of *Raktachandana*

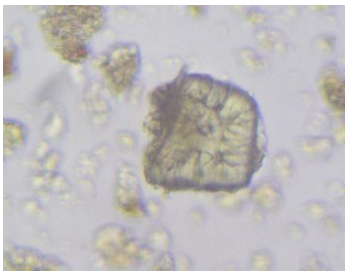


Cystolic of *Bhunimba*



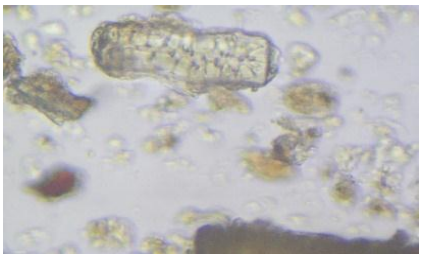
Simple trichome of *Vasa*

Stone cell of *Bilwa*

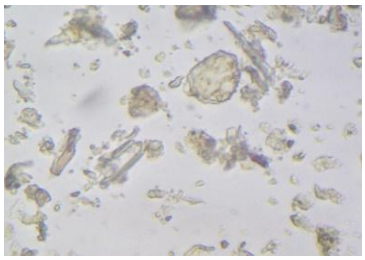


Simple trichome of *Vasa*

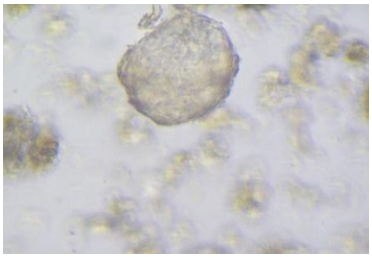
Stone cell of *Bilwa*



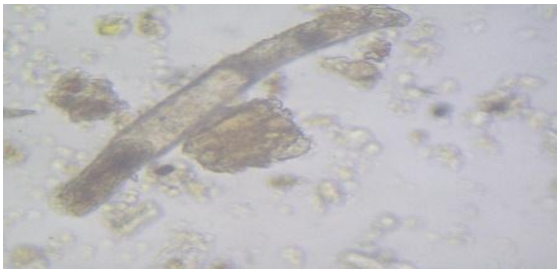
Simple trichome of *Kalmegha*



Stone cell of *Raktachandana*



Latex content of *Arkapushpa*

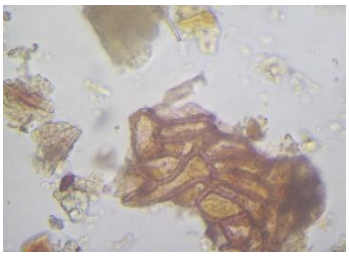


Fragment of multicellular trichome of *Kalamegha*

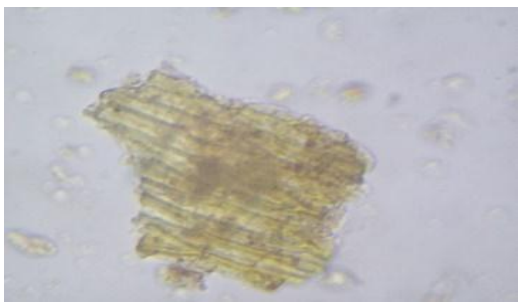
Pitted veselles of *Rasanajana*

Lignified fibers of *RaktaChandana*

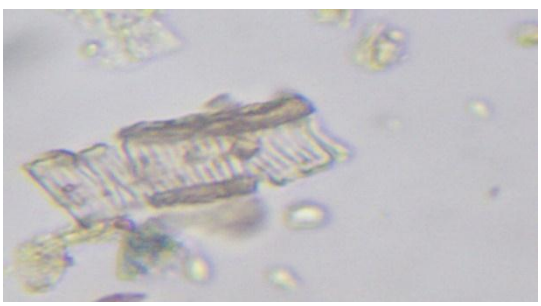
Epidermal cell of *Rakta Arka*



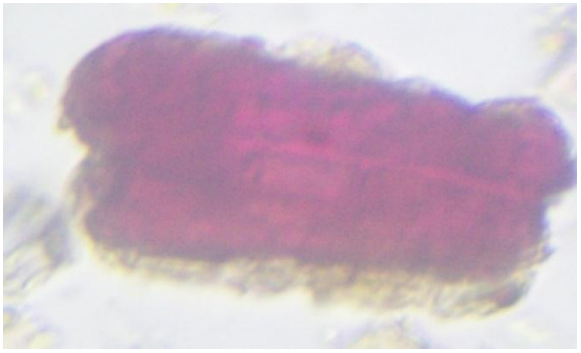
Annular cell of *Musta*



Lignified stone cell of *Bilwa*



Lignified stone cell of Raktachandana



Epidermal cells of *Vasa*

Plate -1: Microphotographs of *Vasadi Churna.*

Pharmaceutical Evaluation

Organoleptic parameters of *Vasadi Churna: Sparsha* - Consistency, *Rasa* – Taste, *Rupa* - Color, *Gandha* - Odor were studied and details are placed in Table - 2.

Table 2: Showing Organoleptic characteristics of *Vasadi Churna.*

Sr.No	Parameters	*Vasadi Churna*
1	Colour	Dark brown
2	Taste	Bitter,Astringent
3	Odour	Characteristic (*Tikshna Gandha*)
4	Consistency	Fine Fibrous powder

Physico-Chemical Parameters of the Vasadi Churna like pH, Loss on drying, water-soluble extract, and methanol (Alcohol) soluble extract all were found are placed in Table-3.

Table 3: Showing Physico-Chemical parameters of *Vasadi Churna.*

Sr.No	Test	*Vasadi Churna*
1	Loss on drying	4.06 % (w/w)
2	Water soluble extract	1.33% (w/w)
3	Alcohol soluble extract	2.16 % (w/w)
4	pH (by pH meter)	6
5	Ash value	6.5 % (w/w)
6	Acid in Soluble	6.7 % (w/w)

HPTLC profile of methanolic extract of Vasadi Churna was done and details of the number of spots and Rf values are given in Table-4 (Plate-2).

Table 4: HPTLC profile of *Vasadi Churna.*

Ultra Violet Rays	Number of spots	Rf value
254nm	10	0.00,0.10,0.20,0.20,0.30,0.40,0.50,0.60,0.70,0.80
366 nm	8	0.00, 0.10, ,0.30,0.40,0.50,0.60,0.70,0.80

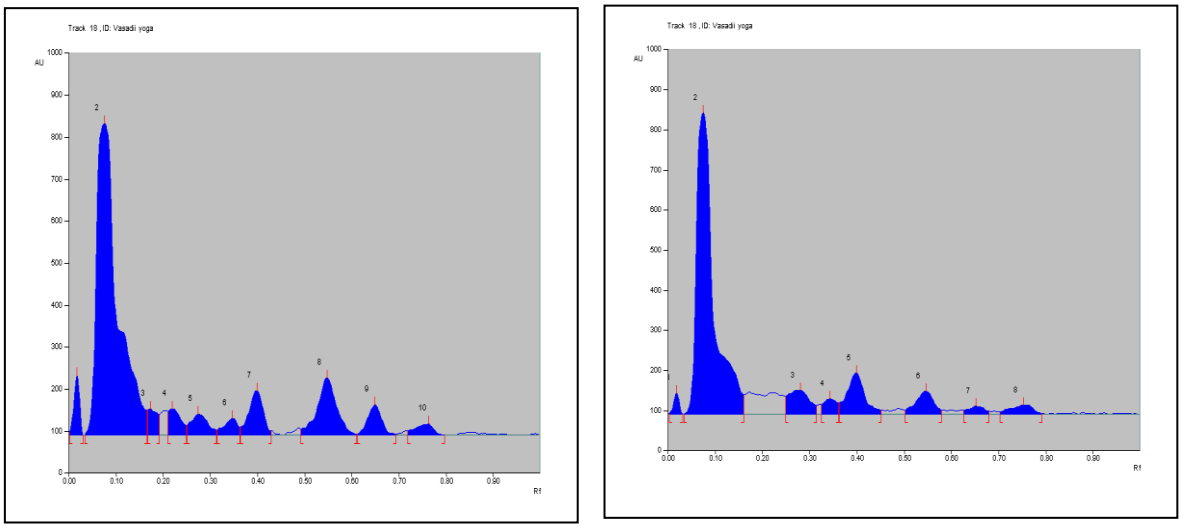


Plate-2: Densitogram of *Vasadi Churna* at 254 nm and 366 nm.

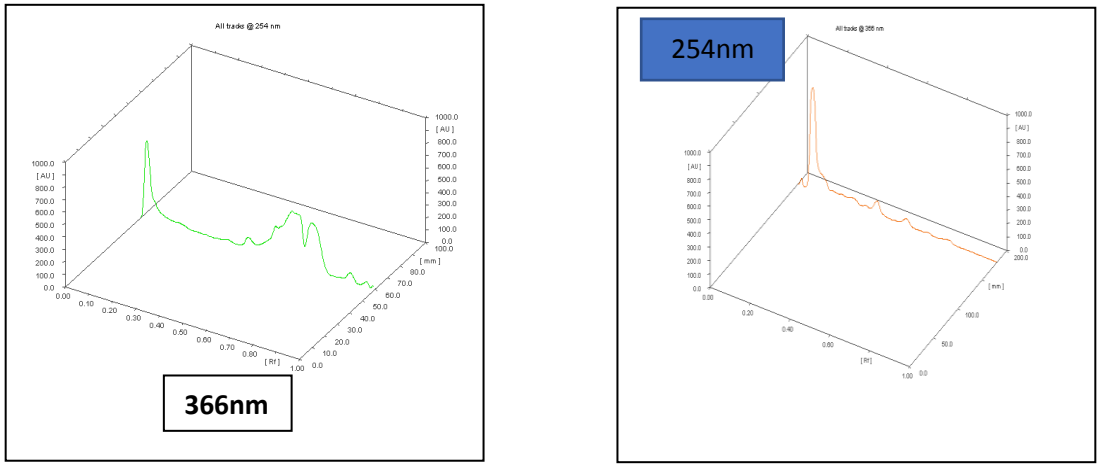


Fig. 3: Three dimensional Densitogram of *Vasadi Churna* at 254 nm and 366 nm.

DISCUSSION

Its pharmaceutical properties had to be studied; hence the formulation was subjected to minimum Pharmacognostical and Pharmaceutical analysis. Pharmacognostical evaluation of Vasadi Churna showed the specific characters of. Features found in microscopy such as the quantitative pharmaceutical analysis was in the normal range and in accordance with those mentioned in reference books.

CONCLUSION

In today's era most important is given to standardization of drug for assurance of quality. Keeping this aim in mind current study was planned. Physico-chemical and HPTLC studies inferred that the formulation meets the minimum quality standards as reported in the API at a

preliminary level. Additional important analysis will be required for the identification of active chemical constituents of the test drug. The inference from this study may be used as reference standard in the further quality control researches. Pharmacognostical study findings confirm that all characters were found in *Vasadi Churna.* The physicochemical analysis inferred that the formulation meets maximum qualitative standards and all the parameters discussed here may be used as identifying tools for the quality assessment of *Vasadi Churna*. The results of this study may be used as the reference standard in further research undertakings of its kind.

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