

ANALYTICAL STUDY OF CHITRAKADI KWATH GRANULES: - AN AYURVEDIC FORMULATION

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ABSTRACT

Acharya Yog-Ratnakar mentioned Chitrakadi Kwath in his Classic for the treatment of Timira. Timira is mentioned by Acharya Sushruta in his classic under the heading of 'Drushtigat-roga'. Timira is the disease which occur in the patalas i.e. layer of eye. Acharya called it is a Paramdarun Vyadhi, which refer to severe or complicated disease. If left untreated may lead into complete blindness. The symptoms of Patalgata Timira can be correlated with refractive error. After Cataract, Glaucoma and macular degeneration, the refractive error is major cause of blindness worldwide. Medical therapy for treating refractive error is not available in modern science and available remedies have complication such as dry eye, corneal ulcer, etc. While in Ayurved classic Timir is said to be 'AyushadhiSadhya' if treated in early stages. Hence, the Ayurvedic science can be better alternative to manage this condition. This analytical study aims to evaluate the efficacy and safety of Chitrakadi Kwath (Granules) in the management of Timira, exploring its potential as a therapeutic option for eye care.

KEYWORD: Timira, ayurvedic formulation, analytical study.

INTRODUCTION

In Ayurveda, Acharya have emphasized not only on curing disease but also emphasized prevention of same. The eye is lamp of body. As affected this organ there is loss of vision that is day and night same for that person. Acharya Vagbhatta also explain in his classic that, all the effort should be made to strengthen the eyes by various therapies and chikitsa because once the vision is lost the different kind of the things of the world will all become one kind that of darkness. Ayurveda has explained three major factors for the causation of all type of disease i.e.

Asatmya Indriyatha Samyoga, Pranyaparadha, and Rituviparyaya. These factor also responsible for eye problem. To overcome these three factor Acharya mentioned specific Aahara, Oushadha and Vihara. In Ayurvedic classic we find the concept of Chakshushya, Rasayan drava and many food items, drugs and therapeutics procedure are explained which are said to improve or enhance the visual acuity as well as improve the health of the eye.

Clinical feature related to Visual disturbance are seen only in Drishtigata Rogas. Hence all the cases of visual disturbance can be correlated under the broad heading

Timira-Kach- Linganasha complex. The part of clinical feature of patalgat Timira can be correlated with refractive error i.e. Myopia. Myopia or short sightedness is a type of refractive error in which parallel ray of light coming from infinity are focused in front of the retina when accommodation is at rest. Prevalence of Myopia in general population of India has been reported to be only 6.9%. Globally it is estimated that approximately 1.3 billion people live with some form of vision impairment. According to Global Burden of Disease, estimates that uncorrected refractive error is the 2nd largest cause of blindness and the leading cause of moderate and severe vision impairment.

The estimated cost of uncorrected refractive error in term of direct and indirect loss of world productivity is 269 international dollars. The impact of myopia is not only financial but it also affects the quality of life and personal development.

MATERIAL AND METHOD

Collection of Raw Drug

Raw drug is collected from the well-known dry herb seller Panna Lal Brij Lal, Haridwar.

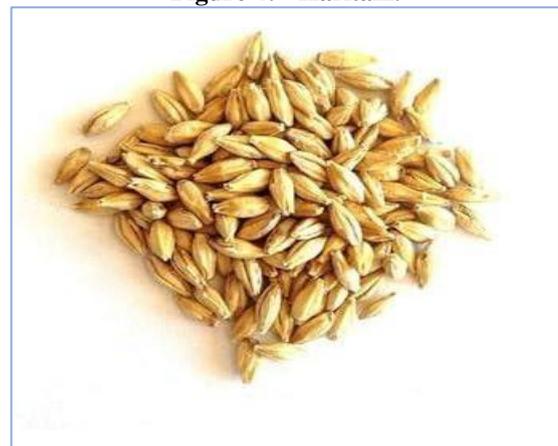
Identification and Authentication

Raw drug of Chitrakadi kwath is identified and authenticities by PG Department of Drava Guna,

Rishikul Campus, Haridwar, Uttarakhand.

Table 1: Pharmacological properties of Chitrakadi kwath.

Drava	Latin name	Family	Part used	Dose	Dosha- shamakata	Karma
Chitraka	<i>Plumbago Zeylanica</i>	Plumbaginaceae	Root	3kg	Kapha-vata shamaka	Deepan, Pachana
Amalaki	<i>Emblca officinalis</i>	Euphorbiaceae	Fruit	3kg	Tridosha shamaka	Rasayan
Vibhitaki	<i>Terminalia bellrica</i>	Combretaceae	Fruit	3kg	Tridosha shamaka	Netrya
Haritaki	<i>Terminalia chebula</i>	Combretaceae	Fruit	3kg	Tridosha shamaka	Rasayan, Chakshushya
Patola	<i>Trichosanthes Dioica</i>	Cucurbitaceae	Leaves	5kg	Tridosha shamak	Chakshushya
Yava	<i>Hordenum Vulgare</i>	Gramineae	Fruit	3kg	Kapha-pitta shamaka	Chakshushya

**Figure 1: - Chitrakmool.****Figure 2: - Amalaki.****Figure 3:- Vibhitaki.****Figure 4: - Haritaki.****Figure 5: - Patola.****Figure 6: - Yava.**

Preparation of Chitrakadi Kwath (Granules)

1) Preparation of Kwath: The raw drugs were made into coarse powder. From this coarse powder, 1/8 part were separated and made into fine powder. The Rest of coarse powder was placed into the fire with 8 times the total quantity of drugs. The mixture was heated and stirred continuously throughout the process until ¼ quantity of water remained. It was then filtered through a cotton cloth. This prepared kwath (decoction) was used for further process.

2) Preparation of Granules: For preparation of granules, prepared Chitrakadi Kwath(decoction) were

heated over mild heat till the mixture attained a thread consistency. At this stage, vessels taken out from heat source and stirred continuously. Fine powder of Chitrakadi Kwatha was added and mixed well to form a homogenous mixture and was allowed to cool. The mixture then passed through No. 20 sieve to get granules. These granules were dried to get rid of any moisture and stored in air tight container.



FINAL PRODUCT

ANALYTICAL STUDY

Chitrakadi Kwath (Granules) are tested for a number of characteristics, including their organoleptic (table 2), physiochemical (table 3), heavy metal (table 4), and microbial limit count (table 5).



TEST REPORT

Sample Common Name : CHITRAKADI KWATH (GRANULES)		Report No. : MPLAD/AYF20250403001	
Generic Name : CHITRAKADI KWATH (GRANULES)		Report Dated : 18/04/2025	
Batch / Lot No. NS	Pack Size 15 Kg	Mfg. Date 03/03/2025	Exp. Date 06/03/2028
Sample Condition : NS		Sample reference : NS	
Sample Registration No. : AYF20250403001		Location of Test (s) Performed : Multani Pharmaceuticals Limited (Analytical Division)	
Sample Manufactured By : NS		Mfg. License No. of Customer : NS	
Sample Supplied By : NS			
Sample Submitted By : Dr. Gaurav Urkude			
Address of Customer : Rishikul Campus, UAU, Haridwar			
Sample received on : 03/04/2025		Analysis started on : 05/04/2025	
Reference to Protocol : The Ayurvedic Pharmacopoeia of India.		Discipline : Chemical	
Description : A brown colour granules.		Group : Ayush Products	

RESULTS OF ANALYSIS

S.No.	Test Parameters	Results	Specifications	Method Reference
1	Colour	Brown		API
2	Odour	Characteristic		API
3	Taste	Characteristic		
4	Appearance	Characteristic		API
5	pH (1%)	4.38		API
6	Loss on Drying	3.16%		API
7	Total Ash	5.57%		API
8	Alcohol soluble extractive	21.20%		API
9	Water soluble extractive	36.86%		API
10	Tap Density	0.57		API
11	Heavy Metals	-		API
	Mercury (Hg)	<0.13ppm		API
	Cadmium (Cd)	0.01ppm		API
	Lead (Pb)	0.66ppm		API
	Arsenic (As)	<0.50ppm		API
12	Microbiological Limit Test	-		API
13	Total Yeast & mould count	<10cfu/g		API

Balwan Singh
Person In-Charge
Authorized Signatory

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Notes:

1. Sampling was performed by party (Customer)
2. Results listed refer only to the tested samples and applicable parameters. Embodiment of products is neither intended nor implied.
3. Retained samples (from post-dates) will be retained for one year while preliminary samples shall be disposed off after issuing the test report.
4. Liability of laboratory is limited to the invoice amount only. Any dispute shall be subjected to Delhi jurisdiction only.
5. This report shall be representative wholly or in part and shall be used in Court of Law and shall be not used in any advertising media without prior special permission in writing from Authorized signatory of Laboratory.

OBSERVATION AND RESULT

Table 2: - Organoleptic parameter of Chitrakadi Kwath.

Sr.no.	Test Parameter	Result
1.	Color	Brown
2.	Oduor	Characteristic
3.	Taste	Characteristic
4.	Appearance	Characteristic

Table 3: - Physiochemical Parameter of Chitrakadi Kwath.

Sr.no.	Test Parameter	Result
1.	pH (1%)	4.38
2.	Loss of Drying	3.16%
3.	Total Ash	5.57%
4.	Alcohol soluble extractive	21.20%
5.	Water soluble extractive	36.86%
6.	Tap Density	0.57

Table 4: Heavy Metal.

Sr.no.	Test Parameter	Result
1.	Mercury (Hg)	<0.13ppm
2.	Cadmium (Cd)	0.01ppm
3.	Lead (Pb)	0.66ppm
4.	Arsenic (As)	<0.50ppm

Table 5: - Microbiological limit count.

Sr.no.	Test Parameter	Result
1	Total microbial count	1550cfu/gm
2	Total Yeast and mould count	<10cfu/gm
3	Escherichia Coli	Absent
4	Salmonella Species	Absent
5	Staphylococcus aureus	Absent
6	Pseudomonas aeruginosa	Absent

DISCUSSION

Kwath is made into granules because it has many advantages, including stability and ease of use, accurate dosing, improved palatability, extended shelf life, increased bioavailability, controlled release, and ease of use and flexibility. This change preserves the medicinal advantages of conventional Ayurvedic formulations while making them more suited to contemporary lifestyles. Chitrakadi Kwath's pharmacological characteristics (table 1) show that every ingredient has anti-oxidant, chakshushya, and Tridoshashamaka qualities that shield the eyes from oxidative damage and aid in the breakdown of Timira Sampriti.

Every parameter study, including the physiochemical (table 3), heavy metal (table 4), organoleptic (table 2), and microbial limit count (table 5) tests, is nearly within the reference range.

CONCLUSION

This analytical study proved the efficacy and safety of Chitrakadi kwath (Granules) in the management of Timira. By investigating the formulation's organoleptic parameter, physiochemical parameter, heavy metal analysis, microbial limit count and clinical outcome, this study seeks to provide scientific validation for the traditional use of Chitrakadi Kwath (granule) in treating Timira.

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