



PHYSICO CHEMICAL ANALYSIS OF NISHAKATAKADI KASHAYA CHURNA

Dr. Pooja s rathod¹, Dr Waheeda Banu²,

¹PG Scholar, Department of P.G studies in Kayachikitsa, Karnataka Ayurveda Medical College and Hospital, Mangalore, D.K District, Karnataka, India

² HOD & Professor, Department of P.G studies in Kayachikitsa, Karnataka Ayurveda Medical College and Hospital, Mangalore, D.K District, Karnataka, India

ABSTRACT

Nishakatakadi kashaya churna is a herbal formulation. Ingredients used in the drug are Haridra, *Kataka*, *Pranati mula*, *Lodhra*, *Amalaki*, *Bhadarika*, *Meharimula*, and *Usira*. The Ingredients in Nishakatakadi Kashaya and Nishamlaki Kashaya are having majorly *Laghu*, *Tikshna guna*, *Katu rasa* and *Ushna Veerya* and are *Kapha-Vata shamaka*. They act as *Mootrala* and has Rasayana Property¹. Preliminary Physio Phytochemical studies was done using standard procedure with aqueous, chloroform, ethanol, methanol and acetone extracts of Nishakatakadi kashya churna. The ingredients of the drug has vata-kaphashamaka, dahahara, Rasayana property along with anti-diabetic effect which are mainly needed for treating Madhumeha. The inference from this study can be used as reference standard in further quality control researches.

KEYWORDS: Physio chemical analysis, Madhumeha, Nishakatakadi kashaya churna, diabetes mellitus.

INTRODUCTION:

There is increasing awareness and general acceptability for the use of herbal drug in today's medical practice. Standardization is very much important for establishment of consistency in chemical profile and biological activity for production of herbal formulation. Newer guidelines for standardization, manufacture, quality control and scientifically rigorous research is essential for traditional treatments for its global acceptance. Standardization of herbal formulation is essential in order to assess the quality, purity, Safety and efficacy of drug which is based on amount of their active constituents².

In Ayurveda, Madhumeha closely resembles the disease called Diabetes Mellitus. The Ayurveda management of Madhumeha aims not only to achieve a strict glycaemic control but also to treat the root cause of the disease. Madhumeha roga is Tridoshaja Vyadhi which effects on Mutravaha and Medovaha Srotas leading to Sanga and Vimargagamana.

In Ayurveda several plant based drugs have been advocated to manage hyperglycemia. There are many plants showing potential anti-diabetic properties, but in this study Haridra, Kataka, Prantimula, Lodhra, Amalaki, Bhadarika, Meharimula, Usira, are Madhumeha hara mentioned in Sahasrayogam. The Ingredients in Nishakatakadi Kashaya and Nishamlaki Kashaya are having majorly Laghu, Tikshna guna, Katu rasa and Ushna Veerya and are Kapha-Vata shamaka. They act as Mootrala and has Rasayana Property. Amalaki is an immuno-modulator along with anti-hyperglycaemic effect, so may be useful in autoimmune Diabetes mellitus. An effort is made here to study the chemical composition of drug to validate the formulation.³

AIM AND OBJECTIVES

To study in detail about physio chemical properties of drug

Material and Methods

Source of data

- Classical text books of Ayurveda and text book of modern science.
- Published article from periodic journals and other magazines.

DETAIL STUDY OF INGREDIENTS OF NISHAKATAKADI KASHYA CHURNAM^{4,5,6}

DRUGS	Botanical name	Family	Rasa	Virya	Vipaka	karma	Part used
Haridra	Curcuma longa	Zingiberaceae	Tikta katu	Ushna	Katu	Vata-kaphahara	Rhizome

Kataka	Strychons potatorum	Lonaniaceae	Madhura, kashaya ,tikta	Sheeta	Madhura	Kapha vata shamaka	Seeds
Pranati mula	Ixora coccinea	Rubiaceae	Tikta kashya	Ushna	Katu	Vata-pitta hara	Root
Amalaki	Emblica officinalis	Euphorbiaceae	Lavana varjitha,Amla pradhana pancharasa	Sheeta	Madhura	Kapha Pittahara	Fruit pulp
Lodhra	Symplocos recemosa	Symplocaceae	Kashaya, tikta	Sheeta	Katu	Kapha- pittahara	Stem bark
Bhadarika	Zizipush sativa	Rhamnaceae	Madhra amla	Sheeta	Madhura	Vata-kapha shamaka	Root
Meharimula	Salacia reticulate	Celastraceae	Tikta kashaya	ushna	Katu	Kapha, pitta	Root bark
Usira	Vetiveria zizanioides	Graminae	Tikta madhura	Sheeta	Katu	Vata- pittashamaka	

PHYSICOCHEMICAL ANALYSIS OF NISHAKATAKADI KASHAYA CHURNA

The preliminary physicochemical screening test was carried out for NISHAKATAKADI KASHAYA CHURNA as per the standard procedures mentioned here under.

1. Loss on Drying

An accurately weighed 1g of NISHAKATAKADI KASHAYA CHURNA formulation was taken in a tarred glass bottle. The crude drug was heated at 1050C for 6 hours in an oven till a constant weight. The Percentage moisture content of the sample was calculated with reference to the shade dried material,

2. Determination of total ash

Weighed accurately 2g of NISHAKATAKADI KASHAYA CHURNA formulation was added in crucible at a temperature 6000C in muffle furnace till carbon free ash was obtained. It was calculated with reference to the air dried drug.

3. Determination of acid insoluble ash

Ash above obtained, was boiled for 5min with 25ml of 1M Hydrochloric acid and filtered using an ash less filter paper. Insoluble matter retained on filter paper was washed with hot water and filter paper was burnt to a constant weight in a muffle furnace. The percentage of acid insoluble as was calculated with reference to the air dried drug.

4. Determination of water soluble ash

Total ash 1g was boiled for 5min with 25ml water and insoluble matter collected on an ash less filter paper was washed with hot water and ignited for 15 min at a temperature not exceeding 4500C in a muffle furnace. The amount of soluble ash is determined by drying the filtrate.

5. Determination of water soluble Extractive

5gm of air dried drug, coarsely powered NISHAKATAKADI KASHAYA CHURNA was macerated with 100ml of distilled water in a closed flask for twenty-four hours, shaking frequently. The Solution was filtered and 25 ml of filtrated was evaporated in a tarred flat bottom shallow dish, further dried at 1000C and weighted. The percentage of water soluble tage of extractive was calculated with reference to the air dried drugs.

6. Determination of alcohol soluble extractive

1 gm of air dried drug coarsely powdered NISHALKATAKADI KASHAYA CHURNA was macerated with 20 ml alcohol in closed flask for 24 hrs. With frequent shaking, it was filtered rapidly taking precaution against loss of alcohol 10ml of filtrate was then evaporated in a tarred flat bottom shallow dish, dried at 1000C and weighted. The percentage of alcohol soluble extractive was calculated with reference to air dried drug.

RESULTS OF TEST

SI.NO	Parameters	Nishakatakadi churna
1	Moisture wt %	9.55
2	Ash Content wt %	4.47
3	Acid Insoluble Ash %	0.65
4	Water Soluble wt %	2.76
5	Water soluble extraction	10.55
6	Alcohol soluble extraction	7.03

DISCUSSION

Owing to the medicinal properties attributed to a herbal drug, it is necessary to maintain its quality and purity for its proper use. In the recent past, it has become possible to suggest a practicable quality assurance profile for a herbal drug or its bioactive constituents, given the advent of new analytical tools and sophisticated instrumental technology. Extractive values also help in estimation of specific constituents soluble in particular solvents. Microscopic evaluation helps in proper identification of source materials. Macroscopic characters, ash values and extractive values serve as diagnostic parameters and help in evaluation of purity of drugs.

The observed values of physio-chemical properties of drug are loss of drying (9.55 %) Total ash value (4.47%) Acid insoluble (0.65) Water Soluble (2.76) Water soluble extraction (10.55), Alcohol soluble extraction (7.03).Kaphahara and Vatahara dravya in Nishakatakadi kashya churna its is very beneficial in to treat Madhumeha. This indicates the presence antioxidants, antidiabetic property in a drug.

CONCLUSION

The ancient science of Ayurveda is a heritage of Indian culture and boon to the world. The fundamental concepts of Ayurveda are very complicated and complete understanding of this science is rather difficult. Thus, extensive research work is necessary to establish its strong scientific footing along with understanding its basic concepts. A systematic study of a crude drug is essential in the present era for quality-control and analysis of physiochemical derived from them From this study, we have been able to gather important information regarding Nishakatakadi kashaya churna which has ascertained its purity as a drug, The authors hope that the information provided by this present study can be useful for further studies on Nishakatakadi kashaya

REFERENCE

- 1 Shastri Ambikadutta Kaviraja :Sushruta Samhita, Chaukamba Orientalia Varanasi, Reprint Edition-2005, Sutrasthana 33rd chapter, Page no. 126,
2. Murthy Shrikanta K R; Astanga Hridayam, Krishna Das Academy, Varanasi, second edition-1995, Vol-2, Nidanasthana, Chapter 10th , Shloka no.38-41, Page no.-92.
- 3) Rao Prabhakara G, editor. Sahasrayogam Text with English Translation,1ST ed. 3rd chapter New Delhi Chaukamba Publication; 2016 ; p -106\
4. Dravya Guna Vijnana, By. Dr.J.L.N. Shashtri, 3 Edition, 2008, Published: Chaukhambha Orientalia Varanasi, 2008.
5. Database on Medicinal Plant, By. Aruna Joshi, P. B. Singh, Prakashana: Documentation and Publication Division Central Council for Research in Ayurveda, 2005; New Delhi- 110058. WJPR COPY PROCE
6. 5. Prof. P.V.Sharma, Dravyaguna Vigyana, Chaukhambha Bharati Academy Varanasi,2001: 2.