Review Article

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A CRITICAL REVIEW OF KANAKASAVAM

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ABSTRACT

Kanakasavam is a polyherbal formulation with 14 ingredients used mainly in Swasa roga (respiratory diseases). In clinical practice, Kanakasavam is primarily used to treat respiratory diseases. It contains purified datura, which acts as a bronchodilator and has anti-inflammatory properties. It is also known to provide relief from an acute asthma attack and increases the airflow to the lungs by dilating and relaxing the bronchial passageways. Kanakasavam is also used for bronchitis, productive cough, chronic fever, haemorrhages, and lung injury. In addition, it is also beneficial in the treatment of the common cold, rhinitis and abnormal nasal discharges. This article is an attempt to analyse the formulation critically.

Keywords: Kanakasavam, anti-inflammatory, bronchitis

INTRODUCTION

Asavas are regarded as one of the most potent remedies in ayurveda since they have a longer shelf life when compared to other herbal formulations, which may result from the fermentation procedure employed to produce arista-asavas. The therapeutic properties of the ingredients are found to be enhanced by the microbes which are involved in this process, which may be a result of the resultant microbial biotransformation of the initial ingredients, arista and asava, into more effective therapeutics as end products, which are also produced by microbes and enhances drug delivery in the body.

Table 1: Ingredients of Kanakasavam

Plant name	Part used	Quantity
Kanaka (Dhattura)	Whole plant	192 g (4pala)
Vrsamula twak (Vasa)	Root	192 g (4pala)
Madhuka (Yasthi)	Root	96 g
Magadhi (Pippali)	Fruit	96 g
Vyaghri (Kantakari)	Whole plant	96 g
Kesara (Nagakesara)	Stamen	96 g
Viswabheshaja (Shunthi)	Rhizome	96 g
Bharngi	Root	96 g
Talisapatra (Talisa)	Leaf	96 g
Dhataki	Flower	768 g (16 pala)
Draksha	Dried fruit	960 g (20 pala)
Water		24.576 L (512 pala)
Sarkara		4.800 kg (100 pala)
Kshaudra (Madhu)		2.400 kg (50 pala)

Pharmacokinetics of Kanakasavam

Table 2: Rasa Panchaka (factors determining the function of the formulation) of ingredients of Kanakasavam

Plant Name	Family name	Rasa	Guna	Virya	Vipaka	Dosa karma
Datura *Datura metel*	Solanaceae	Madhura Katu Tikta Kashaya	Guru, Ruksha Tikta	Ushna	Katu	Vatakapha samana
Vrsa *Adhatoda vasica*	Acantaceae	Tikta, Kashaya	Laghu Snigdha	Sita	Madhura	Kaphapitta samana
Yasthimadhu *Glycyrrhiza glabra*	Leguminosae	Madhura Katu Tikta	Guru, Snigdha	Sita	Madhura	Pitta samana

Pippali *Piper longum*	Piperaceae	Madhura Katu Tikta	Laghu, Snigdha	Anushna sita	Madura	Vatakapha samana
Nagakesara *Mesua ferrua*	Calophyllaceae	Katu Tikta Kashaya	Laghu Ruksha Tikshna	Ushna	Katu	Kaphapitta samana
Shunti *Zingiber officinale*	Zingiberaceae	Katu	Laghu Snigdha	Ushna	Madhura	Kaphavata samana
Bharangi *Clerodendrum serratum*	Lamiaceae	Katu Tikta Kashaya	Laghu Ruksha	Ushna	Katu	Kaphapitta
Talisapatra *Abies Webbiana*	Saliaceae	Tikta	Laghu Ruksha	Sita	Katu	Pitta samana
Dhataki *Woodfordia fruiticose*	Lyrthraceae	Kashaya Katu	Laghu Ruksha	Sita	Madhura	Kaphavata samana
Draksha *Vitis vinifera*	Vitaceae	Madhura	Guru Snigdha Sara	Sita	Madhura	Kaphavata samana
Water		Madhura	Laghu Snigdha	Sita	Madhura	
Sarkara		Madhura	Guru Snigdha	Sita	Madhura	

The entire *Datura metel* plant has anaesthetic, hallucinogenic, anti-asthmatic, antispasmodic, anti-tussive, bronchodilator, hypnotic, and mydriatic effects (Nuhu, 2002), but the leaves and seeds stand out. Tropane alkaloids, abundant in *Datura metel*, are helpful as sedatives and antispasmodics. Leaves are applied locally for conditions like rheumatoid arthritis, eczema, allergies, skin diseases and glandular inflammations like measles. Its smoke treats spasmodic asthma and can be applied externally for ear-related diseases. Seeds, leaves and roots are used in psychiatric illness, fever, diarrhoea, skin diseases and cerebral complications.[1]

Kantakari: Vedanasthapana (alleviating pain), shothahara (reducing swelling), swedajanana, jwaraghna, deepana, pachana, rechana, bhedana, krimighna, amadoshanashaka, raktashodhaka, kasahara, shwasahara, kanthya, hikkanigrahana, mootrala, garbhashayasankochaka, vajikarana.[2]

The effects of plant powder on people with bronchial asthma and nonspecific cough have been attributed to the lungs' decreased levels of histamine, and the inorganic nitrogen content of the powder is responsible for its expectorant properties.

An expectorant root. It has anti-inflammatory, blood-purifying, and cardio-stimulating properties. It helps with pneumonia, chronic bronchitis, coughing, and asthma. Children are given plant powder to treat chronic bronchitis, intercostal myalgia, and fever the CSIR database.

Vasa: Vasicine and vasicinone, the bitter alkaloids available in the plant, have a bronco-dilatory effect. Few studies have proven 6–10 times greater efficacy of vasicinone against aminophylline in cases of bronchial asthma.[3]

Nagakesara: Ethanolic extract of the whole plant, excluding root, showed antibacterial activity.[4]

Other pharmacological activities reported are antifungal, anthelmintic, antispasmodic, anti-anaphylactic, anti-asthmatic, and anti-inflammatory properties.

Bharangi: Flavonoids are further sub-grouped into catechins, leucoanthocyanidin, flavanones, flavanonols, and flavones; isolated flavonoids like hispidulin and cleroflavone possess potent antioxidant, antimicrobial, anti-asthmatic, anti-tumour and CNS-binding activities.[4]

Bronchodilator activity: Aqueous extracts of leaves of *C. serratum* possess bronchodilator properties.

Allergic asthma: Icosahydropicenic acid (IHPA), a new pentacyclic triterpenoid saponin, was first time isolated from the roots of *C. serratum* (L) Moon (Verbenaceae). IHPA, at 100 mg/kg, showed significant protection against mast cell degeneration (59.62%) compared to standard sodium cromoglycate (64.48%). The compound also revealed substantial inhibitory activity on histamine.[5,6]

Draksha: *V. vinifera* and its bioactive compounds have several pharmacological activities such as antioxidative, anti-inflammatory and antimicrobial activities, and *in vitro* activity against several cancer cell lines and hepatoprotective and cardioprotective effects.

Grape seed extract and its active components, such as proanthocyanidins, resveratrol, and quercetin, are potent antioxidants.

DISCUSSION

Kanakasavam is a compound formulation having a broad range of uses. Clinically it is used mainly in the management of Kasa and Swasa roga. Srotorodha is the main reason for Shwasa roga, which results from a disturbance in the equilibrium of Vata and Kapha. Hence, drugs that are beneficial in removing the obstruction and maintaining the physiological equilibrium of Vata and Kapha help alleviate Shwasa and Kasa roga. On analysing the ingredients of Kanakasavam, we can observe that it is a combination of drugs having Vata-Kapha hara, usna, and vatanulomana properties. Sukshma and tikshna guna of Vasa, Pippali, and madhu (honey) help alleviate kapha and remove upalepa of Kapha in kantha and ura stana. Pippali caused vatanulomana and pacified the aggravation of Vata caused due to the vimarga gamana of Prana and Apana Vayu.

Pippali also acts on Pitta sthana, improving the function of agni, thus normalising Vata karma. It also helps improve the body's immunity with its Rasayana property, thus preventing the recurrence of symptoms. It also helps in enhancing the bioavailability of the drugs.[7]

Yashtimadhu has madhura rasa, sheeta virya, madhura vipaka. It is Vata-Pitta shamaka.[8]

Bharngi has katu, ushna rasa and usna virya and Vata-Kapha samana properties. Vasa has Raktapitta hara property; hence Kanakasavam is helpful in the management of Urahkshata and Kshaya as well.[9] Draksha also has Vata Pitta hara property owing to its madhura vipaka, which adds to the broad spectrum of Kanakasavam in areas other than respiratory disorders.

CONCLUSION

The Ayurvedic practice of using asava-arista is a novel but little-studied formulation. This cutting-edge dosage form most likely causes the transformation of several phytochemical compounds present in the herbs used to make it, either making them less toxic or increasing their potency to aid in faster absorption. The alcohol-aqueous milieu, also produced by the microbes involved in this process, improves drug delivery in the body. These enhanced therapeutic properties may result from the microbial biotransformation of the initial ingredients of arista and asava into more effective therapeutics as end products. These compounds all have preservation qualities and medicinal potency due to biotransformation mediated by local bacteria. Each asava/arista preparation's specific activity is influenced by its ingredients and biochemical activities.

Kanakasavam owing to the combination of medicines used in the preparation, has multifactorial benefits and uses. Though it is mainly used in managing upper respiratory tract disorders, it has many actions beyond that. The various possibilities of the formulation should be understood, critically analysed and put into use.

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