Bulletin of Environment, Pharmacology and Life Sciences
Bull. Env. Pharmacol. Life Sci., Vol 11 [4] March 2022 : 255-259

Online ISSN 2277-1808
Journal's URL:http://www.bepls.com
CODEN: BEPLAD

REVIEW ARTICLE **OPEN ACCESS**

Ambiguity on Kanakasava

Jignesha M Patil[1], Jayaprakash A N[2], Snigdha Das[3]
[1]MD Final Year PG Scholar, Dept of RSBK, Parul Institute of Ayurved, Parul University
[2]Associate Professor, Dept of RSBK, Parul Institute of Ayurved, Parul University
[3]HOD, Dept of Pharmacology, Parul Institute of Pharmacy and Research, Parul University
Correspondence Email: jigneshapatil@gmail.com

ABSTRACT
Bhaishajya Kalpana is a unique science consisting of Ayurvedic Pharmaceutics. It mainly deals with herbal formulations. An Asava-arista preparation that is formulations containing self- generating alcohol is mentioned. These asava and arista preparations are popular since the Samhita period due to their better absorption, quicker action, longer shelf life and easy palatability. Among it, a potent Anti-asthmatic formulation – Kanakasava is mentioned in Bhaishajya Ratnavali Hikka Swasa Rogadhikar. There are various references of Kanakasava containing minor changes in drug selection according to different authors. Hence there is ambiguity on the use Madhuk (Glychrriza glabra) and Madhuk (Madhuca indica). Here an attempt is made to critically review and analyse all the references of Kanakasava. A small survey study of market prepared Kanakasava is also carried. This review study will help in strengthening the knowledge of academicians, researcher and pharmacist.
Keywords: *Kanakasava, Yastimadhu, Madhuk, Sandhanakalpana, Swasa*

Received 13.12.2021 Revised 03.02.2022 Accepted 10.02.2022

INTRODUCTION

Ayurveda is the ancient science known to human beings since more than 5,000 years for their healing, prevention and longevity. Ayurvedic system of medicine consists of different types of dosage form. The different dosage forms mentioned in Ayurveda are *swarasa* (fresh juice), *kalka (paste), kwatha* (decoction), *hima* (cold infusion), *phant* (hot infusion), *vati* (tablet), *avaleha* (linctus), *churna* (powder) *and sandhanakalpana* (alcoholic preparation). *Sandhana Kalpana* contains alcoholic and acidic contents in variable percentage produced by fermentation. It contains both water-soluble and alcohol-soluble active principles of the drug. They can be stored for a longer time without losing their therapeutic activity as the generated alcohol acts as a preservative [1]. Among which *Arista* are fermented decoction in which there is *Agnisamskara* (application of heat). Here medicaments mentioned in particular formulation is made into decoction form. Then it is added with honey, sugar or jaggery and kept for fermentation after properly sealing lead with the process of *Kapadmitti* (applying cloth smeared with clay). *Asava* are fermented infusion in which there is no application of heat. The medicaments are directly added with mentioned quantity of water, honey, sugar or jaggery and kept for fermentation. Both the preparations are consideredas superior to other dosageforms due to their easy palatability, acceleratedtherapeutic action and enhanced drug concentration [2]. *Asava* and *Arista* are included in *Ayurveda* by *Charaka Samhita, Sushruta Samhita, Astanga Hridaya, Bhaisajya Ratnavali, Sarangadhara Samhita, Arsaschikitsha, Yogaratnagaram, Asavrishtasangragam* and *Astangasangraham. Takrarista, Abhayarista, Dasmoolarista, Drakshasava, Kanakasava, Kumaryasava* etc are the examples of *Madhya kalpana.*

KANAKASAVA – A DRUG OF CHOICE FOR ASTHMA

Globally, asthma is ranked 16th among the leading causes of years lived with disability and 28th among the leading causes of burden of disease, as measured by disability-adjusted life years. Around 300 million people have asthma worldwide, and it is likely that by 2025 a further 100 million may be affected [3]. To combat such a life threatening disease quick acting formulation is required. Hence a hydro-alcoholic preparation possesses quicker action and fast absorption. *Kanakasava* is an efficacious drug and a proven Anti-asthmatic polyherbal formulation [4]. It also possesses Immuno-stimulating effect by enhancing antibody production and splenocyte proliferation [5]. *Kanakasava* is first mentioned in *Bhaishajya*

Ratnavali [6]. The name of formulation is originated from the main drug used in its preparation that is *Dhatura*. 'Kanak' is a synonym of *Dhatura*.

MATERIAL AND METHODS

An extensive search of *Kanakasava* and its References from different text is carried out. The purpose of this study is to bring more clarity towards the formulation and remove the ambiguity.

Literature Review

The very first refrence of *Kanakasava* is in *Bhaishajya Ratnavali*. There is no mention of *Kanakasava* in *Brihatrayee*. There is reference of '*Kanakbinduarista*'[7] and '*Kanakarista*' [8] in Charak Samhita. *Bhaishajya Ratnavali* (B.R.) is a compiled book of Ayurveda Pharmaceutics that is from *Chakradatta, Rasendrasara Sangraha, and Charak Samhita* etc. written by Kavi Raj Govinda Das Sen in 18th century AD. Two commentaries are available for *Bhaishajya Ratnavali* written by Shree Bhrahma Shankar Mishra and Ambika Dutta Shastri (1956). Other texts in which *Kanakasava* is mentioned are *Bhaishajya Samhita, Rasatantra Sara Siddha Prayoga Sangraha (RTSSP), Sahasrayoga, Ayurvedha Gunadharma Shastra, Asava-arista Vigyan* etc. The ingredients of *Kanakasava* are mentioned below-

Table No.1 INGREDIENTS OF *KANAKASAVA* [6]

SR NO.	NAME OF DRUG	LATIN NAME	PART USED	PROPORTION
1	*Kanak*	*Dhatura metel*	Whole plant	4 Pala (192gm)
2	*Vasa*	*Adhatoda vasica*	Roots	4 Pala (192gm)
3	*Madhuk*	*Madhuca longifolia*	Flowers	2 Pala (96gm)
4	*Pippali*	*Piper longum*	Fruits	2 Pala (96gm)
5	*Kantakari*	*Solanum xanthocarpum*	Whole plant	2Pala (96gm)
6	*Nagakesar*	*Mesua ferrea*	Stamens	2Pala (96gm)
7	*Sunthi*	*Zingiber officinale*	Rhizome	2Pala (96gm)
8	*Bharangi*	*Clerodendrum serratum*	Roots	2 Pala (96gm)
9	*Talishpatra*	*Abies wibbiana*	Leaves	2 Pala (96gm)
10	*Draksha*	*Vitis vinifera*	Dried fruits	20 Pala (960gm)
11	*Dhataki*	*Woodfordia fructicosa*	Flowers	1 Prastha (768gm)
12	*Sarkara*	*Sugar*	-	1 Tula (4.8kg)
13	*Madhu*	*Honey*	-	½ Tula (2.4kg)
14	*Jala*	*Water*	-	2 Drona (24.56lit)

Table No.2 PROPERTIES OF INGREDIENTS OF *KANAKASAVA*

SR NO.	NAME OF DRUG	RASA	GUNA	VIRYA	VIPAKA	KARMA
1	*Kanak*	*Tikta, Katu*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kaphavatahara*
2	*Vasa*	*Tikta, Kashaya*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Kaphapittahara*
3	*Madhuk*	*Madhura,Kashaya*	*Guru, Snigdha*	*Sheeta*	*Madhura*	*Vatapittahara*
4	*Pippali*	*Katu*	*Laghu, Tikshna*	*Ushna*	*Madhura*	*Vatakaphahara*
5	*Kantakari*	*Katu, tikta*	*Laghu, Ruksha, tikshna*	*Ushna*	*Katu*	*Kaphavatahara*
6	*Nagakesar*	*Kashaya, Tikta*	*Laghu, Ruksha, tikshna*	*Ushna*	*Katu*	*kaphapittahara*
7	*Sunthi*	*Katu*	*Guru, Ruksha, tikshna*	*Ushna*	*Madhura*	*Tridoshahara*
8	*Bharangi*	*Tikta, Katu*	*Laghu, ruksha*	*Ushna*	*Katu*	*Kaphavatahara*
9	*Talishpatra*	*Tikta, Madhura*	*Laghu, Tikshna*	*Ushna*	*Katu*	*Tridoshahara*
10	*Draksha*	*Madhura*	*Snigdha, Guru*	*Sheeta*	*Madhura*	*Vatapittahara*
11	*Dhataki*	*Kashaya*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Kaphapittahara*

Table No.3 INGREDIENTS OF *KANAKASAVA* ACCORDING TO DIFFERENT TEXT

SR. NO.	INGREDIENTS	B.R. 1976 EDITION	B.R. (KOTTAKKAL KERALA)	BHAISHAJ SAMHITA	SAHASRAYOGA (VAIDYAPRIYA VYAKHYA)	AFI
1	*Dhatura*	+	+	+	+	+
2	*Vasa*	+	+	+	+	+
3	*Madhuka*	+	-	+	-	+
4	*Yastimadhu*	-	+	-	+	-
5	*Pippali*	+	+	+	+	+
6	*Kantakari*	+	+	+	+	+
7	*Nagkesara*	+	+	+	+	+
8	*Sunthi*	+	+	+	+	+
9	*Bharangi*	+	+	+	+	+
10	*TalishPatra*	+	+	+	+	+
11	*Dhataki*	+	+	+	+	+
12	*Draksha*	+	+	+	+	+
13	*Sarkara*	+	+	+	+	+
14	*Madhu*	+	+	+	+	+
15	*Jala*	+	+	+	+	+

Cont..

SR. NO	INGREDIENTS	RTSSP	BHARAT BHAISHAJYA RATNAKAR	AYURVEDA GUNADHARMA SHASTRA	BHRUHAT *ASAVA-ARISTA* SANGRAHA	*ASAVA-ARISTA* VIGYANA
1	*Dhatura*	+	+	+	+	+
2	*Vasa*	+	+	+	+	+
3	*Madhuka*	-	-	-	-	-
4	*Yastimadhu*	+	+	+	+	+
5	*Pippali*	+	+	+	+	+
6	*Kantakari*	+	+	+	+	+
7	*Nagkesara*	+	+	+	+	+
8	*Sunthi*	+	+	+	+	+
9	*Bharangi*	+	+	+	+	+
10	*TalishPatra*	+	+	+	+	+
11	*Dhataki*	+	+	+	+	+
12	*Draksha*	+	+	+	+	+
13	*Sarkara*	+	+	+	+	+
14	*Madhu*	+	+	+	+	+
15	*Jala*	+	+	+	+	+

MARKET AVAILABILITY

Many leading and standard pharmacies are preparing *Asava-arista* (polyherbal hydro-alcoholic formulations). The commonly prepared *Asava-arista* is *Dasmoolarista, Amrutarista, Ashokarista, Pancharista, Kumaryasava, Drakshasava, Kanakasava* etc. *Kanakasava* is widely used for asthma. Here a small survey of pharmacies manufacturing *Kanakasava* is carried out. The aim of this study is to differentiate whether *Yastimadhu* or *Madhuk* is used in current era. All the other ingredients used are same.

Table No. 4 Use of *Yastimadhu*/*Madhuk* in preparation of *Kanakasava*

SR. NO.	NAME OF PHARMACY	*YASTIMADHU*	*MADHUK*
1.	Baidyanath	+	-
2.	Dhootapapeshwar	+	-
3	Sandu	+	-
4	Dabur	+	-
5	Virgo	+	-
6	Kottakal	+	-
7	Zandu	+	-
8	AVP	+	-

DISCUSSION

Kanakasava is a poly-herbal formulation containing 11 herbs alongwith honey and sugar. The only toxic herb in *Kanakasava* is *Dhatura*. Here the *panchanga* (whole plant) of *Dhatura* is used. Hence the shodhana or purification of *Dhatura*bija should be done with *swedana* (boiling) in *dolayantra* with *Godugdha* (cow's milk) as liquid media for 3 hours [20]. The *sandhana* dravya (fermenting agent) used is *Dhatakipuspa* (*Woodfordia fruticosa*). Among the above mentioned 10 references all the ingredients used are same except *Madhuk* (*Glycyrrhiza glabra*) and *Madhuk* (*Madhuca longifolia*). The oldest reference of *Kanakasava* found is *Bhaishajya Ratnavali* 1976 edition; here *Madhuk* (*Madhuca longifolia*) is used. The use of *Madhuca longifolia* is also mentioned in Bhaishaj Samhita and AFI. In all the other text *Yastimadhu* (*Glycyrrhiza glabra*) is used. Hence in majority of references, *Yastimadhu* is used. The property of *Yastimadhu* and *Madhuk* is mentioned in Table no. 5.

Madhuca longifolia is an Indian origin plant having tremendous therapeutic and potential uses. Each and every part of *Madhuk* is useful. Synonyms of *Madhuk* are *madhupuspa*, *gudapuspa*, *mahadrum, deerghapatra*, etc [21] The flowers of *Madhuk* possess sweetening property equivalent to *Guda* (jaggery). Traditionally, *Madhuk*puspa is used to generate alcohol. *Madhukpuspa* is sweet in taste having cold potency, cardio tonic and heavy to digest. Its fruits possess *vatapitta shaman* properties and indicated in *Trishna, Daha, Arsa, Swasa* and *Kshayaroga* [22]. Hence its fruits possess *Swasahara* properties but the use of flower is indicated in *Kanakasava*. The flowers of *Madhuk* generate liquor and possess therapeutic properties like expectorant, diuretic, anti-helminthic, stimulant, hepato-protective and increase the production of milk in lactating woman [23].

Yastimadhu (*Glycyrrhiza glabra*) is a worldwide popular herb also known as Liquorice. It is sweet in taste and cold in potency having *Vatapittahara* property. It is mainly indicated in *daha, trishna, chardi, netraroga, khalitya, shirashoola, swarabramsha, kasa* etc. According to text *Yastimadhu* having *kanthya*

property mainly indicated in *Kasa* but not in *Swasa*. But the anti-asthmatic property of *Glycyrrhiza glabra* is proven in Triple antigen induced asthma in Swiss albino rats.

In current era the majority of pharmacies are using *Yastimadhu* instead of *Madhuk* due to its Swasahara (anti-asthmatic) and *Kasahara* (anti-tussive) properties. There is also easy availability of *Yastimadhu* for preparation. On the other hand, following the Shastra, *Madhuk* can also be used as it helps in easy fermentation. The more alcoholic content the more will be the absorption of drug and quicker action. Hence *Madhuk* can help in early preparation of *Kanakasava*. But *Yastimadhu* augments the *Swasahara* property of formulation.

Table No. 5 Properties of *Yastimadhu* and *Madhuk*

PROPERTIES	*MADHUK*	*YASTIMADHU*
Rasa	*Madhur, Kashaya*	*Madhur*
Guna	*Guru, Snigdha*	*Guru, Snigdha*
Virya	*Shita*	*Shita*
Vipaka	*Madhur*	*Madhur*
Karma	*Vatapittahara*	*Vatapittahara*
Action	*Brimhana, Balakruta, Swasa, Shukrala, Trishna, Daha, etc*	*Balavarnakruta, chaksusya, shukrala, keshya, swarya, shosha, visa, chardi, kasa, etc*

CONCLUSION

According to Ancient text *Madhuk* (*Madhuca longifolia*) should be used. But with recent advances and walking with modern era *Yastimadhu* is widely used. *Kanakasava* can be prepared with both the drugs that are *Madhuk* (*Madhuca longifolia*) and *Yastimadhu* (*Glycyrrhiza glabra*).

FUTURE SCOPE OF STUDY

Pharmaceutical, Analytical and Clinical study of *Kanakasava* containing *Madhuca longifolia* and *Kanakasava* containing *Glycyrrhiza glabra* should be carried out. The results should be thoroughly analysed helping in furnishing and empowering our knowledge.

REFERENCES

1. VrushaliBhutada, Pravin Tate, S.N. Chikurte (2020); Critical Review of Sandhana Kalpana, Ayurved Darpan Journal of Indian Medicine, Apr-June, 5 (2).
2. Mishra AK, Gupta A, Gupta V, Sannad R, Bansal P (2010); Asava and Arishtha: An Ayurvedic Medicine – An Overview; International Journal of Pharmaceutical and Biological Archives, 1(1): 24-30.
3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6591438
4. Poonam Arora (2016) - Investigation of Anti-asthmatic potential of Kanakasava in ovalbumin-induced bronchial asthma and airway inflammation in rats– Jamia Hamdard, New Delhi, India
5. Sarker, M. M. R., Nahar, S., Shahriar, M., Seraj, S., & Choudhuri, M. S. K. (2012). Preliminary study of the immunostimulating activity of an ayurvedic preparation, Kanakasava, on the splenic cells of BALB/c mice in vitro. *Pharmaceutical Biology*, *50*(11), 1467-1472.
6. Bhaisajya Ratnavali, Kaviraj Govind Das Sen, Prof Siddhinand Mishra, Chaukhamba Surbharti Prakashan, Hikka-Swasa Rogadhikar Ch-16/15-119/pg no -468.
7. P. V. Sharma (2014), Charak Samhita, Chaukhamba Orientalia, Varanasi, Edition, Vol-2, Chikitsasthana Ch - 7, Shloka No. 76-79, Pg. No. 132.
8. P. V. Sharma (2014), Charak Samhita, Chaukhamba Orientalia, Varanasi, Edition, Vol-2, ChikitsasthanaCh - 14, Shloka No. 182, Pg. No. 241.
9. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, GuduchyadiVarga 33, Pg. No. 491.
10. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, Guduchyadi Varga 34, Pg No. 495
11. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, Amradi Phala Varga 35, Pg No. 736
12. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, HaritakyadiVarga 6, Pg No. 219
13. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, KarpuradiVarga 28, Pg No. 412
14. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, Guduchyadi Varga 14, Pg No. 467
15. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, Haritakyadi Varga 4, Pg No. 216

16. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, Haritakyadi Varga 61, Pg No. 297
17. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, Karpuradi Varga 46, Pg No. 436
18. Bhava Mishra (2015), Bhavaprakash Nighantu, G. S. Pandey editor, Chaukhamba Bharati Academy Varanasi, Amradi Phala Varga, Shloka No. 113-114
19. Shri Brhramashankara Mishra (2016), Bhavprakash, Chaukhamba Sanskrit Bhawan, Varanasi, Edition 12th , Vol -1, HaritakyadiVarga 63, Pg No. 303
20. Pandit Kashinatha Shastri (2014), Rastarangini, Motilal Banarasi Das, Edition 8th , Ch - 24, Pg. No. 711
21. Adarshanighantu, Shri Bapalal Vaidya, Vol 1, Chaukhamba Bharti Academy, Madhukadi Varga, Pg no. 806-810
22. Patel, P. K., Prajapati, N. K., & Dubey, B. K. (2012). *Madhuca indica*: a review of its medicinal property. *International Journal of Pharmaceutical Sciences and Research*, *3*(5), 1285.
23. Patel, S., Saxena, N., Saxena, R. C., Arya, N., Saxena, R., & Tharani, M. (2017). Evaluation of anti-asthmatic activity of *Glycyrrhiza glabra*. *Biosciences Biotechnology Research Asia*, *6*(2), 761-766.

CITATION OF THIS ARTICLE

Jignesha M Patil, Jayaprakash A N, Snigdha Das. Ambiguity on Kanakasava.Bull. Env. Pharmacol. Life Sci., Vol 11[4] March 2022 : 255-259.