



Review Article

EXPLORATION OF THE PHARMACOLOGICAL PROPERTIES, ACTIONS AND THERAPEUTIC POTENTIAL OF *AMRITOTHARAM KWATHA*

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ABSTRACT

Nature and its elements are closely attached to human existence as the five elements that makes up the human body reflects the five elements that makes up all the matter that we see around us which has been one prime reason that herbal medicine has existed from time immemorial. Its prime principle is that deficiencies and defects in a five elemental body could always be repaired by drugs filled with abundance of same elements. Humans are also prone to a vast variety of diseases and health disorders as they tend to deviate from the things that keep the functional elements of the body in equilibrium and this leads to the onset of diseases. Such cases required medicines that can remove *Dosha imbalance*, promote and maintain the digestive fire, and at the same time act as a preventive measure for possible secondary diseases as well providing an immunomodulatory effect as well. *Amrithotharam kwatha* is a renowned, widely accepted and therapeutically used Ayurvedic formulation by all Ayurvedic physicians throughout the country. The formulation is mentioned specifically in the text *Sahasrayogam* as well as other texts like *Chikitsamanjari, Yogamritam* in the contexts of *Jwara chikitsa* to combat *Jwara* of all types and its associated health issues. This article is intended to explore the pharmacological properties, actions and the therapeutic potential of *Amrithotharam Kwatha*.

INTRODUCTION

Health is always of prime concern to an individual, as quality of health both physical and mental determines quality of life of an individual. Ayurveda has always approached health in both preventive and curative aspect, since Ayurveda principles are based on elements whose equilibrium are responsible for smooth and stable growth and development of human body. Through various *Nidanas/* disease causing factors, equilibrium of these functional elements */Tridosha* are always at risk of imbalance subsequently bringing about diminished digestion, metabolism and finally manifestation of health disorder. In such situation, remedy requires a medicine that can overcome the diseased condition as the prime mission but subsequently strengthen the

immune system sufficiently enough to avoid further *Dosha* imbalance or recurrence of the health disorder.

In this regard comes compound Ayurvedic formulations like *Amrithotharam Kwatha* with very minimalistic ingredients but encompasses a large potential of various pharmacological actions that could possibly be a solution to overcome *Doshic* imbalance by subsiding the vitiated *Doshas*, cleanse the channels and promote digestive fire sufficient enough to remove all kinds of undigested matter */Ama* in the body.

Amrithotharam Kwatha is a popular and well-practiced Ayurvedic compound formulation mentioned in the classical Ayurveda literature "*Sahasrayogam*" under the context of *Kwatha Kalpana* suitable for *Jwara chikitsa*^[1]. The formulation has been practiced by generations of physicians primarily in the context of *Jwara chikitsa*, but has seen used in various disease conditions like *Amavata, Kamala, Pandu, Kustha, prameha, Agnimandhya* etc as both primary as well as adjuvant medication. Apart from *Sahasrayogam*, the formulation can also seen explained in two other regional Ayurvedic literatures namely "*Chikitsa manjari*"^[2] and "*Yogamritam*"^[3]. No reference about the

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formulation can be seen in *Brihatrayees*. According to *Sahasrayogam*, Prime indication of the formulation is in treatment of all types of fever as well as *Virechana*/ laxative medication in various health disorders. The text *Chikitsamanjari* indicates the formulation for the treatment of fever, inflammation and jaundice.^[4]

AIM OF THE STUDY

Aim of the current study is mainly to assess and understand the pharmacological and therapeutic potential of the ingredient drugs as well as the formulation "Amritotharam Kwatha" as a whole for its utility in overcoming various disease conditions as well as to understand its mechanism of action.

MATERIALS AND METHODS

Essential information regarding the formulation and its ingredients with special attention

Table 1: Ingredient drugs with their botanical name and part used

Drug	Botanical name	Family	Used part
<i>Hareetaki</i> ^[6]	<i>Terminalia chebula</i> [Gaertn] Roxb.	Combretaceae	Dried fruit
<i>Sunthi</i> ^[7]	<i>Zingiber officianale</i> Rosc.	Zingiberaceae	Dried rhizome
<i>Guduchi</i> ^[8]	<i>Tinospora cordifolia</i> Linn.	Menispermaceae	Stem

Method of Preparation

Take 2:4:6 parts of used parts of *Sunthi*, *Hareetaki*, *Guduchi* respectively, wash well and dry. Crush the raw drugs well and mixed with 16 times water reduced to 1/4th on medium flame. It is then filtered and used with lukewarm water as *Kwatha*.

Dose

90ml *Kwatha* with *Sharkara* as *Prakshepaka Dravya*, morning and evening one hour before bed or as prescribed by the physician.

According to *Chikitsa Manjari*, the formulation is said to be consumed with *Guda* (jaggery) and *Saidhava lavana*.^[9]

Ayurveda emphasizes that overall action as well as the mechanism through which the action of attained by a particular medicine can always be attributed to the pharmacological properties/*Rasa panchaka*. *Acharya Vagbhata* in *Astangahridaya*

to its part used, pharmacological properties, pharmacological actions and therapeutic indications were collected from all available *Samhitas* and *Nighantus*. All available information regarding the drugs were collected from authentic sources both online and offline sources. Pharmacological activities of the drugs were collected from authentic review and scientific articles published in peer reviewed indexed medical journals as well as via PubMed search engine.

Ingredients of Amritotharam Kwatha^[5]

- Haritaki* - *Terminalia chebula* [Gaertn]Roxb.
- Sunthi* - *Zingiber officianale* Rosc.
- Guduchi* - *Tinospora cordifolia* Linn.

Indications of Amritotharam Kwatha

All types of *Jwara*

explains that the action of a drug can always be brought about by the virtue of its *Rasa*, *Guna*, *viry*, *Vipaka* or even *Prabhava*. In case of compound formulations, the overall pharmacological potential of a formulation can be assessed by deeply analysing the pharmacological properties of its ingredients.

Pharmacological activity of ingredient drugs of Amritotharam Kwatha^[11]

A deeper understanding of the pharmacological activity exhibited by the ingredient drugs in the formulation reveals the effect of these drugs in diseases caused by *Tridosha*. Overall pharmacological activity on the basis of its pharmacological activity suggests that the formulation is *Vatakaphahara* in nature meanwhile excellently performing the functions of *Dipana* and *Amapachana* as well.

Table 2: Pharmacological properties of ingredient drugs^[10]

Drug	Rasam	Gunam	Viry	Vipaka
<i>Hareetaki</i>	<i>Bha.Pr - Pancharasa Lavana Varjita</i> <i>Su.Sa</i> <i>Dha. Ni - Pancharasa Lavana Varjita</i> <i>Cha.Sa</i> <i>Ra.Ni - Pancharasa Lavana Varjita</i> <i>A.Hr.</i> <i>Ni. Ra-Pancharasa Lavana Varjita</i> <i>Kai.Ni</i>	<i>Ruksha, Ushna</i> <i>Laghu</i> <i>Ni Ra - Sara</i>	<i>Ushna</i>	<i>Madhura</i>
<i>Sunthi</i>	<i>Bha. Pr - Katu. Ra.Ni - Katu</i> <i>Su.Sa - Katu, Kai.Ni -Katu</i>	<i>Laghu,</i> <i>Snigdha,</i>	<i>Ushna</i>	<i>Madhura</i>

	<i>Dha.Ni – Katu</i>	<i>Ruksha Ushna</i>		
<i>Guduchi</i>	<i>Ma.ni – Tikta</i> <i>Bha.pr – Katu</i> <i>Ra.Ni – Tikta, Kashaya</i> <i>Ni.Ad – Tikta</i> <i>Sha.sa – Kashaya, Katu</i>	<i>Laghu, Ushna</i>	<i>Ushna</i>	<i>Madhura</i>

Table 3: Pharmacological action of ingredient drugs in Amritotharam kwatha

<i>Dravya</i> → <i>Action</i> ↓	<i>Haritaki</i>	<i>Guduchi</i>	<i>Sunthi</i>
<i>Ekadoshaja</i>	<i>Vatahrit</i> <i>Kaphahara</i>	<i>Vatanut</i> <i>Vataprashamana</i>	<i>Kaphaghna</i> <i>Pittakrit</i>
<i>Dwidoshaja</i>	<i>Vatakaphahrit</i>		<i>Kaphavatanut</i>
<i>Tridoshaja</i>	<i>Tridoshaghna</i>	<i>Tridoshaghna</i>	
<i>Dhatu</i>	<i>Brihmana</i> <i>Lekhana</i>	<i>Raktanut</i> <i>Rasayana</i> <i>Dhatukrit</i> <i>Medososhana</i>	<i>Vrishya</i>
<i>Ama</i>	<i>Amapachana</i>	<i>Amapachana</i>	<i>Amapachana</i>
<i>Mala</i>	<i>Anulomana</i> <i>Sramsana</i>	<i>Grahi</i>	<i>Grahi</i> <i>Bhedini</i> <i>Vibandhanut</i>
<i>Agni</i>	<i>Dipana</i>	<i>Agnidipana</i> <i>Vahnikrit</i>	<i>Agnikrit</i> <i>Dipana</i>
<i>Srotas</i>		<i>Trishnaghna</i> <i>Kasahara</i>	
<i>Indriya</i>	<i>Chakshushya</i> <i>Indriyaprasadana</i>	<i>Chakshushya</i>	<i>Ruchya</i> <i>Svadupaki</i>
<i>Budhi</i>	<i>Medhya</i> <i>Smritivardhaka</i>	<i>Medhya</i>	
<i>Other Karma</i>	<i>Hridya</i> <i>Jivana</i> <i>Yogavahi</i>	<i>Hridya</i> <i>Balya</i> <i>Vayathapana</i>	<i>Kanthya</i> <i>Rochana</i> <i>Sangrahi</i>

Therapeutic indication of each of the ingredient drugs in the formulation gives us an idea regarding the practical therapeutic utility or possibility of usage of a particular formulation in diseases pertaining to various *Srotas* as well as *Dosha* and *Dhatu* vitiation. Looking at the above-mentioned pharmacological properties and actions of each of the ingredient drugs, it's evident that the formulation is effective in diseases /disorders pertaining to *Pranavaha srotas*, *Udakavaha srotas*, *Annavaha srotas*, *Raktavaha srotas*, *Mamsa* and *Medovaha srotases*.

All of the ingredients in the formulation are also therapeutically indicated in diseases due to exogenous pathogens as well.

Table 4: Therapeutic indication of drugs in Amritotharam Kwatha [12]

<i>Haritaki</i>	<i>Guduchi</i>	<i>Sunthi</i>
<i>Swasa</i>	<i>Raktavata</i>	<i>Hikka</i>
<i>Kasa</i>	<i>Kasa</i>	<i>Swasa</i>
<i>Kantha roga</i>	<i>Swasa</i>	<i>Kasa</i>
<i>Ajirna</i>	<i>Hikka</i>	<i>Udara</i>

<i>Ama</i>	<i>Kshaya</i>	<i>Trishna</i>
<i>Pinasa</i>	<i>Chardi</i>	<i>Sopha</i>
<i>Swasa</i>	<i>Agnimandhya</i>	<i>Aruchi</i>
<i>Kshaya</i>	<i>Arochaka</i>	<i>Arsa</i>
<i>Srama</i>	<i>Krimi</i>	<i>Soola</i>
<i>Hridroga</i>	<i>Amlapitta</i>	<i>Hridroga</i>
<i>Aruchi</i>	<i>Arsa</i>	<i>Pamdu</i>
<i>Krimi</i>	<i>Soola</i>	<i>Slipada</i>
<i>Vitbandha</i>	<i>Gulma</i>	<i>Chardi</i>
	<i>Raktapitta</i>	<i>Visuchika</i>
	<i>Vatarakta</i>	<i>Adhmana</i>
	<i>Daha</i>	<i>Amavata</i>
	<i>Arsa</i>	<i>Anaha</i>
	<i>Kamala</i>	
	<i>Pandu</i>	
	<i>Visamajwara</i>	
	<i>Murcha</i>	
	<i>Bhrama</i>	

Pharmacological Activity Evaluation

Research studies of various phytochemical constituents and extracts of the individual drugs in the formulation were used to evaluate their pharmacological activity. Clinical pharmacological approach and experimental pharmacological studies (In vivo and In vitro) were adopted to understand the pharmacological activities. This particular approach helps us to deduce the exact mode of action and explore the pharmacological potential of each plant in the formulation as well as substantiate their involvement in providing a cumulative effect on the total pharmacological activity of the formulation.

Pharmacological activity	Anti viral	Anti bacterial	Anti oxidant	Immuno-modulatory	Antipyretic	Cardio protective
Haritaki	Yes ^[13]	Yes ^[14]	Yes ^[15]	Yes ^[16]	Yes ^[17]	Yes ^[18]
Guduchi		Yes ^[19]	Yes ^[20]	Yes ^[21]	Yes ^[22]	Yes ^[23]
Sunthi	Yes ^[24]	Yes ^[25]	Yes ^[26]	Yes ^[27]		

Therapeutic combinations of Amritotharam Kwatha in Various disease conditions (Yojamanjari)

Disease indication	Combination indicated
<i>Jwara</i>	<i>Vettumaran Gulika</i> <i>Chukkumtippalyadi Gulika</i> <i>Gorochanadi gulika</i>
<i>Amavata</i>	1. <i>Vettumaran Gulika</i> <i>Chukkumtippalyadi Gulika</i> 2. <i>Eranda thailam with saindhavam</i>
<i>Gulma</i>	<i>Hingvachaadi Gulika</i>
<i>Prameha</i>	<i>Nishamalaka choornam</i>
<i>Jwara + Swasa</i>	<i>Swasanandam Gulika</i> <i>Dhanwantaram Gulika</i>

Discussion on therapeutic utility and potential of Amritotharam Kwatha

The formulation *Amritotharam Kwatha* is a classical ayurveda compound formulation mentioned in the text "*Sahasrayogam*" under the context of *Jwara chkitsa*. The formulation is primarily indicated for all

types of *Jwara*. Indication of *Amritotharam kwatha* encapsulates the therapeutic application of the formulation in all associated symptoms like loss of appetite, malaise, constipation, headache, bodypain etc.

A Deep analysis on the 3 ingredients of the formulation helps us to understand and contemplate the pharmacological and therapeutic potential of the drug. Looking at the pharmacological properties/Rasa panchaka of 3 drugs, possess Kashaya, Katu, Tikta rasa as the predominant Rasas. Virya of all the 3 drugs are Ushna and all 3 drugs are having Ushna, Laghu, Ruksha gunas and all of them possess Madhura vipaka.

Haritaki

Haritaki is a Vichitrapratyayarabdha Dravya because of the unique combination of its pharmacological properties. In Rasa, Haritaki is said to be Kashaya rasa pradhana lavana varjita pancha rasa, even though its Kashaya rasa pradhana, it possesses Madhura vipaka and should naturally be Sheeta in Virya, but on the contrary Haritaki is Ushna, which clearly substantiates the Vichitra Pratyayarabdha nature of Haritaki.

Because of Kashaya, Katu and Tikta rasa, Haritaki alleviates Kaphadosha. Because of Madhura, Tikta, Kashaya rasa haritaki alleviates Pitta dosha. Amla rasa brings about alleviation of aggravated Pitta dosha, hence Haritaki is regarded as Tridoshaghna in nature. Even though it is Ushna virya, it doesn't aggravate Pitta dosha, but alleviates Vata dosha. Haritaki is Dhatu vardhaka in nature, especially acting on Mamsa dhatu. By causing Soshana of Kleda present in Mamsa dhatu, it promotes the Guna of Mamsa dhatu.

The Kashaya, Katu Tikta rasa as well as Ruksha guna is responsible for Soshana/drying up of Kapha Dosha/Kleda and Sneha that accumulates in the Medo dhatu thereby bringing about the action of Lekhana and clearing up clogged Srotas. Haritaki causes the evacuation of Malas.

Even though Kashaya rasa is Sthambhana in nature, Haritaki acts here as an exception causing the Malapaka and inducing laxation.

The application in Jwara is substantiated by the Dipana, Amapachana, Malapachana activity of Haritaki clubbed with the Srotosodhana property.

Guduchi

Guduchi is also a Vichitrapratyayarabdha Dravya as it Tikta, Katu, Kashaya rasa pradhana with predominance of Tikta rasa but possess Madhura vipaka, Guduchi is Ushna virya as oppose to the normal rule of having Sheeta virya in accordance to Madhura vipaka.

Guduchi alleviates Kapha dosha by the virtue of its Katu, Tikta, Kashaya rasa and Ushna virya, by the virtue of Tikta, Kashaya rasa and Madhura vipaka guduchi overcomes Pitta dosha. Guduchi by the power of Madhura vipaka and Ushna virya alleviates Vata dosha, hence proving to be Tridoshaghna in nature. Guduchi is regarded as best Shamana Dravya since it

alleviates the deranged Doshas without aggravating any normal Doshas.

Guduchi is Dhatuvaradhana and Rasayana in nature by the virtue of its Madhura vipaka. It is Raktaprasadana due to Tikta rasa and destroys deranged Vata, Kleda and Kaphadosha that invades Rakta dhatu. It also promotes Majja dhatu. In general, Tikta rasa dravyas are considered to be Avrishya, but on contrary, Guduchi is Vrishya due to Madhura vipaka. Kledasoshana is brought about by Tikta, katu and Kashaya rasa.

Guduchi acts as both Dipana and Ama pachana Dravya by virtue of its Tikta katu rasa and Ushna virya. The excess Tikshnata of Pitta is overcome with the help of Madhura vipaka and Mridu guna of Guduchi.

The main applicability of Guduchi in Jwara is made possible by the Tikta rasa pradhanyata. In addition to that, Guduchi is Pittahara in nature at the same time being Agnideepana and Amapachana. Guduchi is a potent Vatakaphahara drug.

The Ushmatwa/increase in temperature in jwara is overcome significantly by Guduchi.

Guduchi is a perfect choice of drug in all types of Jwara especially Vataja jwara, Punaravartaka jwara, Jeernajwara as well as their associated symptoms like Kasa, Agnimandhya, Shola etc.

Sunthi

Sunthi is a Katu rasa pradhana drug with Madhura vipaka, Ushna virya and Laghu, Snigdha guna. Sunthi is Kaphahara in nature by the virtue of its Katu rasa and Ushna virya and Vatahara by the effect of Madhura vipaka and Ushna virya. Even though the drug is having katu rasa, it doesn't cause the aggravation of Vata dosha.

Sunthi is also Dhatu vardhaka in nature especially Shukra dhatu by the effect of Madhura vipaka. The drug causes the Pachana of all Doshas associated with Ama and in turn increases the Dhatvagni. Ushna virya causes the lysis of Kapha dosha and Kleda dosha clogged in the Medo dhatu.

Sunthi is specifically mentioned in Navajwara, Vataja, Kaphaja and Vatakaphaja jwara due to its potent action on Amapachana, Agnideepana, Kaphakleda vilayana, Vatasamshamana.

In various diseases like Jwara, Sharkara is told as a Prakshepaka Dravya, Sharkara because of its Sara, Sheeta, Snigdha gunas and Madhura rasa reduces the Ushna guna of Pittadosha.

Considering the pharmacological properties, activities, effect of each of ingredient drugs on vitiated Doshas, the cumulative effect of the formulation is influenced by the pharmacological properties and action of its individual drugs.

The *Tridoshaghna* property of the formulation along with *Agnideepana* and *Amapachana* property makes the drug an apt drug of choice for diseases like *Jwara*, *Kasa*, *Amavata*, *Ghridrasi*, *Kustha*. *Agnimandhya* etc as a main drug of choice as well as an adjuvant medicine.

CONCLUSION

Amritotharam Kwatha is a well known and commonly used classical Ayurveda formulation, mentioned in the text *Sahasrayogam*, even though indicated in all forms of *Jwara*. Apart from *Jwara*, various usage of *Amritotharam kwatha* individually as well as in combination with other compound medicines can be seen practiced by physicians all over the country. This wide range applicability of the formulation can be attributed to the unique combination of 3 miraculous drugs, their pharmacological properties, actions and therapeutic utility in diseases attributed to diseases pertaining to various *Srotases*. Demonstrated pharmacological activities, actions and detailed review of their mode of action substantiate the usage of this formulation both as a prophylactic/preventive and treatment option for a wide range of diseases.

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