

AN AYURVEDIC POLYHERBAL FORMULATION MUKKAMUKKADIVATI: A REVIEW

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ABSTRACT

In today's world of commercialization & busy lifestyle, many issues get compromised and one such factor that gets badly affected is the health. There is no person who is free from disease; whether it is physical or mental health. One among the disorders that commonly plagues the humans but is usually neglected is *Jwara*. *Jwara* can be a *lakshana* (symptom) or *vyadhi* (disease) itself. Numerous cases of death because of *jwara* have been reported. Hence *jwara* is a disease which cannot be taken lightly. *Mukkamukkadi vati* is a polyherbal formulation consisting *keeratitakta*, *two types of jeeraka*, *shunti*, *maricha*, *pippali*, *hingu*, *lasuna*, *ajamoda* etc drugs which are mainly *agnideepaka* (*carminative*) and *aamapachana* which helps in increasing *agni* (digestive fire) and thus helps in curing the *jwara*; As *Mandagni*(*diminished digestive fire*) is usually one of the causative factors. *Mukkamukkadi vati* otherwise called as *Phalatrikadi Vati* is available in market by the name *Mukkadvati*. Though it is a potent & effective medication it has not gained much popularity & hardly practiced. Hence in this review article a brief survey of both *Ayurvedic* & Contemporary literature, about the ingredients, is done and a hypothesis is proposed about the probable mode of action on *Sannipataja Jwara*. This can be established by taking up further research works.

Keywords: *Mukkadi Vati; Mukkamukkadi Vati; Phala, trikadi Vati; Sannipata jwara*

INTRODUCTION

*Dharmartha kama mokshanam arogyam mulamuttamam /
Rogastasya aparthasreyasojeevitasya cha ||¹*

As explained in the above verse, to achieve *dharmaadi chatur purusharthas*, *arogya* (health) is of utmost importance. Different

roga plague the mankind deteriorating the health and thereby hindering the progress. Hence bringing back the *arogya* (health) by

maintaining *samaguna* of *dosha* and using the principles like *ksheenabruhaitavya* (increase that which is decreased), *kupitaprashamitavya* (subsiding with is vitiated), *vrudha nirharitavya* (removing which is more vitiated), *samaparipalitavya* (maintaining

which is in normal state)² is very much essential. By these four principles we can bring out *swastasyaswaastyarakshanam* (maintaining health) and *aaturasyavikara prasamanam* (curing diseased person) which forms the base of *Ayurvedic* system.

Ta eva aparisankyeya bhidyamaanaa bhavanti hi |

*Ruja varna samuthaana sthaana samsthaana naamabhi ||*³

Rogas that affect the man are innumerable; among them a common disease which usually affects all individuals irrespective of age, sex,

and environment is *jwara*. *Jwara* is mainly caused by *mandaagni*.

Mithyaaharavihaarabhyam dosha aamasayashrita |

*Bahirirasya kosthagni jwara su rasaauga ||*⁴

Jwara is caused by intake of unwholesome food and activities, by this there will be vitiation of *dosha* which enter into *aamashaya* and dislodges *agni* to periphery causing *jwara vyadhi*.

Jwara can be caused by *Aama* (toxin released in the stomach when food remains undigested). According to *Charaka Samhita*, all diseases occur due to imbalance in *Agni* (digestive fire) and *Agni* is the single most important factor in the buildup of *Aama*. As a result, the treatment of *Aama*, must include the

treatment of *Agni* including the use of digestive herbs and spices, eating meal on scheduled time and elimination of cold food and drinks from the diet. *Panchakarma*, the deep cleansing procedure can also be used to eliminate *Aama*. But *panchakarma* is a lengthy procedure which patients seldom prefer. In such conditions administration of *mukkadi vati* is highly effective. Taking this point in account an attempt has been made to access the probable mode of action of *mukkadi vati* on chronic *jwara*.

Mukkadi vati:⁵

Phalatravam trikatukam kairaatam jeerakadwayam |

Vachaam jaateephalam kanyaSaaram saindhavameva cha ||

Raamatam devakusumam kustamindum twacham tathaa |

Kankolakam cha lasunamajamodam cha churnayet ||

Nirgundiswarase pistwaa vatikaakaarayebhishak |

Koshnaambhunaa sanniatmaminyaasmvinashayet ||

Materials and Method:

Table 1: List of ingredients

Sl no	Ingredients	Botanical name/ Scientific Name	Part used	Quantity in parts
1.	<i>Haritaki</i>	<i>Terminalia chebula</i>	<i>Phala(fruit)</i>	1 Part
2.	<i>Vibhitaki</i>	<i>Terminalia bellirica</i>	<i>Phala(fruit)</i>	1 Part
3.	<i>Amalaki</i>	<i>Phyllanthus emblica</i>	<i>Phala(fruit)</i>	1 Part
4.	<i>Sunthi</i>	<i>Zingiber officinale</i>	<i>Kanda(tuber)</i>	1 Part
5.	<i>Maricha</i>	<i>Piper nigrum</i>	<i>Phala(fruit)</i>	1 Part
6.	<i>Pippali</i>	<i>Piper longum</i>	<i>Phala(fruit)</i>	1 Part
7.	<i>Jeeraka</i>	<i>Cuminum cyminum</i>	<i>Beeja(seed)</i>	1 Part
8.	<i>Krishna Jeeraka</i>	<i>Carum carvi</i>	<i>Beeja(seed)</i>	1 Part
9.	<i>Keerata Tikta</i>	<i>Swertia chirayita</i>	<i>Panchanga(whole plant)</i>	1 Part
10.	<i>Vacha</i>	<i>Acorus calmus</i>	<i>Moola(root)</i>	1 Part
11.	<i>JatiPhala</i>	<i>Myristica fragrans</i>	<i>Phala(fruit)</i>	1 Part
12.	<i>Kumari Saara</i>	<i>Aloe barbadensis</i>	<i>Saara(heart wood)</i>	1 Part
13.	<i>Saindhava Lavana</i>	<i>Halite</i>		1 Part
14.	<i>Hingu</i>	<i>Ferula asafetida</i>	<i>Niryasa(excudate)</i>	1 Part
15.	<i>Lavanga</i>	<i>Syzygium aromaticum</i>	<i>Pushpakalika(bud)</i>	1 Part
16.	<i>Kushta</i>	<i>Saussurea costus</i>	<i>Moola(root)</i>	1 Part
17.	<i>Karpooora</i>	<i>Cinnamomum camphora</i>	<i>Niryasa(excudate)</i>	1 Part
18.	<i>Twak</i>	<i>Cinnamomum verum</i>	<i>Twak(bark)</i>	1 Part
19.	<i>Kankola</i>	<i>Cubeba linn</i>	<i>Phala(fruit)</i>	1 Part
20.	<i>Lashuna</i>	<i>Allium sativum</i>	<i>Phala(fruit)</i>	1 Part
21.	<i>Ajamoda</i>	<i>Apium graveolans</i>	<i>Beeja(seed)</i>	1 Part
22.	<i>Nirgundi</i>	<i>Vitex nirgundo</i>	<i>Patra(leaves)</i>	1 Part

Method of preparation:

All the drugs are pounded well and *sookshma choorna* (sieve no 80-120) is prepared. All the drugs are taken in a clean *khalwa yantra* (pestle and mortar) in equal quantity and *mardana* (trituration) is done to prepare a homogenous mixture. To this mixture quantity sufficient of *Nirgundi swarasa* is added and

trituration is carried out till it attains semisolid consistency. Later on *vatis* of 1 *karsha pramana* is prepared and kept for drying. The *vatis* are stored in air tight container.

Anupana – *sukosnambu*.

Dose – 3-4 tablets/day based on the severity of disease

Table 2: *Rasa panchaka* and *Rogagnatha* of individual ingredients of *Mukkhadivati*

S. N	Drug	Rasa	Guna	Virya	Vipaka	Rogagnatha
1	HARITAKI	Kashaya Pradhana Pancha Rasa	Laghu Ruksha	Ushna	Madhura	Tridoshaghna, rasayana, agnimandyaahara, Indicated in vishama jwara and jeernajwara.

2	VIBHITAKI	Kashaya	Ruksha, Laghu	Ushna	Madhura	Tridoshaghna, deepana, anulomana, Indicated in jwara.
3	AMALAKI	AmlapradhanaPancha Rasa	Guru, Ruksha, Sita	Sita	Madhura	Tridoshaghna, Rasayana, dahaprasamana, deepana, jwarghna. Indicated in jeernajwara, ajeerna, agnimandya
4	SUNTHI	Katu	Laghu, Snigdha	Ushna	Madhura	Kaphavata Samaka, jwaraghna, rochana, deepana, pachana Indicated in vishamajwara, jeernajwara
5	MARICHA	Katu	Laghu, Teekshana	Ushna	Katu	Kaphavata-hara, deepana, pachana, jwaraghna. Indicated in visamajwara
6	PIPPALI	Katu	Laghu, Snigdha, Tikshana	Anushna sita	Madhura	Kaphavata Samaka, rasayana, deepana, jwaraghna. Indicated in jeernajwara, visamajwara, aruchi, agnimandya
7	JEERAKA	Katu	Laghu, ruksha	Ushna	Katu	Kaphavatahara, deepana, pachana Indicated in jeernajwara
8	KRISHNA JEERAKA	Katu	Laghu, ruksha	Ushna	Katu	Vatakaphashamaka, Deepana, pachana, rochana, jwaraghna. Indicated in jeernajwara, aruchi, agnimandya.
9	KEERATA TIKTA	Tikta	Laghu, Ruksha	Ushna	Katu	Deepana, amapachana, jwarghna, dahaprasamana. Indicated in ajeerna, jeernajwara, vishamajwara, daha, jwara.
10	VACHA	Katu, Tiktha	Laghu, Tikshna	Ushna	Katu	KaphaVatahara, deepana, jwarghna Indicated in Amajeerna
11	JATIPHALA	Tikta, Katu	Laghu, Teekshana	Ushna	Katu	Kaphavataashamaka, rochana, deepana, pachana, jwaraghna. Indicated in agnimandya, aruchi, jwara, jwaratisara.
12	KUMARI SAARA	Tikta, Madhura	Laghu, Ruksha, Teekshna	Ushna	Katu	Kaphapittasamaka, deepana, pachana, jwaraghna. Indicated in jeernajwara, agnimandhya

13	SAINDHAVA LAVANA	Madhura	Laghu	Sheeta	Madhura	Tridosahara, rochana, deepana
14	HINGU	Katu	Laghu, Teekshna, Sara, Snigd- ha	Ushna	Katu	Kaphavatahamaka, deepana, pachana, rochana, jwarghna. Indicated in sheetajwara, vishamajwara
15	LAVANGA	Katu, Tikta	Laghi, Teekshna	Sheeta	Katu	Kaphapittasamaka, deepana, pachana, ruchya, amapachana, jwaraghna. Indicated in jwara, aruchi, agnimandhya
16	KUSHTA	Tikta, Ka- tu, Madhu- ra	Laghu, Ruksha, Teekshna	Ushna	Katu	Kaphavatahamaka, deepana, pachana, jwarghna. Indicated in jeernajwara
17	KARPOORA	Tikta, ka- tu, madhu- ra	Laghu, ruksha	Sheeta	Katu	Kaphahara, pachana
18	TWAK	Katu, Tik- ta, MADhu- ra	Laghu, Ruksha, Teeksha	Ushna	Katu	Kaphavatasamaka, deepaka, pachanka, ruchya. Indicated in agnimandya and aruchi
19	KANKOLA	Katu, Tikta	Laghu, Ruksha, Teekshna	Ushna	Katu	Kaphavatasamaka, rochana, pachana, deepana. Indicated in agnimandhya, aruchi
20	LASHUNA	Amlavarjita pancha rasa	Snigdha, Teekshna, Pic- chila, Guru, Sara	Ushna	Katu	Vatakaphasamaka, deepana, amapachana. Indicated in jeernajwara, visamajwara.
21	AJAMODA	Katu, Tikta	Laghu ruksha, teekshana	Ushna	Katu	Kaphavatahara, vidahi, deepana,
22	NIRGUNDI	Katu, Tikta	Laghu, Ruksha	Ushna	Katu	Kaphavatasamaka, deepana, amapachana, jwaraghna. Indicated in jwara and vishamajwara.

DISCUSSION

Most of the ingredients are having *katu* and *tikta* rasa, *deepaka*(carminative) and *pacaka* (digestive) *guna* which is indicated in *jwara*. *Aama* is one of the leading causes for *jwara* where these *gunas* help in *aama nirharana* (removal of undigested food).

Triphala does *vatanulomana*, by which there will be correction of *agni* in *grahani pradasha* leading to *amapachana* and acts as *jwarahara*. Regular intake of *triphala* exhibits analgesic and antipyretic activities without any gastric damage.⁶ *Triphala* was found to be safe alternate to pro-kinetic drugs with no side

effects as it is involved in removal of gastric wastes.⁷

Trikatu, Jeeraka Dvaya, Vacha, Jatiphala, Ajamoda, Twak, Lavanga, Hingu, Kankola, Kusta, & Karpoora are some of the best *amapachaka* and *Agni deepaka dravyas* helping in curing *jwara*. *Pippali* demonstrates antibacterial activity against *M. smegmatis* and hence is a potential antimycobacterial drug, it also exhibits significant anti oxidant activity.⁸ Alcoholic extract of *maricha* is having antipyretic activity; the underlying mechanism maybe inhibition of prostaglandin synthesis within the hypothalamus.⁹

Natural spices of garlic and ginger possess effective anti-bacterial activity against multi-drug clinical pathogens and can be used for prevention of drug resistant microbial diseases.¹⁰

A review about *Cuminum cyminum* quoted that Ethanol extract of seed exhibited antimicrobial activity against biofilm *E. Coli*. The essential oils of *Cuminum cyminum* showed activities like antibacterial anti fungal & antiviral effects on various organisms like gram-positive & gram-negative bacteria, *A. niger*, *B. subtilis*, *S. epidermidis*, *Aspergillus flavus*, *Candida albicans*, *S. aureus*, Herpes simplex virus. It also had effects on growth of aflatoxins by *A. parasiticus*.¹¹

A study on *vacha* suggested that the active constituents have enough potential to be used as an analgesic, antipyretic, anti ulcer drug with excessively limiting side effect. Extract of *vacha* rhizome was tested against yeast

induced fever with paracetamol as standard drug.¹²

A comprehensive review article has quoted volatile oil obtained from seeds of *myristica fragans* are effective against the majority of gram positive and gram negative microbes, growth inhibition capability of bacterial spores. The dried seed cover of *myristica fragans* contains two compounds and both exhibit strong antifungal and antibacterial activities.¹³

An assay of antimicrobial efficacy in vitro and its use as antimicrobials in humans, are investigated. The active principles thought to be responsible for antimicrobial activity of *ajwain* were reported to be *carvacol* and *thymol*. *Thymol* kills bacteria resistant to even prevalent third generation antibiotics and multi-drug resistant microbial pathogens and thus works as a plant based 4th generation herbal antibiotics.¹⁴

A decoction of dried twigs of cinnamon (*twak*) can produce an antipyretic effect in mice. Essential oil of cinnamon was found to possess antimicrobial properties. In vitro it inhibits the growth of *Bacillus cereus*. Cinnamaldehyde produced an analgesic effect in mice and also having inhibitory properties against *Aspergillus flavus*, *Aspergillus ochraceus*, *Aspergillus niger*, *Penicillium viridicatum*. Cinnamon bark oil showed inhibitory effect against the gram-positive bacteria *Bacillus cereus*, *Micrococcus luteus*, *Enterococcus faecalis*; gram negative bacteria *Alcaligenes faecalis*, *Enterobacter cloacae*, *E. coli*.¹⁵

A study reported that the various phyto constituents of *lavanga* like Eugenol exhibit antipyretic, antimicrobial, analgesic effects. B-caryophyllene acts as antibiotic, Vaniin, Gaic acid, Myricetin & Kaempferol acts as antimicrobial, Rhamnetin & Eugenitin display antifungal activities. Biflorin, Campesterol exhibits antibacterial activity.¹⁶

n- hexane and DCM extracts of *kankola* inhibited the growth of *Bacillus cereus*, *P. aeruginosa* and *S aureus*. All antibacterial activities were bacteriostatic rather than bactericidal.¹⁷

It is found that the *S.lappa* C.B. Clarke ethanol extract and n-hexane fraction have strong activity against *B. cereus* and *V. parahaemolyticus* strains compared to ampicillin.¹⁸ It also have immunomodulatory, anticonvulsant, hepato protective, anti parasitic, anti viral activity and create resistant to *H.pylori*, *Streptococcus mutans*, *A. niger* etc¹⁹

Nirgundi, *karpoora* and *Hingu* does *vataharana* and hence acts a *vedanasthapaka*; *vedana* being a common symptom in *jwara*. Flavone glycoside, found in etonolic extract of leaves of *Vitex negundo* was found to have significant anti fungal activity against trichophyton mentagrophytes and *Cryptococcus neoformans* at MIC 6.25gm/ml and Essential oil and successive ethylacetate and ethanol extract showed antibacterial activity against *Staphylococcus aureus*, *Bacillus subtilis*, *E coli*, *Pseudomonas aeruginosa* bacterial strains.²⁰

Extract of *Ferula narthex* fractions showed antibacterial, anti-fungal & cytotoxic activities against *S. aureus*, *E. oli*, *C. albicans*, *M.canis*, *MRC-5*. It also had promising activities against protozoal parasites.²¹

Lashuna acts as *deepaka* and *pachaka* and it also has *Rasayana* property. *Saindhavalavana* acts as *deepaka* and *pacaka* and helps in *kaphachedana* and increases *agni* of the patients. *Lavana* is *jeerana* and *aruchi hara*.

All the above mentioned drugs are having action on *jeernajwara* and *visamajwara*. *Keertatikta* is one of the best *jwaraghna dravyas*. Methanolic extract of *keeratatikta* possess significant antipyretic effect against elevated rectal temperature induced by yeast suspension in rats, at the dose 200mg/kg at 4 hours and compared to the standard drug paracetamol. The presence of alkaloids & flavanoids are responsible for the antipyretic activity.²²

Anupana suggested is *sukosnambu* which is again *Laghu*, *Amapachaka* & *Jwaraghna*. Though *Jala* does *agnishamana*, *Sukosnambu* suggested here being *laghu* doesn't hamper *agni*, instead increases *agni* and does *aamapachana*, helping in relieving *jwara*.

CONCLUSION

Jwara is also called as *roga raja*. There is a popular reference quoting that all diseases originate from *aamasaya* and are caused due to *mandagni*.

So considering this, to treat this *roga raja* concentration has to be laid on *aamashaya* and *agni* mainly. The above mentioned formulation is having ingredients which are

having *deepaka*, *pachaka* and *jwarghna* properties. So these drugs initially do *aamapachana* which results in *deepana* of *agni* through which *jwara* gets eliminated. This is a potent formulation made of herbal drugs which are having effect on all the three *doshas*, all the Individual ingredients are seen to possess various therapeutical effects like antipyretic, antimicrobial, antibacterial activities which can be used as markers to assess & understand its role in treatment of *Sannipataja jwara*. In *Udupi*, Some practitioners prepare & prescribe this formulation in day to day practice and it has very good result on *jwara* which have crossed more than 5 days and also useful in pediatric conditions. Further research work can be taken up to standardize the pharmaceutical process & clinical studies to provide validation & hence paving way for its emergence as potent medicine for the benefit of mankind.

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