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“SYSTEMIC REVIEW OF AMRUTMANJIRI, A POTENT AYURVED HERBOMINERAL COMBINATION AGAINST COVID-19 PANDEMIC.”

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Abstract:

A Novel corona virus was identified as the causative agent and was subsequently termed COVID-19 by the World Health Organization and there is no scientific treatment for the disease till date. *Ayurveda* is a science of life main focus of *ayurveda* to cure the disease root causes and maintain the health of healthy individuals. *Amrutmanjiri ras* is a compound drug used in *sannipataj jwar* , *Kasa Shwas*, *Aamavat*, The content present in *Amrutmanjiri* are having properties such as antiviral ,expectorant, reducing infection of upper respiratory tract. An *Amrutmanjiri* content has been included in Indian pharmacopeia as well as in literature of many other ancient civilization. In *Ayurveda Amrutmanjiri* is one of the important medicine which is been referred in many texts with many therapeutic uses. Thus the content of *Amrutmanjiri* is found to have prominent antiviral activity .so we can use *Amrutmanjiri* as Antiviral Drug.

Keywords: *Amrutmanjiri*, *Sannipatik jwar* , Covid -19 treatment , Fever , *Saam jwar*, *Aamvat*.

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INTRODUCTION:

COVID-19 is caused by Beta corona virus named SARS-CoV-2 that affect the lower respiratory tract and manifest as pneumonia in Humans^[1], structurally the SARS corona virus (SARS-CoV) has a well – defined composition comprising 14 binding residues that directly interact with human angiotensin-converting enzyme 2. of these amino acids, 8 have been conserved in SARS CoV-2^[2]. Most SARS-CoV-2 infected patients have developed mild symptoms such as dry cough, sore throat, and fever. The majority of cases have spontaneously resolved. However, some have developed various fatal complications including organ failure, septic shock, pulmonary oedema, severe pneumonia, and Acute Respiratory Distress Syndrome (ARDS)^[3]. At present, no effective antiviral treatment or vaccine is available for COVID-19. However, a randomized multicentre controlled clinical trial is currently underway to assess the efficacy and safety of patients with COVID-19 (ChiCTR2000029573). First-line treatment for fevers includes antipyretic therapy such as paracetamol, while ex- pectorants such as guaifenesin may be used for a non-productive cough. ^[4]There are currently few studies that define the patho physiological characteristics of COVID-19, and there is great uncertainty regarding its mechanism of spread. Current knowledge is largely derived from similar corona viruses, which are transmitted from human-to-human through respiratory fumets ^[5]Same in *ayurveda sankramik* disease.

Ancient wisdom has been the basis of modern medicine and therapeutics. An impressive number

of drugs have been isolated from natural sources. Many of this isolation are based on the use of these agents in traditional medicine. *Amrutmanjiri ras* are mentioned in our classics, among which the familiar one which is described in *Bhaishajya ratnavali* has been taken for review in this article. Man has been using Natural products, including plants, animals and minerals have been the basis of treatment of disease. In the History of human The disease which persist at the time of death is *jwara* (HYPER PYREXIA), In *Ayurveda jwara* is given top most importance because it is believed that *jwara* is the first disease to trouble mankind and it becomes the basic for other disease to exist. Many type of *jwaras* are explained by our *acharyas/scholars* and one of them is *sannipataj jwara*^[6].

AMRUTMANJIRI IN DETAIL^[7]

Amrutmanjiri rasa an *Ayurvedic* herb mineral formulation is indicated in the management of *jwara* (Hyper pyrexia) and *Sannipataj jwara*. It contains two mineral drugs and five herbal drugs.

Matra-125 to 250 mg

Anupan-*Aadrak swaras, Madhu, Tambul patraras, Ushndak.*

Swad-*Aamla.*

Varna-*Raktabha*

Indication of Amrutmanjiri – *Sannipat jwara, Aagnimandya, Aajirna, Aamavat, Kasa* five types, *Shwasa, Sarvang graham, Jirnajwara, Kshya.*

Table 1 showing Amrutmanjiri Ingredients In detail-

Content	Quantit y	Rasa (taste)	Viry a	Vipak	Guna	Doshagnata	Indication
<i>Shudha Hingula</i> ^[8] (<i>cinnabar</i>)	1 part	<i>Tiktha Kasha</i>	<i>Ushn a</i>	-		<i>Tridoshaghna</i>	<i>Jwara, Aamavat, Rasayan, Deepan, Vrushya, Sarva</i>

		ya , Katu .					Rogaghna, Kamala, Pliha, Kushta and Vishanashak.
Vatsanabh ^[9] (<i>Aconitum ferox</i>)	1 part	Madhur	Ushna	Katu	Laghu, Ruksh, Teekshna, Vyavayi, Vikasi	Vatakaphahara, Jwarahara, Jangamvishahara, Madakari, Kushthaghna,	Jwara (Sannipataj), Madhumeha, Shwasa, Kasa, Pleehodara, Agnimandya, Vata rogas,
Shudha Tankan ^[10] (<i>Borax</i>)	1 part	Katu	-	-	Ushna, Ruksa, Teekshna, Sara.	Vatakaphaghna .	Kaphavishleshaka, Hrudhya, Kasa Shwsa Hara, Sthavara vishanashaka, AgniDeepak
Marich ^[11] (<i>Piper nigrum</i>)	1 part	Katu	Ushna	Aardra-Madhur	Ruksha, Tikshna	Pittakar, Kaphahara, Vatahara	Shwasa, Shula, Krumirog nashak
Pippali ^[12] (<i>Piper longum</i>)	1 part	Katu	Ushna	Madhur	Laghu, Sneegdha, Teekshna.	Vatashleshmah ara, Deepana, Vrushya, Rasayan.	Jwara, Aamavat, Udara, Pliha Roga, Kushta, Prameha, Gulma, Arsha, Shula.
Javitri ^[13] (<i>Myristica fragrans</i>)	1 part	Tikta,	Ushna	Katu	Laghu, Tikshna,	Kaphaghna, Vataghna, Deepan, Grahi, Ruchikar	Kasa, Krumi, Shwasa, Shosha, Rhudrog, Pinas. Mukhadurgandha hara
Jambiri nimbu swaras ^[14] (<i>Citrus lemon</i>)	For trituratio n.	Aamla	Ushna	Aamla	Guru,	Vata, Kaphahara	Kasa, Kaphotkleshaghna, Krumighna, Aasyavairasyahara. Rhutpida, Shulaghna,

1) Shuddha Hingul (Cinnabar)

Therapeutic Utility of Shuddha Hingula^[15,16,17] - Shuddha Hingula (cinnabar) when judiciously used in the form of suitable compound formulation and in proper dosage is beneficial in all types of eye diseases (*Netra Roga Hara*), it mitigates all the three vitiated *Doshas*. It is good appetizer, rejuvenator and aphrodisiac. It is the best remedy for the disorders of liver, pancreas, rheumatoid (arthritis *Aamavata*), diabetes mellitus (*Prameha*) and fever, is nutritive, It enhances body strength,

memory, facial glow and power of digestion. *Cinnabar* is used as sedative for its neuroactivity^[18]. HgS adjust the imbalance of Pro-oxidant and Antioxidant, provides a protective effect in oxidative stress which is induced by Hypoxia^[19].

2) Vatsanabh

Vatsanabh is having properties like *Rasayan* (rejuvenating) *Balavardhanam* (improve strength and immunity), *jwarahara*^[20] (useful in fever), *Shirashool*^[21] *Vatsanabh* acts as *Yogavahi* – a catalyst for other medicine *Vatsanabh* used with equal quantity of *tankan* (purified Borax) and double quantity of black paper (*Marich*)^[22] will not

have any toxic effects. It is also *Rasayan*, *Sukhaprada*, *Balya*, *Shwas Kasa Bhagandar Gulma*, *Pandu*, *Aarsha*.^[23]

3) Tankana (Borax)

Tankan contain $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ which is composed of boric acid and soda^[24].

As antidote-

Tankan is might be to minimize toxic effects of *Vatsanabh*. This concept highlights the antidote property of Tankan in *Vatsanabh* toxicity.^[25]

Wound healing -

Tankan is used in the process of repair that follows injury to the skin and other soft tissues. The objective in wound management is to heal the wound in the shortest time possible, with minimal pain, discomfort, and scarring to the patient.^[26]

Another Uses-

- It is used in the treatment of cough, bronchitis.
- It is also used in treating food poisoning.
- It improves digestion power, relieves bloating.
- It induces menstruation in women suffering with amenorrhea or oligomenorrhea (Scanty menstrual flow).
- It is useful in dandruff Tankan is applied on hair and keeps for 5 to 10 min and washes out.
- It is useful ulceration of mouth and cracks and fissures of tongue.
- Dose varying from 10-30 grains are given in prolonged labour.
- Useful in other uterine infection.
- Useful in chronic tonsillitis.

The gargling with *Tankan bhasma* dissolved water gives significant result in relieving the tonsillitis^[27].

4) Marich

Pharmacological Activities of *P. Nigrum* - Anti-diarrheal^[28], Antimicrobial^[29], Antioxidant^[30],

Anticancer^[31] and tumour reduction activity^[32], Antihypertensive^[33], Anti-asthmatic, Anti-inflammatory^[34], Anti-obesity^[35], Antidiabetic^[36], Hepatoprotective activity^[37], Digestive activity^[38], Antidepressant^[39], Analgesic and Antipyretic activity^[40], Anti-adipogenesis activity^[41], Effects in metabolism^[42], Effects in neurodegeneration and cognitive impairment^[43], Effect in Bioavailability^[44], Toxicity activity^[45], Effects in stomach^[46], Effect in bile secretion^[47], Effect in pharmacokinetic of drugs^[48].

5) Pimpali

Pharmacological Activity of *Piper longum* :- Insecticidal and acaricidal activity^[49], Antifungal activity^[50], Antiamoebic activity^[51], Antimicrobial activity^[52], Effect on respiratory system^[53], Antiasthmatic activity^[54], Effect on cardiovascular system^[55], Antidiabetic activity^[56], Hypocholesterolaemic activity^[57], Antioxidant activity^[58], Analgesic activity^[59], Anti-inflammatory activity^[60], Immunomodulatory activity^[62], Anti-cancer activity^[62], Antidepressant activity^[63], Antiulcer activity^[64], Effect on Reproductive system^[65], Bioavailability enhancement^[66], Hepatoprotective activity^[67].

6) Javitri.

Pharmacological Activity- Anti-bacterial, Antimicrobial and Anti-fungal property^[68] – Effective against Gram-positive and Gram-negative microbes. Hypoglycemic and antidiabetic activities^[69] – It is potential anti-diabetic agent for the treatment of type 2 diabetes study done in rats. Hypolipidaemic and platelets anti-aggregatory activity^[70] – Reduces cholesterol in heart and liver LDL and VLDL levels were also significantly reduced in albino rat study. Hepatoprotective activity^[71] – due to the inhibition of Tubercular Necrosis Factor (TNF)-alpha release from macrophages in mice, Anti-inflammatory activity^[72] – The anti-inflammatory property of myristicin might be due to inhibition of chemokines, cytokines, nitrous oxide and

growth factors in double stranded RNA stimulated macrophages via the calcium pathway, Anticancer activity^[73], Memory enhancing activity^[74], Aphrodisiac activity^[75], Anti-diarrhoeal activity^[76], Antidepressant activity^[77], Anti-oxidant activity^[78], Pesticide activity: insecticidal^[79]

7) *Jambir*

Anticancer activity^[80] – Inhibition of the proliferation of cancer cells. Activation of “TRAIL” apoptotic cell death. Inhibition of tumour growth in chronic erogenous leukaemia (CML)

Antioxidant activity^[81] – Augmentation of antioxidant cellular defences via ERK/Nrf2 signalling pathway.

Anti-inflammatory activity^[82] Antibacterial activity^[83] – Inhibiting activity against Gram –positive bacteria, *Enterococcus faecalis*, *Bacillus subtilis*, Inhibiting activity against Gram – negative bacteria *Salmonella typhimurium*, *Shigella sonnei*, *Helicobacter pylori*.

Antifungal activity^[84] – Inhibition activity against *Candida glabrata* strains.

Antiviral activity^[85] – Inhibition of replication of herpes simplex

Anti-allergic activity^[86] – Inhibition of histamine secretion in peritoneal cell of rats.

Hepatogenerative activity^[87] – Normalization of alanine aminotransferase, alkaline phosphatase and bilirubine.

Prevention of diabetes and treatment of its symptoms^[88] – Inhibition of Gluconeogenesis, Reducing wound healing time, Increasing tissue growth rate, collagen synthesis and protein and hydroxyproline concentration.

Anti obesity activity^[89] – Lowering blood lipids, Reducing the level of insulin, leptin and adiponectin in the blood

Effect on cardiovascular system^[90] – Limiting myocardial damage, Decreasing blood fibrinogen, Lowering blood pressure in people with hypertension.

Effects on nervous system^[91] – Strengthen short term memory.

Effects on the respiratory system^[92] – Treatment in chronic pneumonia

Effects on skeletal system^[93] – Increases bone density, Decreases osteoclast activity, Decreasing bone resorption activity (nomilin)

Treatment on menstrual disorder^[94] – Period induction in case of irregular menstrual cycles.

DISCUSSION-

COVID-19 Which is caused by droplet infection of corona virus and enters in to body through Nasal and Buccal mucosa and increases in number. it primarily acts on respiratory system and patient may develop Acute Respiratory Distress Syndrome.

Amrutmanjiri is useful in *Aamashaya udbhavjanya vyadhi* such as, *Sannipataj jwarw Shwas, Kasa Jwara Aamavata*. Main cause of *sannipataj jwara* is *aama* and *Aam* is nothing but the Endogenous toxins. Formed due to digestive error, metabolic error, immunological reaction and hypersensitivity reaction. *Amrutmanjiri* is having *Krumighna* property due to which it acts as Antiviral, Antibacterial, Antifungal, Anticancer and Antimicrobial activity.

Amrutmanjiri is having immunomodulatory activity which is useful to avoid the disease also having the *swedakar* property which is responsible to reduce the *jwarw* (hyper pyrexia) and act on all type of *vyadhi*. Due to these properties of *Amrutmanjiri* we can use it in COVID-19 disease.

CONCLUSION:

As the *Amrutmanjiri ras* is indicated in *shwas, kaas, jwar, sarvanggrah, kshay*, etc. And same symptoms were found in COVID -19, so we can be used *amrutmanjiri ras* in COVID-19 symptomatically. This is my small efforts, how this medicine will act by their ingredients *doshaghnata* as well as by their qualities. But there is a need of further preclinical study.

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Conflicts of interest

Nil

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