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Shadangpaniya: A systematic review with special context to COVID-19.

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Abstract:

The novel corona virus has emerged as a pandemic disease globally. WHO has declared this outbreak as global public health crisis. COVID-19 is a disease caused by new strain of corona virus. It is viral infection which spreads primarily through droplets of saliva from an infected person. The best way to avoid transmission of this virus is prevention and isolation. Symptomatic treatment can get better relief and increase the chances of recovery. Symptoms such as fever, cough etc. can be treated including boosting of the immunity of patients. *Shadangpaniya* is an herbal formulation used mainly in management of fever. It contains decoction of six medicinal herbs. It is mentioned in different *ayurvedic* texts with its therapeutic uses. Contents of *Shadangpaniya* show anti-viral, anti-bacterial and antioxidant properties. Also they are used in diarrhea and skin problems. Taking this in consideration *Shadangpaniya* is being reviewed and can be used to cure symptoms in such epidemic burst.

Keywords: *Shadangpaniya*, COVID-19, Fever.

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INTRODUCTION: The word CORONA VIRUS itself has made a huge impact on every aspect of human life all over the world. This disease (COVID 19) is highly transmittable and pathogenic viral infection. The first case was initially observed in the Wuhan province of China and now it is rapidly spreading globally. This viral infection is caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2).^[1] Corona Viruses are minute in size (65-125 nm in diameter) and contain a single stranded RNA as a nucleic material. Lot of researches are been carried out on SARS, CoV-2, and COVID-19 on the basis of immunology and virology.^[1] It has been observed that the spread of virus from human to human occurs due to close contact with infected persons, exposed to coughing, sneezing respiratory droplets and aerosols.^[1] This virus causes lower Respiratory tract infections. The most common symptoms of COVID-19 are Fever, dry cough and tiredness. While the other symptoms include, body pain, headache, breathlessness, sore throat and skin rashes.^[2] COVID-19 can cause mild to severe illness. Older persons and patients having complications like diabetes, heart problems, hypertension, lung diseases and cancer are likely to develop serious illness.^[2] Recent studies have also stated diarrhea as a symptom of this virus.^[3]

Many researchers are seeking for the treatment of this pandemic. There is no specific treatment protocol even in all medically advanced countries, which has led to increase in mortality rate. Clinical trials are been carried out for study of cure of this disease. Till then the treatment followed is symptomatic. As the pandemic is new and was unexpected it is tough for medical faculties to overcome it. But it has been observed that immunity plays important role in recovery of COVID-19. So in this outbreak of corona virus traditional medicines are gaining more importance.

Ayurveda is being practiced as a healthcare system of medicine since thousands of years. Many of the herbo-mineral preparations in *ayurveda* act as great immune boosters. Plants are natural resources important for human health and has many medicinal properties. *Shadangpaniya* is also a Polyherbal preparation, containing aqueous decoction of six herbs in equal amount. It is used mainly in fever and symptoms associated with it. Its constituents are mentioned in ancient texts of *Ayurveda*. *Shadangpaniya* is effective in management of fever, loss of appetite, excessive thirst and distaste. *Jwara* (Fever).^[4] is mentioned in our *ayurvedic* classics prior to all other diseases. And fever being the major symptom of COVID-19 *Shadangpaniya*^[5] has been taken for review in this Article.

Materials and Methods^[5]

This formulation contains *Ushir* (*Vetiveria Zizanioides*), *Parpatak* (*Fumaria indica*), *Udeechea* (*Andropogon Vetiveria*), *Musta* (*Cyperus rotundus*), *Nagar* (*Zingiber officinale*), and *Chandan* (*Santalum album*). It is a decoction prepared of these six herbal ingredients and hence known as *Shadangpaniya*^{[5][6]} It consists of water soluble active principles and is widely used by *ayurvedic* practitioners particularly in management of *Jwara* (Fever)

Dose – There is no specification of dose in *ayurvedic* classics. It should be consumed sip by sip frequently in fever.

Rasa (taste)- *Tikta rasa*

Indications.^[6]–

- Fever
- Loss of appetite
- Excessive thirst
- Distaste, and other complications of fever.

Ayurvedic properties.^[7] –

Rogkarma– *Jwara* (fever) and *Trishna* (thirst) (Decreases *kapha* and *vaatadoshas* in the body).

Dosha karma – *Kaphvaatahara*

Guna– *Deepan Pachana*

Table no :1 showing properties of ingredients of Shadangpaniya-

Content	Quantity	Rasa (taste)	Virya(potency)	Vipaka	Doshaghnta	Indications
<i>Musta</i> ^{[8][9]} (<i>Cyperus rotundus</i>)	1 part	<i>Katu</i> <i>Tikta</i> <i>Kashaya</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphaghna</i> <i>Pittaghna</i>	<i>Jwarghna</i> <i>Kaasshwashar</i> <i>Twakdoshahar</i> <i>Raktavikar</i>
<i>Pittapapda</i> ^{[8][10]} (<i>Fumaria indica</i>)	1 part	<i>Tikta</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphapitta</i> <i>Nashak</i>	<i>Jwara</i> <i>Trishna</i> <i>Daha</i> <i>Yakrut</i> and <i>Vrukkavikar</i>
<i>Ushira</i> ^{[8][11]} (<i>Veteveria Zizanioides</i>)	1 part	<i>Tikta</i> <i>Madhur</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphapitta</i> <i>Shamak</i>	<i>Jwaraghna</i> <i>Swedajanan</i> <i>Deepanapachana</i> <i>Vishaghna</i>
<i>Chandan</i> ^{[8][12]} (<i>Santalum album</i>)	1 part	<i>Tikta</i> <i>Madhur</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaphapitta</i> <i>Shamak</i>	<i>Jwaraghna</i> <i>Dahaprashaman</i> <i>Swedajanan</i> <i>Vishaghna</i> <i>Hridya</i>
<i>Shunthi</i> ^{[8][13]} (<i>Zingiber officinale</i>)	1 part	<i>Katu</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Kaphvaat</i> <i>Nashak</i>	<i>Shwasahar</i> <i>Jwaraghna</i> <i>Aampachan</i> <i>Sheeta-</i> <i>prashaman</i> <i>Deepan pachan</i>
<i>Udichha</i> ^[8] (<i>Andropogan veteveria</i>)	1 part	<i>Tikta</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kaph-</i> <i>pitaghna</i>	<i>Jwara</i> <i>Swedaupanayan</i> <i>Deepan</i> <i>Pachan</i>

Preparation method of Shadangpaniya.^[14]

The procedure to prepare *Shadnangpaniya* is simple and can be easily made with very less household equipments. Used by *Vaidyas* in day to day practice.

Ingredients

1. <i>Ushira</i> (<i>Vetiveria Zizanioides</i>)	 <p>Khas grass</p>
2. <i>Parpatak</i> (<i>Fumaria Indica</i>)	 <p>Fumaria Indica</p>
3. <i>Udeecha</i> (<i>Andropogan Vetiveria</i>)	 <p>ANTROPOGAN VETIVERIA</p>
4. <i>Musta</i> (<i>Cyperus Rotundus</i>)	 <p>NUTGRASS</p>
5. <i>Nagar</i> (<i>Zingiber Oficinale</i>)	 <p>DRIEDGINGER</p>
6. <i>Chandan</i> (<i>Santalum album</i>)	 <p>REDSANDALWOOD</p>

Equipment's-

- Stainless steel vessel
- Filter cloth
- Gas burner
- Drinking water
- Stirrer
- Measuring cylinder
- Coarse powder of above mentioned herbs.

Procedure-

- Take coarse powder of all herbs in equal quantity.
 - Mix the powders properly
 - Then take 40 gm (1pal) of this mixture and add it to the vessel.
 - Then pour 2560 ml (64 pal) of water in it.
 - Then switch on the gas and simmer it until it reduces to half.
 - Thereafter switch off the gas and allow the mixture to cool down.
 - Then filter it with clean cloth and is ready to use.
- (Note** – Vessel should not be covered with lid during the procedure)

Preparation method varies according to different classical texts.

- As per *Sharngdhar Samhita* 4 Pal (approx. 40gms) *Churna* of all herbs should be taken and is mixed in 64 pal (approx. 2560ml) of water and should simmer it until it reduces to half.
- As per *Vangasen* 1 tola (approx. 10gms) *churna* should be boiled in 1 *prastha* (approx. 640ml) of water.

Pharmacological action and therapeutic uses of contents of *Shadangpaniya*-

1) *Ushira (Veteveriazizanioides)* -

- It is known as khas grass and has Anti-oxidant, anti-fungal, antibacterial properties^[15].
- It contains higher amount of phenolic acid which has anti-fungal and antimicrobial properties.^[15]
- It is used in Fever, Mouth ulcers, Boils, epilepsy, rheumatism, head ache.^[16]
- The decoction of roots is used as tonic for weakness.^[16]
- Also used in sprains and UTI.^[16]
- The detection of anti-oxidant property of *Veteveriazizanioides* indicates that it can be used in food supplements and nutraceuticals.^[16]

2) *Pittapapda (Fumaria indica)* -

- In *Charakand Sushrutsamhita* *Fumaria indica* is used in fever and blood disorders.
- *Fumaria indica* is an important constituent of *Amrutaristha*^[17] mentioned in *bhaishajyaratnavali* and it is prescribed as antipyretic compound.
- It has antibacterial, antifungal, neuropharmacological, Hepatoprotective and antioxidant properties.^[18]
- It shows spasmogenic effect in vitro study which may explain the use of *F.indica* in constipation and diarrhea.^[19]
- It is also used as antihelmintic, blood purifier, diuretic, sedative tonic and also laxative.^[20]
- It is beneficial in lowering fever, liver complaints, dyspepsia, Jaundice, leprosy and tuberculosis.^[21]

3) *Udiccha (Andropoganveteveria)*

- *Udiccha* is also recommended in fever as it has *Deepan* and *Pachan* properties.
- It is used in *ayurveda* for dysentery, intestinal infections and inflammation.^[22]
- Used for skin problems and rheumatism.
- It has antimicrobial, cooling, demulcent diuretic and antispasmodic activities.

- Besides this it is used in cosmetics, massage oils, shampoos.

4) *Musta (Cyperousrotundus)* -

- The study of *cyperousrotundus* has shown reduction in symptoms of breathlessness, laziness and tiredness.^[23] It also decreases excessive thirst as well as hunger.
- Besides this it has anti-allergic, anti-arthritic, anti-carcinogenic, anti-diarrheal.^[24]
- *Musta* has antioxidant and antibacterial^[25] properties. It is used in patients of obesity because of its *laghuguna*
- It is also useful in wound healing activity.^[25]
- Numerous studies proved that it acts as analgesic. anti-emetic, anti-helmintic, anti-hyperglycemic properties.^[26]

5) *Shunti (Zingiber officinale)* -

- It has antibacterial activity. It also has anticoughforming property.^[27]
- Antibacterial activity of zingiber officinale extract against *Streptococcus aureus*, *Proteus mirabilis* and *Klebsiella pneumonia* is proved.^[27]
- It contains nearly a dozen of antiviral compounds. There are several chemicals in ginger that have specific effects against family of cold viruses.^[28]
- Other constituents in ginger helps to reduce pain and fever, relieves cold, and suppresses cough.^[28]
- It is considered an immune stimulant. It increases antibodies production, raises WBC count and stimulates its activity.
- It is traditionally used to aid digestion, diarrhea, and nausea.
- It also has antioxidant, anti-inflammatory properties and can act in prevention of cancer.^{[29][30]}

6) *Chandan (Santalum album)* -

- Sandalwood shows antipyretic effect. It has antiviral activity against herpes simplex virus-1 and 2 (HSV - 1 and 2)^[31]

- It is used in common cold, general weakness, fever and skin disorders.^[32]
- It is beneficial in diseases such as; Fever, tension, gastric irritability.^[33]
- It is also beneficial in chronic diseases as, chronic bronchitis, chronic mucous diarrhea, chronic inflammation of bladder and pyelitis.^[33]
- It is good tonic for heart, liver, memory, and used as blood purifier.
- In *ayurvedic* classics it is used in diarrhea with bleeding, hemorrhage, piles, vomiting, poisoning.^[33]
- Santal album is known as sandalwood and is used widely in cosmetics and medicines.
- Besides this it is extensively used in Perfumery, cosmetics, aromatherapy, and pharmaceutical industries.^[33]
- It shows anti-inflammatory, antifungal, and antibacterial properties.^[34]

DISCUSSION-

Corona virus causes respiratory tract infections in human along with fever, breathlessness and other complications. As there is no treatment protocol found yet the only way to recover from it is isolation, wearing of mask, sanitization^[35] Along with it symptomatic treatment is necessary for faster recovery. While the disease is almost controlled in China, it is still widespread in Europe and US which have emerged as the new epicentres of the COVID-19^[36] The main purpose is to stop the progression of virus in human body and make it ineffective, so it can reduce the mortality rate and improve the recovery rate.

Shadangpaniya is used for management of *Jwara* which is one of the main symptoms of COVID-19. Due to its *Deepan* and *Pachan* properties it is helpful in

Aampachan which is a constant cause of *jwara*. While studying of individual constituents of *shadangpaniya* it has been seen that almost all drugs have antipyretic, antioxidant, antibacterial

and anti-inflammatory properties. Some of the drugs also show immuno stimulant and antiviral activity eg: *Shunti*. WHO has recently acknowledged Diarrhea as a new symptom of COVID-19. So Antidiarrheal drugs as *Musta* and *Shunti* can show better results. Even these drugs can be useful in symptoms like general weakness, Bronchitis and Skin rashes which are seen in that of corona virus. So looking at the review of *Shadangpaniya* and its properties it can be considered as a better option in this pandemic.

CONCLUSION-

Corona virus is a disease which is preventable and may be cured by vaccination. But, at present as there is no development of vaccines, patients are seeking for alternative medicines. And hence there is exponential growth in herbal therapy. Centuries ago in absence of any modern science the only defence against infection was our immune system. So these herbs support our defense mechanism of the body naturally. *Shadangpaniya* a simple herbal decoction of six herbs has a great importance.

In current scenario for the treatment of COVID-19 this poly-herbal formulation can show satisfactory results. Accordingly this compilation can propose future research suggestions for researchers.

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