



SCOPE OF REPURPOSING AYURVEDA PREVENTION AND TREATMENT APPROACH OF MASOORIKA IN THE MANAGEMENT OF MONKEY POX

¹Manoj Kumar Anand, ²Prabhu C Nagalapur, ³Chandrasekharaddi S Karamudi, ⁴Skantshesh Lakshmanan,

¹PG Scholar, ²Professor, ³Associate Professor, Department of Swasthavritta and Yoga, S J G Ayurvedic Medical College & Hospital, Koppal, Karnataka, India

⁴Scientific Chair (Integrated Ayurveda Network) Aarogyam (UK) CIC, Leicestershire, United Kingdom.

Corresponding Author: basaknabanita59@gmail.com

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ABSTRACT

Monkey pox is a zoonotic Orthodox virus that causes diseases in humans and has striking similarities with Smallpox. The case fatality rate (CFR), one of the important epidemiological indicators, estimates monkey pox CFR as 10%. Despite being of high consequence, monkey pox lacks effective prophylaxis and treatment. The unwanted/overuse of antibiotics in similar diseases is causing a significant threat to public health. It is observed that the Ayurvedic understanding of "*Masoorika*" has got a significant similarity with Smallpox, which is identical to Monkey pox. According to the World Health Organization, Monkey pox is a global health emergency. An earlier COVID-19 public health emergency was observed, which resulted in a significant increase in psychological distress and anxiety among the population. A similar psychological distress condition may be expected with Monkey pox as well since there is a global health emergency. Water purification with herbs and fumigation with herbal combinations is a vitally effective, safe, and economical preventive strategy. Yoga and meditation can help people deal with the psychological effects of public health emergencies like Monkey pox. The major herbs indicated for managing *Masoorika*, like *Guduchi* (*Tinospora cordifolia*), *Nimba* (*Azadirachta Indica*), and *Patha* (*Cissampelos pareira*), have been extensively evaluated for their effectiveness as potential anti-viral, antioxidant, and anti-inflammatory agents. Thus, Ayurveda herbs can contribute not only to better recovery from monkey pox but also

control unwanted antibiotic use. This review would be one among early attempts to observe the scope of Ayurveda in prevention and treatment approaches towards the management of Monkey pox.

Keywords: *Masoorika*, Monkey pox, Repurposing Ayurveda fundamentals, Ayurveda Prophylaxis, Zoonotic Orthodox virus.

INTRODUCTION

Monkey pox is a zoonotic Orthodox virus that causes diseases in humans and has striking similarities with Smallpox. ^[1] The Monkey Pox CFR comes in between Variola major (30%) and Variola minor (1%). ^[2] One of the studies evaluated sexual transmission in 95% of infected people. The prevalent symptoms of monkey pox are mostly Rashes, ano-genital rashes, and mucosal lesions; systemic symptoms are majorly fever, myalgia, lethargy, headache, and lymphadenopathy. ^[3]

Monkey pox lacks effective prophylaxis treatment and is often difficult to recognise and detect rapidly. As a result, this becomes an important criterion for monkey pox to be classified as a High-Consequence Infectious Disease (HCID). ^[4] Despite its high consequences, the prevention and treatment approach toward Monkey pox has significant limitations. Traditional medical systems like Ayurveda have a long history of engaging with epidemics. ^[5] Thus, it would be important to observe the prevention and treatment approach of Ayurveda in Monkey pox.

METHODS:

Ayurveda classical texts and published literature were analysed to observe the Ayurveda approach to the prevention and treatment of Monkey pox-like disease.

Repurposing Ayurveda understanding and management of Masoorika with Monkey pox.

The Monkey pox disease is clinically and immunologically very similar to Smallpox disease. ^[6] Thus the prevention and treatment approach of Monkey pox may be repurposed from the approach of management with Smallpox. In Ayurveda, Masoorika the disease explained has similarity with Smallpox. ^[7] “*Masoorika*” is explained in the *Madhava Nidana* text of Ayurveda and *Yogaratanakara*.

MASURIKA NIDANA(CAUSATIVE FACTOR):

Over-indulgence in pungent, sour, salty, alkaline foods of incompatible nature, excess quantity, eating too frequently or not eating at all; ingestion of contaminated beans, leafy vegetables, air, and water; and bad planetary influences on certain areas of the country (in the community of people) cause an increase of the *Dosas* in the body, which, in association with vitiated blood, produces eruptions (on the body) resembling *Masura* (lentils) in shape and size. ^[8]

PREMONITORY SYMPTOMS: Masoorika has premonitory symptoms, fever, itching, pain all over the body, restlessness, giddiness, swelling, discolouration of the skin, and redness of the eyes. ^[9]

SYMPTOMS: Eruptions that are black or crimson in colour, rough, very painful, hard, forming pus very slowly, pain in the joints, cough, shivering, restlessness, exhaustion, dryness of the palate, lips, and tongue, thirst, and loss of appetite are the symptoms of *Masoorika*. ^[10]

CHIKITSA (TREATMENT):

Generally, the disease is seen between springs and the summers. During this period as well as when one gets news of the occurrence of disease in the neighborhood, one should prepare a defence. The children and elderly of the family should take orally *kalka* of *Nimba* (*Azadirachta Indica*) barks (or leaves), seeds of *Vibhitaki* (*Terminalia bellirica*), and *Haridra* (*Curcuma longa*) in doses of 1 gm, for a week along with cold water. This measure serves as excellent prevention for the disease *Masoorika*. ^[11] The children and elderly should take the following recipes (any one of them) when their neighbourhood witnesses an occurrence of Smallpox.

- 1 gm powder of *Sveta Candana* (*Santalum album*) and 24 ml banana trunk juice

- Powder of *Madhuka* (*Madhuca longifolia*) along with the juice of *Adulsa* (*Vasa*) (*Adhatoda vasica*) leaves.
- Juice of Jasmine leaves along with honey.^[12]

Taking cold decoction of *Rakta Candana* (*Pterocarpus santalinus*), *Adulsa* (*Adhatoda vasica*), *Musta* (*Cyperus rotundus*), *Guduchi* (*Tinospora cordifolia*) and *Draksha* (*Vitis vinifera*) eliminate the disease of Smallpox.^[13]

Pansouchopayogi jalam: Water boiled and cooled and impregnated with *Khadira* (*Acacia catechu*) and *Asana* (*bijaka*) (*Citrus medica* L) or impregnated with *Gayatri* and *Bhuvra* is useful as a drink in Smallpox.^[14]

SMALLPOX CAUSES: Smallpox is caused by the Orthopox virus. Smallpox transmission occurs through airborne respiratory droplet secretions or direct contact with lesions or contaminated objects.

PATHOGENESIS: The viral particles enter through the oro-pharynx or naso-pharynx and replicate within regional lymph nodes. Then, within 3–4 days, the virus reaches into the bone marrow, spleen, and additional lymph node chains. The secondary viraemia is marked by the onset of fever and skin rashes as the virus becomes localised in the blood vessels of the dermis.

PROPHYLAXIS AND TREATMENT: The biomedical prevention approach to smallpox is centred on vaccinations as no other protective measure has been approved to achieve eradication. Certain antiviral drugs are used as a second line of treatment along with symptomatic treatment.^[15]

DISCUSSION

The Ayurvedic approach to understanding "*Masoorika*" may enhance the understanding of Monkey pox. It's based on the observation that Ayurveda's understanding of "*Masoorika*" has got a significant similarity with Smallpox, which is identical to Monkey pox. The Ayurveda understanding of *Masoorika*'s primary systemic effect on *Raktha*(blood) and then secondary phase localisation at *Twak*(skin) indicates specificity and reliability of the repurposing Ayurveda approach with Monkey pox-

like disease. The historical evidence also demonstrates that indigenous physicians in the 18th century in Bengal developed and inoculated large numbers of people with variolation (the initial Smallpox vaccine).^[16] Variolation was considered one of the major public health prophylactics against Smallpox at that time. The history of variolation indicates how an Ayurveda public health perspective on the management of *Masoorika* can be well incorporated into the current vaccine-cantered epidemiological approach toward the management of Monkey pox. The major herbs indicated for managing *Masoorika* like *Guduchi* (*Tinospora cordifolia*), *Nimba* (*Azadirachta Indica*), and *Patha* (*Cissampelos pareira*) have been extensively evaluated for their effectiveness as potential anti-viral, antioxidant, and anti-inflammatory agents.^[17] The practice-based evidence documentation also substantiates the effectiveness of Ayurvedic medicines in the management of diseases highly similar to Monkey Pox.^[18] Specific herbs like *Guduchi* (*Tinospora cordifolia*), which are highly used in Ayurveda, have already. They evaluated its effectiveness at pre-clinical and clinical levels for adaptogenic and antiviral activity. As per available scientific evidence, *Guduchi* (*Tinospora cordifolia*), is considered a potential anti-viral and immune-enhancing agent.^[19] There is a high prevalence of antibiotic usage observed in the management of Smallpox disease.^[20] If the same management guidelines for Monkey pox were followed, there would be a high prevalence of antibiotic use for Monkey pox as well. Unwanted antibiotic usage may enhance antibiotic resistance and adverse drug reactions. Thus, repurposing safe and effective Ayurveda drugs for the management of Monkey pox-like diseases has immense importance as it may not only contribute to better management of disease but also limit the use of antibiotics. Ayurveda public health interventions like disinfecting air by fumigating herbs and purifying drinking water using herbal combinations can play a major role as economical, safe, and effective prophylaxis measures.

According to the World Health Organization, monkey pox is a global health emergency.^[21] An earlier

COVID-19 public health emergency was observed, which resulted in a significant increase in psychological distress and anxiety among the population.^[22] The psychological distress observed in healthcare workers was even greater.^[23] A similar psychological distress condition may be expected with Monkey pox as well since there is a global health emergency. Yoga and meditation are widely used, and evidence supports their effectiveness in reducing psychological distress caused by the COVID-19 health emergency in various cohorts.^[24] Thus, yoga and meditation may be considered to be repurposed for better management of psychological distress amidst the Monkey Pox health emergency. This review would be one among early attempts to observe the scope of Ayurveda prevention and treatment approaches towards the management of Monkey pox.

CONCLUSION

The available review of literature establishes the scope of repurposing Ayurvedic prevention and therapeutic approaches for the better management of Monkey Pox disease. There is a high requirement for well-designed clinical trials and practice-based evidence documentation for establishing an ideal standard of evidence.

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