

Can Ancient Science And Wisdom Of Yagya Therapy ‘With Herbs Having Immune Boosting and Antiviral Properties’ Aid In The Fight Against COVID19?

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Abstract. In the COVID19 pandemic, there is strong need of immune boosting and mental health approaches which are easily available and traditionally used for preventing as well as managing COVID19 infection. Since past 40 years, Dev Sanskriti University (DSVV) and parent institution (All World Gayatri Pariwar) has been working on various aspects of traditional herbal utility and Yagya Therapy. Vedic texts mentioned use of herbal fumes for health benefits as well as purifying air and removing seasonal pathogens from air through *Bheshaj* Yajnas (Yagya / Hawan). *Bheshaj Yajna* (herbal fumigation) was widely used in India to combat seasonal epidemics; scriptures described them in details. Studies have shown Yagya Therapy and herbal fumigation effects in various diseases i.e, common diseases such as diabetes, thyroid, as well as life threatening diseases such as cancer, multi-drug-

resistant tuberculosis and in psychological ailments such as Obsessive-Compulsive Disorder and PolyCystic Ovarian Disease, epilepsy, depression, etc., indicating potential of herbal fumes for boosting immunity and aiding psychological wellbeing; besides, the herbal fumes is made using herbs known for their immune boosting and mental health care potential in Ayurveda and traditional knowledge. Hence, the study narrated the selective herbs which are pan-available and widely used traditionally in Yagya Therapy or generating herbal fumes, which can help boosting immunity and aid psychological wellbeing.

Keywords. Yagya, COVID19, Yagya Therapy, Immunity, mental health care, herbal fumes, air purification



Introduction

In the COVID19 pandemic there is strong need of immune boosting and mental health approaches which are easily available and used traditionally. Since past 40 years, DevSanskriti University (DSVV) and parent institution (All World GayatriPariwar) has been working on various aspects of traditional herbal utility and Yagya Therapy through Brahmavarchas Research Institute, Department of Ayurveda and Holistic Health, Department of Applied Medicinal Plant Sciences, Shantikunj Herbal Pharmacy and Yagyavalkya Center for Yagya Research. Since the past 3.5 decades, Shantikunj Pharmacy has produced more than 40 types of products such as herbal powder, herbal tablets, and self-invested herbal formulations like herbal-tea (PragyaPey), etc. Department of Ayurveda and Holistic Health, have been producing and providing training for production of various herbs based products and 30 types of hawan-samagri (herbal-mixtures) for various diseases and ailments such as tuberculosis, seasonal Fever, High BP, Diabetes, Cancer, mental ailments etc. At Yagyavalkya Center for Yagya Research, herbal fumes for various diseases are processed for further mechanistic studies. At OPD at DSVV, since the past >15 years, patients are being advised for various alternative herb based methods and herbal inhalation therapy (Yagya Therapy).

Using this practical knowledge, considering the dire need of physical and psychological immune boosting approaches, the present report sets tone for utility of multi-herbal decoction for immunity and other vital benefits as supportive care and study for the application of the herbal smoke for providing anti-COVID-19 environment in the air and for human health.

Use of Hawan /Yagya / herbal fumes for purifying air

Vedic texts mentioned use of herbal fumes for health benefits as well as purifying air and removing seasonal pathogens from air through *Bheshaj*Yajnas (Yagya / Hawan). *Bheshaj*yajna (herbal fumigation) was widely used in India to combat seasonal epidemics; scriptures described them in details-

‘Atharvaveda (3/21/1) and Chhandogya Upanishad (4/6)’. Ayurveda also mentioned holistic approaches for health and environment through herbal fumes known as ‘Dhoomnasya’ (1). Globally herbal fumigation existed in cultural and traditional use for pulmonary, neurological and air purifying purposes in more than 50 countries (2). In modern times, studies have also shown the antimicrobial and anti pathogenic capacity of medicinal herbal-fumes (Table 1).

Yagya Therapy using specific herbs for getting therapeutic benefit in various diseases and ailments indicating its immune boosting and mental health care potential

Medicinal fumes of Yagya / Hawan containing phyto-constituents and nutrients can help increase immunity (3,4). Pulmonary inhalation of herbs has been traditionally used widely in the world. Survey of 50 countries indicated use of herbal smoke for treating neurological and pulmonary issues (2). Yagya Therapy is a herbal inhalation ancient method which implies Mantra and Yagya Energy to get therapeutic advantage such as immunity enhancement, psychological and emotional well-being and high immunity power is desired to fight against the pandemic.

At Dev Sanskriti University (DSVV) and Brahmavarchas Shodh Sansthan, All World Gayatri Pariwar, there has been intensive research going on Yagya Therapy. Various publications and several dissertations were carried out to evaluate the potential of Yagya Therapy as described in the scripture. Yagya Therapy has gained popular term Yagyopathy recently. Studies have shown its effect in common diseases such as diabetes (5), thyroid (6), as well as life threatening diseases such as cancer (7), multi-drug-resistant tuberculosis (8-10), PolyCystic Ovarian Disease (PCOD) (11)and epilepsy (12-13), and in psychological ailments such as Obsessive-Compulsive Disorder (OCD) etc indicating potential of herbal fumes for boosting immunity and aiding psychological wellbeing; besides, the herbal fumes is made using herbs known for their immune boosting and mental health care potential in Ayurveda and traditional knowledge.



At DSVV, Department of Ayurveda and Holistic Health is prescribing the Yagya Therapy to patients since 2003. Using traditional wisdom and methods, multi-herbal formulations for various anti-disease and seasonal herbal formulas are being prescribed to patients for Yagya Therapy. In addition, the department has also suggested a herbal formulation which can help purifying air, boost immunity and aid psychological wellbeing along with its potential to tackle fever etc resulting due to viral infections based on the traditional Ayurvedic knowledge of herbs, which can help to fight against COVID19 pandemic. The list of herbs with publications for their known

general anti-viral properties and antioxidant potential was presented in Table 3. These are most commonly used traditional herbs containing multi-dimensional properties for health. Traditionally these herbs are consumed widely without any significant contraindications throughout India for different needs under Ayurvedic practice. Most of the below herbs previously extensively had been studied for various activities including antimicrobial, immune-modulatory, anti-inflammatory, antiviral, antifungal, etc activity. Here, few anecdotal studies have been shown for antiviral and antioxidant activity.

Study (reference)	Method - Herbal fume	Outcome (observation)
Effect of smoke from medicinal herbs on the nosocomial infections in ENT outpatient department (14).	Herbs used for medicinal fume were as follows: Giloy, Nagarmotha, KapporKachari, PalashBeej, LalChandanChooraa, Cheed	Medicinal smoke caused over 95% reduction of aerial bacterial counts by 60 min
Medicinal smoke reduces airborne bacteria (15).	Herbs used for medicinal fume were generated through burning wood and a mixture of odoriferous and medicinal herbs (havansāmagri i.e. material used in oblation to fire all over India)	Aerial bacterial population reduced over 94% by 60 min and induced absence of pathogenic bacteria <i>C. urealyticum</i> , <i>C. flaccumfaciens</i> , <i>E. aerogenes</i> , <i>K. rosea</i> , <i>S. lentus</i> , and <i>X. campestris</i> pv. <i>tardicrescens</i> in the open room even after 30 days
Gayatri Mantra Chanting Helps Generate Higher Antimicrobial Activity of Yagya's Smoke (16).	Methanol extracts of herbal fumes were tested for antimicrobial activity through disc diffusion method. Herbs used for generating fumes were Giloy, Nagarmotha, KapoorKachari, PalashBeej, LalChandanChooraa, Cheed	Antimicrobial activity observed on human pathogens i.e <i>Escherichia coli</i> , <i>Staphylococcus aureus</i> , <i>Pseudomonas aeruginosa</i> , <i>Bacillus subtilis</i> , and <i>Salmonella typhi</i> and found reduction in all of them
Validation of smoke inhalation therapy to treat microbial infections (17).	Methanol and acetone extracts of herbal fumes were generated from indigenous South African medicinal plants i.e. <i>Artemisia afra</i> , <i>Heteropyxis natalensis</i> , <i>Myrothamnus flabellifolius</i> , <i>Pellaea calomelanos</i> & <i>Tarsonanthus camphoratus</i> .	Antimicrobial data revealed that in most cases, the 'smoke-extract' obtained after burning had lower minimum inhibitory concentration values than the corresponding solvent extracts and essential oils
Validation of environmental disinfection efficiency of traditional ayurvedic fumigation practices (18)	Environmental disinfection efficiency of traditional fumigation practice has been evaluated by using natural plant products such as garlic (<i>Allium sativum</i>) peel, turmeric (<i>Curcuma longa</i>) powder, Carom (<i>Trachyspermum ammi</i>) seeds (Ajwain) and Loban (resin of <i>Styrax benzoin</i> and <i>Boswellia</i> species).	SEM analysis showed reduced number of bacteria in garlic peel fumigated surface samples; ayurvedic fumigation with natural plant products was effective in reducing air-borne bacteria and in disinfecting inanimate surfaces
Antimicrobial action of dhupana with respect to air borne microbes in indoor environment of central hospital (19)	Herbal smoke as per Ayurvedic standards i.e. dhupana (fumigation with herbs) was generated	The effectiveness of herbal fumigation in its antimicrobial action was concluded after comparing the growth of microbes in the petriplate before and after fumigation
impact of yagya on indoor microbial environments (20)	Hawan fume generated using commonly used hawnsamagri herbs	There was reduction in the colony counts of all micro-flora

Table 1. Researches showing anti-microbial and air purifying potential of herbal fumes generated through Hawan or other methods



Plant Name Botanical (Traditional)	Known Antioxidant Properties	Known Anti-viral & Anti-microbial plant extracts [Pubmed ID]
Ocimum tenuiflorum (Tulasi)	The antioxidant activity was increased in all testing systems with increasing amounts of extract (21).	Crude extract shown promising antiviral properties (significant virucidal activity, decrease in virus genome copy numbers) against H9N2 virus (40)
Tinospora cordifolia (Giloy)	The antioxidant status in diabetic condition have been restored to normal by methanol extract of Tinospora cordifolia stem (22).	Silver nanoparticles of T. cordifolia inhibited cell viability of infected in Vero cells with chikungunya virus (41). Herbal extract showed significant immunomodulatory potential through increase in the IFN- γ , IL-2, IL-4, and IL-1 levels in the peripheral blood mononuclear cells (PBMCs) ($p < 0.05$) of chickens infected with infectious bursal disease virus (42).
Andrographis paniculata (kalmegh)	The results showed that the aqueous extract of plant exhibited a greater antioxidant activity than the ethanol extract in all model systems tested (23).	Plant extract has antiviral activity against wide range of viruses – HSV, HIV, flaviviruses, pestiviruses; effectively inhibited the expression of Epstein-Barr virus (EBV) lytic proteins during the viral lytic cycle in P3HR1 cells; Very potent antiviral inhibitory effects against DENV1-infected Vero E6 cells (43).
Azadirachta indica (Neem)	The results suggested that extracts from leaf, flower and stem bark of the Siamese neem tree have strong antioxidant potential (24).	Significantly blocked HSV-1 entry into cells & have a direct anti-HSV-1 property; shown virucidal activity against coxsackievirus virus B-4 (44).
Nardostachys jatamansi (Jatamansi)	The jatamansi extract showed a concentration-dependent (5.0–100 $\mu\text{g/mL}$) antioxidant activity by inhibiting DPPH radical with an IC ₅₀ value of 60.03 $\mu\text{g/mL}$, whereas IC ₅₀ value of ascorbic acid was found to be 14.44 $\mu\text{g/mL}$, used as standard (25).	No known studies for antiviral effect but it is traditionally used for purifying air through herbal fumes
Juniperus communis (Hauber)	The antioxidant potential was evaluated using the DPPH assay and found to be $81.63 \pm 0.38\%$ (26).	Derivative from Juniperus plant extracts such as ferruginol and two analogues showed relevant antiviral activity against Dengue Virus type 2, human Herpesvirus type 1, and human Herpesvirus type 2 (45).
Myristica fragrans (Mace & Seed) (Jayphal & Javitri)	The extracts of nutmeg and mace presented high anti-oxidant and anti-allergic activities. The anti-oxidant activity was measured by inhibitory effect on PMA-induced superoxide radical in DMSO differentiated from HL-60 cells (27).	Showed human immunodeficiency virus (HIV)-inhibition activity - Anti-HIV-1 reverse transcriptase activity (46).
Cyperus scariosus (Nagarmotha)	Potentially significant oxidative DNA damage preventive activity and antioxidant activity were noted in the plant extract (28).	C. rotundus showed virucidal activity against HSV (47, 48)
Syzygium aromaticum (Clove)	The clove bud extract had an antioxidant potential that makes it useful for addition to semen extenders (29).	Possesses antiviral activity against Herpes simplex (49). Aqueous extract inhibits human neutrophils myeloperoxidase and protects mice from LPS-induced lung inflammation (50).
Berberis aristata (Daruhalidi)	Effect of extract on antioxidant and carbohydrate metabolism regulating enzymes of liver was studied and concluded that the extract of plant (root) has strong potential to regulate glucose homeostasis through decreased gluconeogenesis and oxidative stress (30).	Berberine from plant extract showed anti-human cytomegalovirus activity (51).
Santalum album (White Chandan)	The extract showed DPPH radical scavenging activity in a concentration-dependent manner with maximum scavenging of 64% in presence of 500 μl of aqueous extract (31).	HSV-1 replication inhibition was dose-dependent and pronounced (52). Inhibitory effect in late viral RNA synthesis compared with oseltamivir in the



		presence of 100 µg/ml of β-santalol in MDCK cells against influenza viral replication (53).
Cedrusdeodara (Devdaru)	The chloroform extract of plant exhibited significant antioxidant potential mainly due to the presence of sesquiterpenes(32).	Shikimic acid, ingredient of Cedrusdeodara, used as a key starting material for the synthesis of a neuraminidase inhibitor Tamiflu, for the treatment of antiviral infections such as swine flu (54).
Cinnamomumcamphora (Kapoor Bhimseni)	EtOAc and BuOH extracts of plant displayed strong anti-oxidative activity when tested by the DPPH and xanthine oxide (XO) assays (33).	Camphor showed antiviral activity against HSV-1 and HSV-2 (55).
Piper Cubeba (ShitalChini)	The study showed fraction-based antioxidant activity of P. cubeba using four different assays and among all tested fractions, ethanolic extract revealed highest antioxidant activity (34).	Piperine from extract possessed remarkable inhibitory HBV activity, against the secretion of hepatitis B virus surface antigen and hepatitis B virus e antigen (56).
Acoruscalamus (Kadvi Bach)	The results revealed that the herb may be a good source of antioxidant to prevent oxidative deterioration in food (35).	Methanolic extracts of A. calamus showed inhibition of DENV-2 at a dose of 20 µg/mL to 96.5% (57).
Pavoniaodorata (Sugandhbala)	The antioxidant activity of the plant extract was determined by using different assays that showed potential antioxidant activity (36).	No known studies for antiviral effect but it is traditionally used for purifying air through herbal fumes
Aquilariaagallocha (Agar)	The investigation of the antioxidant activity of ethyl acetate extract of plant (EAA) indicated a strong antioxidant effect (37).	No known studies for antiviral effect but it is traditionally used for purifying air through herbal fumes
Valerianawallichii (Tagar)	Methanol extract of roots of Valeriana jatamansi possesses remarkable antioxidant activity (38).	Anti-HCV Activity from Semi-purified Methanolic Root Extracts of Valerianawallichii by binding with HCV NS5B protein (58).
Cymbopogonschoenanthus (Agyaghas)	Antioxidant capacity, enzyme inhibition, and antiproliferative effects were tested for biological activities (39).	The C. schoenanthus essential oil was effective against Escherichia coli, Staphylococcus aureus, methicillin-sensitive S. aureus and Klebsiella pneumonia (59).

Table 2. Suggested list by Department of Ayurveda and Holistic Health, Dev Sanskriti University of 20 herbs based on safe-widely-used-traditional-knowledge and their known antioxidant and general antiviral properties

Conclusion

The COVID19 pandemic has raised many new challenges and the whole world at economy and medical system is challenged. The immunity boosting and wellbeing approaches are urgent need for supporting the fight. Traditional knowledge of herbal fumigation and wisdom of Yagya can help in this fight. The study narrated the selective herbs which are pan-available and widely used traditionally in Yagya Therapy or generating herbal fumes, which can help boosting immunity and psychological wellbeing.

Conflict of interest

The author declares that they have no conflict of interest.

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