



IMPORTANCE OF YAGYA IN TREATING COVID-19 CONDITIONS -A CLASSICAL REVIEW

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ABSTRACT

Coronavirus disease 2019 (COVID-19) pandemic caused by SARS-CoV-2 has emerged as a global public health threat. Though the fear, anxiety, and stress related to COVID-19 have been studied in depth, the direct effects of SARS-CoV-2 on the central nervous system (CNS) remain elusive. Research related to the earlier coronavirus (CoV) outbreaks (like Severe Acute Respiratory Syndrome, SARS and Middle East Respiratory Syndrome, MERS) shows the neurotropic nature of CoV and the plethora of neuropsychiatric effects that it can cause. Though the current health priorities in managing COVID-19 remain restricted to containment and targeting pulmonary symptoms, but with this it is also necessary to maintain the mental health of the peoples because spread of covid -19 has disturbed the mental state of all the peoples, they have a fear, stress and anxiety peoples are seem to be emotionally depressed, all these factors are going to worsen the quality of life. Emerging evidence shows neural spread of the novel corona virus. Delirium, encephalopathy, olfactory disturbances, acute behavioral changes, headache and cerebrovascular accidents are its common neuropsychiatric complications. Now the whole world is fighting against this pandemic condition of covid-19, if we go through the literature of ancient Indian medicine, the indication of yagya is found their for the pandemic conditions in all the Vedas, samhitas and puranas, acharya Charak has indicate in charak samhita janpadodhwansh (pandemic) adhyaya to perform yagya for the peace of mind and cleaning of environment in pandemic conditions because in pandemic conditions peoples get mentally disturbed due to fear, stress, and anxiety and in that condition the effect of rhythmic sound of mantras and inhalation of medicated fume create a feeling of peace and happiness in them and environment also get fresh and calm. Hence in modern era when life is going to be worsen physically and mentally the yagya therapy can provide a lot of holistic health benefits to the whole world. *Yagya* as a therapy for psychological ailments provides pulmonary inhalation of medicinal-smoke of multiple herbs (generated through oblation in fire along with chanting of Vedic hymns), which have the potential for therapeutic results. *Yagya* mentioned in Ayurveda and Veda as '*Devvyapashraya Chikitsa*' (Divine or Mantra therapy) and '*Bhaishjya Yagya*' (treatment of ailments by doing *Yagya* with medicinal herbs) has multidimensional benefits on physical, mental, social and spiritual health. This article will help in the establishment of *Yagya* Therapy as an important therapeutic approach, and will pave the way for controlling the pandemic conditions like covid-19.

INTRODUCTION

The world is facing a new public health threat since the beginning of this year. Coronavirus disease 2019 (COVID-19), caused by the novel Coronavirus SARS-CoV-2, originated in Wuhan, China towards the end of last year and was declared by the World Health Organization (WHO) to be a 'Public Health Emergency of International Concern'

(PHEIC) within a month of its emergence. Subsequently, it turned into an epidemic six weeks later (Sohrabi et al., 2020). With more than six million affected and nearly

four lakhs succumbing to the infection, WHO has termed it the largest infectious outbreak that the modern world has ever seen (WHO COVID-19 Situation Report, as on 15 June 2020). Fear, stress, depression health anxiety, apprehension, uncertainty, loneliness and mass-hysteria are the common offshoots since COVID-19 began (Banerjee, 2020), as billions are quarantined at their homes, borders sealed and economies crashing down. Incidence of depression, anxiety and suicidality have been reported across many countries, compounded by the effects of the lockdown (Liang Ge et al., 2020). Most studies from China, one of the first hit countries in

this outbreak, have stressed on the importance of integrating online and community-based mental health services into the public health infrastructure as an attempt to combat the aftermath of this infection (Duan and Zhu, 2020; Liu et al., 2020).

Neuropsychiatric manifestations of COVID-19

During the first wave of infection in China, Chen et al. (2020b) described the epidemiological and clinical characteristics of 99 patients with SARS-CoV-2 pneumonia. 9 percent and 4percent of them had confusional state and headache respectively.

Chronic psychiatric conditions

There have been worsening of pre-existing psychiatric conditions namely mood and bipolar disorders, especially in the vulnerable populations. Increased incidence of depression, anxiety, adjustment disorders, acute stress reaction, somatization and obsessive-compulsive disorders have also been reported (Rajkumar, 2020). Whether they are due to the adverse psychosocial situations and uncertainty of the pandemic crisis or whether the virus has a direct effect on the brain contributing to this, has not been well studied. The mood disorders consequent to the SARS epidemic were related to host immune reaction (Hui et al., 2009).

Recent studies among COVID-19 patients have found greater occurrence of depressive and anxiety disorders in people who are in quarantine, front-line workers or among family members of affected patients (Qiu et al., 2020). However, pandemic responses have classically been associated with marked increase in psychiatric morbidity. There has been specific rise in pain, depressive, obsessive compulsive disorders (OCD) and post-traumatic stress disorders (PTSD). The PTSD following such biological disasters might often be complex and chronic, unlike the commonly described ones. As time progresses, with the global burden of SARS-CoV-2 infection, more data on the psychiatric consequences of this pandemic are expected to come.

Management Of Covid -19 In Modern Medicine

Most interventions and guidelines for the management of the COVID-19 pandemic are related to prevention, isolation, and supportive treatment strategies. There are several ongoing clinical trials related to the pharmacological choices of therapy for COVID-19 patients; however, drug trials related to observational studies so far have yielded mixed results and therefore have created a sense of confusion among healthcare professionals (HCPs).

Use of non-steroidal anti-inflammatory drug (NSAID), glucocorticoids, nebulized medications. After review of many articles related to management of covid-19 it is found that only physical health was focused for treatment specially not mental health. Here in this article we focused Holistic health (specially mental health as well as physical health) because if a person will be mentally

fit and strong then he/ she can face all the conditions of life strongly and can cop up pandemic like conditions. For these conditions our ancient physicians (our rishi munees) create a very scientific process of Yagya to cop up the conditions like pandemics because it is holistic health management therapy gives a peace to peoples and at the same time purify the environment and create calmness all around us.

Management of covid-19 with ancient Indian therapy Yagya

Yagya is a spiritual experiment of sacrificing and sublimating the *havan samagri* in the *Yagya Agni* with chanting of *Vedic Mantras*. This is only the physical process or ritual of *Yajna*, which has scientific importance and beneficial effects. This *agni-Yagya* when performed at small scale is also known as *Havan*, *Homam* or *Agnihotra*. *Yagya* can be performed by a single individual or some people together can do this with maintenance of social distance and *yagya* will effect all the people of that area and environment.

Yagya has multiple applications described in *Vedic* and *Ayurveda* literature. For instance, *Yagya* has been used in solving the problems related to environment, in managing natural disasters, for achieving spiritual progress, for maintaining ecological balance, for managing social balance and for preventing and curing various physical and psychological diseases.

Since Vedic era application of *Yagya* for health benefit is one of the important utility of *Yagya*. *Vedas* described development of mental faculties such as mind, speech and intellect through *Yagya*. *Yajurveda* described psycho-physiological benefit including Praan (vitality), Chitta (subconsciousness), Vani (speech), Mana (Mind) etc. through *Yagya*. *Rigveda* mentioned general health benefits through divine *Yagya* fire obligations of various herbs to be strengthened and nurtured. *Atharveveda* also elaborated *Yagya* for long healthy life and cure of disease. The philosophy of *Yagya* bears an art of living with harmony to promote and protect higher human values in the society which is actually forms the basis of the health and happiness in an ideal human culture. Since Vedic era application of *Yagya* for health benefit is one of the important utility of *Yagya*. *Vedas* described development of mental faculties such as mind, speech and intellect through *Yagya*.

Ayurvedic compendia also refer *Yagya* as a therapeutic tool for the individual as well as environmental hazards. *Dhoomapana* (fumigation), the concept of burning herbs in the fire to generate medicinal-smoke and taking it through breath by performing *pranayama* prevails in the *Ayurvedic* literature. In *Ayurveda* specially in *Charak samhita*, *Susruta samhita* and other *Samhitas*, *Yagya* is indicated by the *Acharyas* in various *Manas rogas* (psychological disorders) *Kama* (longing/ lust), *Krodha* (anger/wrath), *Lobh* (greed), *Moha* (delusion/ distraction), *Shoka* (anguish/affliction), *Aapasmaar* (epilepsy),

Unmaad (insane/extravagant) are basically caused by imbalance in *mansik doshas*. Along with other approaches, 'Homa' has been mentioned as an instrument under Dev Vyapashrya chikitsa.

The scientific studies conducted on various components of *Yagya* clearly demonstrate that *Yagya* was designed for multifaceted action to clean the environment as well as to cleanse the body of the toxins responsible for causing diseases related to brain (Turkeret al. 2004). *Yagya* fumes are not only used for the disinfection of air, but also it can be environmentally oppressed for the physical, mental, intellectual and spiritual development based on nanotechnology of *Yagya* (Tripathi 2010)^[89] and Turker et al. 2004).^[90]

Recent studies show the effect of yagya on mental disorders

A study was done on **Hawan Designed to Fight Anxiety, published in Journal of Religion and Health January 2017 by Arvind sharma, Vikas Gupta, Sathi Kumar (UCER, Baba Farid University of health sciences, Faridkot, India.** After doing complete study authors conclude that it is quite possible that property for binding CB2 receptors showed anti anxiety effects. Furthermore, the rest of components have the other therapeutic actions. The component of Hawan seems to have a multiple action in preventing anxiety through scavenging of free radicals, increasing in level of antioxidants and other underlying mechanisms. From the pharmacological potentials of the components to recapitulate, it can be concluded that the routine of performing Hawan provides a satisfactory therapeutic value to fight with psychiatric diseases and help in preventing anxiety. Due to high temperature of fire, the vapors of these oils from herbs enter into the central nervous system through nasal route. As per modern science and ancient texts on medicine, nasal drug delivery systems are the best for the diseases related to brain and head. The routine of performing Hawan might keep the threshold value of the therapeutic components in the body and help in preventing anxiety.

A recent study found that the subtilization of matter into energy occurred during the performance of agnihotra yajna in the form of transformations of specific ingredients from a solid state to either a vapor phase or a colloidal phase, and as a result, electromagnetic waves were generated. These electromagnetic waves, together with the chanting of specific Vedic hymns (unique sonic signals), have potential health benefits, medicinal smoke, the routine practice of agnihotra yajna maintains the threshold values of potential therapeutic compounds in the human body, which, in turn, enhances the immunity to a great extent. For instance, the *Cocos nucifera* and the *Sesamum indicum* used in the present study were reported to be potentially useful in scavenging free radicals, thus preventing the pathogenesis of diseases. Moreover, the increased levels of antioxidants in the fumes reach the brain and then the nerves, thus

alleviating psychological depression. Also, the distinct energy currents emerging from all Vedic fire rituals have been reported to possess curative actions for diseases, such as headaches, migraines, mental dullness, intellectual deficiencies, depression, insomnia, intemperance, epilepsy, schizophrenia, and varieties of manias. In conclusion, the ultimate purpose of practicing agnihotra yajna is to realize "LIFE", which means "letting incessant flow of energy" through our body-mind system as any blockage in this flow would cause disharmony and chaos in the system, thus leading to poor health.

A study was done by **Dr. Selvamurti (Scientist-E, Defence Institute of Physiology and allied Sciences, Delhi) presented in Yoga Conference held at IIT Delhi on 4th November, 1989.** Paper titled neurophysiological effects of Mantras on mind and body from Agnihotra which is performed at the time of sunset. In this experimental study, 8 healthy men were selected. They used to report at 4 p.m. for two days. First day for control recording, some irrelevant syllables were uttered at specific time periods. Next day evening the Agnihotra used to be performed with proper Mantras. Recording of physiological parameters viz. Heart rate, ECG, EEG, GSR, blood pressure were made on both days.

The results show that, Ultration in the brain waves, while the mind (brain waves) remained unaltered before Agnihotra, meaningful elevation occurred after the reciting Agnihotra.

An article published in Science Direct, Ethnopharmacology states that "**Medicinal smoke reduces airborne bacteria.**" A study carried out by a team of scientists **Nautiyal CS¹, Chauhan PS, Nene YL.** at **National Botanical Research Institute (NBRI) in India, Dec 3, 2007; 114(3): 446-51. Epub 2007 Aug 28,** has claimed that smoke emitted during havans reduces airborne bacteria to a large extent, minimizing possibility of infectious diseases. Various gasses produced during Havana decompose the poisonous gasses liberating free oxygen and other useful products acting like disinfectants. Performance of daily *Yagya* or Havan has many benefits. This is an activity with multiple benefits. We not only purify the air but also remove the impurities of our mind and body. Inhaling the fumes of havan which contains herbal materials, from distance induces secretions from certain glands related to wind pipe that fills our mind and heart with relaxation. It is similar to use of essential oils or herbal oils effect. Through this study they show that *yagya* is beneficial for environment and human health.

A study was done in June 2017 **The inter-dependence between beliefs and feelings about a yagna: a correlational study published in Indian Journal of Traditional Knowledge – at Patanjali Research Foundation, Patanjali Yogpeeth, Haridwar,**

Uttarakhand, By – A.K Bhardwaj, Deepshikha Tyagi, Shirley Telles, nilkamal singh and Acharya Balkrishna. This correlational study intended to correlate beliefs that a yagna does have beneficial effects with calmness, compassion, and warmth towards other people, in this study two questionnaires were intended to quantify the participants' beliefs about yagna as well as their subjective feelings immediately after the yagna, the beliefs were chosen after carrying out an informal interview of approximately 50 participants who had attended somyagna. After data analysis researcher reach to a result that somyagna purifies the environment was positively correlated with: a feeling of calmness and warmth towards other after the yagna and they found that somyagna positively influences the mental health. Somayagna appear to induce feelings of physical and mental relaxation in participants attending it.

MEDICINAL HERBS USED IN HAWAN SAMAGRI OF YAGYA FOR PSYCHOLOGICAL DISORDERS

Dhoompaan is getting popularity as alternative therapy for treatment and management of various disorders. Inhalation of fumes of many herbal medicines are used to cure psychological disorder. (R.P Kaur et.al., 2015).^[93]

Sandalwood oil vapors have shown antianxiety activity on exposure as inhalational route (Rahman et al. 2013s)

Tagarwood (*Valeriana wallichii*)

It is an important component of hawan samagri. The Indian Valerian is used as ethno-medicine for the treatment of insomnia, epilepsy, neurosis, anxiety, etc. (Neha et al. 2012). *Valeriana officinalis* contains a variety of constituents including valepotriates, valerenic acid didrovaltrate, isovalerate and bornyl acetate, which may contribute to the sedative activity of the whole root. Valerian, the active component of tagar, is used as a remedy for insomnia as well as anxiety. The biological activities of the plant are attributed to valeranone, valerenadiene and valerenic acid (Takemoto et. al. 2009). Valepotriates may have a potential anxiolytic effect on the psychic symptoms of anxiety (Andreatini et al. 2002).

Traditionally Valerian has been used primarily for the treatment of nervous system disorders, especially nervous unrest, stress, sleeplessness and anxiety (Bradley 1992; WHO 1999; Bissett 1994).

Til (*Sesamum indicum*)

Til has shown antianxiety potential in various studies (Takeda et al. 1998; Radhakrishna et al. 2011). Essential micronutrients like calcium, niacin, pantothenic acid and nonessential micronutrients like GABA, phytic acid or inositol and taurine are useful in treating anxiety.

Saffron (*Crocus sativus*)

With mood-elevating effects its also displays anxiolytic activity. This may be due to modulation of neurological pathways (GABAergic, serotonergic and noradrenergic

systems) that has anxiolytic effects (Saki et al. 2014). Mood-elevating effect of *Crocus sativus* may also be due to modulation of neurological pathways that have both antidepressant and anxiolytic effects (e.g., GABA, serotonin and noradrenaline systems).

Jatamansi (*Nardostachys jatamansi*)

An indigenous medicinal plant induces in organisms a state of resistance against stress. It helps to promote physical and mental health and augment resistance of the body against disease and has shown potent antioxidant activity. (Rao et al. 2005; Arora et al. 1958; Subashini et al. 2007a, b).

Nutmeg (*Myristica fragrans*)

Its extract has exhibited depressant and anxiogenic effect. Nutmeg has Myristicin as the principle aromatic constituents of the essential oil. Recently, Leiter et al. (2001) reported anxiolytic properties of myristicin and its potential interaction with GABAA receptor site.

Clove (*Syzygium aromaticum*)

The active principles in the clove are known to have antioxidant property (Jirovetz and Buchbauer 2006). The preventive effect of clove on the sound stress-induced biochemical changes indicates its anti-stress activity. The effect of clove may be due to its effect on the central nervous system or endocrines, and it may also be due to its antioxidant effect as antioxidants are known to prevent stress-induced damage due to generation of free radicals (Cotran et al. 2000).

Mango (*Mangifera indica*)

Mango have active component like polyphenols that are naturally occurring antioxidant substances that can have pharmacological actions on central nervous system and exert antianxiety effects (Bouayed 2010).

Tulsi (*Ocimum sanctum*)

Depression is a widespread psychiatric disorder affecting around 5% of the population. Furthermore, it is difficult to predict which patient will respond to any given treatment. In the traditional systems of medicine, many plants and formulations have been used to treat depression for thousands of years. The antidepressant activity of *Ocimum Sanctum* was comparable to that of standard drug imipramine. The results of the present study indicate the potential for use of *Ocimum Sanctum* as an adjuvant in the treatment of depression (Turker S, et.al. V2004).

Ashwagandha (*Withania somnifera*)

The roots of *Withania somnifera* are used extensively in Ayurveda, it is categorized as a rasayana, and used to promote physical and mental health, the anxiolytic and antidepressant actions of the bioactive glycowithanolides, isolated from the roots. The investigations support the use of *Withania somnifera* as a mood stabilizer in clinical conditions of anxiety and depression in Ayurveda (Ghadroost B, (2011).

Guduchi (*Tinospora cordifolia*)

A study was taken up to investigate the effect of petroleum ether extract of *Tinospora cordifolia* (Wild.) Miers on depression in mice. The extract (50, 100 and 200 mg/kg, p.o.) was administered for 14 successive days to Swiss young albino mice (either sex) and evaluated for antidepressant-like activity using tail suspension test and forced swim test. Moreover, petroleum ether extract also reduced the mouse whole brain monoamine oxidase (MAO-A and MAO-B) activities as compared to control, resulting in increase in the levels of brain monoamines. Therefore, the extract may have potential therapeutic value for the management of depressive disorders. (D. Dhingra and P. K. Goyal 2008).

Yashthimadhu (*Glycyrrhiza glabra L.*)

A study was undertaken to investigate the effects of aqueous extract of *Glycyrrhiza glabra L.* (Family: Fabaceae), popularly known as liquorice, on depression in mice using forced swim test (FST) and tail suspension test (TST). This suggests that antidepressant-like effect of liquorice extract seems to be mediated by increase of brain norepinephrine and dopamine, but not by increase of serotonin. Monoamine oxidase inhibiting effect of liquorice may be contributing favorably to the antidepressant-like activity. Thus, it is concluded that liquorice extract may possess an antidepressant-like effect. (Dhingra D, Sharma A. 2005).

Satavari (*Asparagus racemosus Linn*)

Asparagus racemosus Linn. (AR) is an Ayurvedic rasayana used as an adaptogen. Adaptogenic drugs are those which are useful as anti-stress agents by promoting non-specific resistance of the body. Hence, the present investigation evaluates the antidepressant effect of methanolic extract of roots of AR (MAR) standardized to saponins (62.2% w/w). (Singh GK, Garabadu D, 2008).

Amla (*Embllica officinalis*)

Depression is a widespread psychiatric disorder affecting around 5% of the population. Furthermore, it is difficult to predict which patient will respond to any given treatment. In the traditional systems of medicine, many plants and formulations have been used to treat depression for thousands of years. The study was undertaken to evaluate the antidepressant potential of acute and chronic administration of EO in forced swim test (FST) and tail suspension test (TST). The antidepressant activity of EO was comparable to that of standard drug imipramine. The results of the p study indicate the potential for use of EO as an adjuvant in the treatment of depression. (Sudhakar P., Gopalakrishna. H.N 2010).

Camphor (*Cinnamomum camphora*)

Another important ingredient of Hawan samagri is “**Camphor**” from the plant *Cinnamomum camphora*. When it is burnt in the fire, the body’s breathing system

inhales it and the person will experience a “high” or elevated feeling during the ceremony.

The use of CO₂ as a cerebral stimulant to assist the patients suffering from lack of ventilation is common in medical world. Its use to control and cure many mental disorders is also known to medical science. Small amounts of CO₂ inhaled by the persons performing Yajna acts as a stimulant, and more and more aromatic fumes are inhaled which help in curing mental disorders (Joshi RR2003).^[100]

Antioxidant Activity Of Hawan Samagri

The pathogenesis of anxiety has been strongly affected by free radicals; and Antioxidant action of each component of Hawan Samagri like Guggal, Saffron, Almond, Jatmansi and Coconut scavenge free radicals and hence might be helpful to stop the pathogenesis of the disease. Sesamin is a well-known antioxidant from sesame seeds, and it scavenges free radicals and significantly decreased ROS (Hsieh et al. 2011).^[101] Sesame seeds have been shown to exert antioxidant and antihypersensitive actions (Reshma et al. 2010).^[102] Jatamansi (*Nardostachys jatamansi*), an indigenous medicinal plant, induces in organisms a state of resistance against stress. It helps to promote physical and mental health and augment resistance of the body against disease and has shown potent antioxidant activity. safranal which is responsible for the characteristic, powerful aroma of saffron. Both substances inhibit the reuptake of serotonin that improves the availability of serotonin in the nervous system, thereby contributing to the treatment of depression. N. jatamansi has been explored on restrained stress-induced changes in different parameters and possible modulatory role exhibited by its antioxidant property. Almonds also contain a variety of phenolic compounds including flavonols (isorhamnetin, kaempferol, quercetin, catechin and epicatechin), flavanones (naringenin), anthocyanins (cyanidins and delphinidin), procyanidins and phenolic acids (caffeic acid, ferulic acid, P-coumaric acid and vanillic acid) (Frison and Sporns 2010).^[103] Flavonoids (flavanones) have shown anti-anxiety activity in various studies. Further, the anxiolytic effect of flavonoids has been attributed to its effect on central nervous system and BZD receptors, as it was found that flavanones bind with high-affinity BZD site of GABA-A receptors (Medina et al. 1997; Huang et al. 2001).^[104]

Role of Sound Energy Produced By Chanting Of Mantras

Second important component of Yajna is chanting of mantras. The electromagnetic waves generated thereby compounded with the sonic signals encoded in the mantras help in intensifying and transmitting the desired benefits of yajna in psychological disorders and the surroundings atmosphere. Besides, it makes possible the stimulation of causal energy of the materials used in Yajna to such an extent that the hidden potentialities underlying them are greatly enhanced. Articles made

scared and pious with the help of *Mantra*, if offered by way of blessing act more effectively than even medicines. Without chanting *Mantras* it will not be possible to derive benefits, which are expected by performing a *Yajna*.

The power of sound vibrations is long since acknowledged in the field of science. These vibrations can penetrate the energy spheres at the subtle and cosmic levels. All the alphabets of the Sanskrit language are endowed with special vibrational powers, which set out harmonious wave patterns when pronounced. *Mantra* typically involves continually repeating a chosen word, phrase or set of syllables (silently or aloud) while passively disregarding any internal or external distractions. The sound of *mantra* in meditation is proposed to acts as an effective vehicle for overriding mental speech (which is the predominant form of conscious thinking for most people), thus continually redirecting negative or intrusive automatic thoughts which perpetuate psychological distress.

Dr. Howard Steingull, an American Scientist has established that recitation of *Gayatri Mantra* produces 110,000 sound waves per second. In fact recitation of the *Gayatri Mantra* during the fire-worship (*Yajya*) acts supplementary. The patterns of chanting of *Mantras* are so designed that they latently contain the essence of the music or the quite essential sound of the torrent of life sustaining energies emanating from the cosmic energy centre of the corresponding *Mantras*. The cosmic energy centre a deity associated with the *Gayatri Mantra* is Sun. Uttering of these *Mantras* produces vibrations which are soothing to human mind, all plant and animal life. These vibrations also help in spreading specific energy waves in the surrounding atmosphere as the oblations are offered. The number of studies exploring the impact of mantra meditation on indicators of mental health has grown over recent decades, with reductions in burnout, stress, depression, anxiety and trauma symptoms widely observed (S. Leary, K. Weingart, R. Topp, et al., (2018)^[120], (S. Mishra, R. Archana, K.S. Sailesh, et al., (2017)^[121], (P. Pravitha, K.S. Sailesh, A. Joy, et al 2017).^[122]

Various scientific studies have been done to see the beneficial effect of chanting of mantras in psychological disorders, some of them are mentioned here –chanting of gayatri mantra is generally done in yajna which have very good effect on our mind and physical health. In this regard, **A scientific study was published in The International Journal of Indian Psychology vol.3 issue 2 January –March (2017) BY Susan Thomas, Shobinil Rao at department of Clinical Psychology, National Institute of Mental Health and Neuro Sciences, Bangalore, Karnataka India, performed to see the Effect of Gayatri Mantra Meditation on Meditation Naive Subjects: an EEG and fMRI Pilot Study** - The aim was to study the effect of listening to Gayatri mantra on the brain using Electroencephalograph

(EEG) functional Magnetic Resonance Imaging (fMRI). Sample included 8 meditation naive subjects, who have not been practicing any form of meditation after study they found that The EEG study showed that the percentage of gamma and beta waves increased in the post Gayatri mantra listening phase with respect to the pre Gayatri mantra listening phase. Expert Buddhist meditators are found to have a predominance of high frequency gamma waves in their EEG. fMRI study The results showed that the areas that had maximum activation were the bilateral superior temporal gyri, right temporal lobe, right insula, left inferior parietal lobule, lateral globus pallidus and culmen of the cerebellum. For novice meditators, restlessness can arise due to continuous listening to Gayatri mantra. Duration of 10-15 minutes is found to be optimum. There is a minimal increase in the percentage of gamma waves of meditation naive normal volunteers after listening to Gayatri mantra for 15 minutes. In fMRI, the brain areas that were activated in meditation naive normal volunteers during listening to Gayatri mantra included right insula, which is involved in bodily self-awareness and emotional experience.

An another study has been done on The Effect of Mantra Repetition on Stress, In this study, the authors determined the effect of a structured Internet-delivered Mantra Repetition on burnout and stress of conscience (SOC), stress related to ambiguity from ethical or moral conflicts among health care workers (HCWs) within the Veteran Affairs (VA) Healthcare System. Work-related stress and burnout are major concerns among health care workers (HCWs). (Cannon, 1929/1957; Lazarus & Folkman, 1984).

Mantra meditation may be cautiously considered a useful intervention to reduce psychological distress in healthy, non-clinical populations. on mantra meditation is consistent with earlier reviews in this area (M.B. Ospina (2007).^[126] it can be observed that the vast majority of studies report positive outcomes in some manner, This might suggest that while mantra meditation is a feasible intervention in itself to reduce psychological stress, it may not necessarily be any *more* effective than other forms of relaxation training and/or stress reduction. Theoretically speaking, this would make sense, as progressive muscle relaxation, mindfulness and mantram repetition all arguably fall under the general heading of meditation.

The configurations of special syllables in *mantra and the Vedic* patterns of chanting them during *Yajya* are derived from absolute research by the *ancient Scientists* on the deeper sciences of - gross and subliminal sonic vibrations, music and consciousness. The *collective* chanting of *mantras* in adept rhythm in front of *Yagyagni* magnifies the *Mantra-Shakti* exponentially and expands the *mantra*-vibrations to unlimited heights in all dimensions. The esoteric science of *mantras* was so advanced in the times of yores that *mantras* were used as

weapons and missiles; in transmutation of a sick and dying body into a youthful, *strong* one. The *Yagya*-energy induces unique force in expanding the effect of *mantra-shakti* almost instantaneously. The modern science affirms three basic streams of energy indwelling in Nature – sound, heat and light. Of these, the velocity of heat and light is unimaginably greater than that of sound. In the process of *Yagya*, the natural conjugation of the enormous heat and *Yagya*-energy with *mantra-shakti* and the collision of the superimposed sonic waves of collective *mantra* chanting with the quivering flames of the *Yagyagni* induce infinite speed and amplification of the *mantra-shakti* and help it expand up to cosmic domains in feasible time.

A study was held in Dev Sanskriti Vishwa Vidyalaya Haridwar on GSR (Galvanic Skin Response) in which median fold change decrease from [1.35; n=12: p=0.024] to [1.38; n=12:p=0.0010] in 12 participants after *Yagya* and chanting of Gayatri Mantra. Hence this study indicated the tremendous potential of vedic traditional ritual of *Yagya* and *Yagya* marking a positive effect in terms of relaxation in emotional state (Vikash Kumaret.al (2019).^[137]

CONCLUSION

The ancient approach of *Yagya* provides the effective methods and potentials to enable ideal development on all realms of life ranging – from the personal to social fronts, from the gross environment and ecosystem to the *sukima vatavaraṇa* i.e. the subtle aspects of psyche. This is why *Yagya* is regarded as the origin of the divine culture of vedic India and it is an integral part of all aspects of the Indian Culture and all religious celebrations. The *gyana* and *vigyana* required to counter the adversities and problems of the present era and for the cultural evolution of human life are endowed in the *Gayatri Mantra* and *Yagya*. *Yagya* can be considered as the ultimate combination of all three forms of *chikitsa Daivvyapashrya, yuktivyapashrya, and satvwavjaya*. As every living being is synchronized with universe, therefore, satisfying the panchtattva and universe elements, results in the satisfaction and balance to the man as well as body within. The scientific studies conducted on various components of *Yagya* clearly demonstrate that it was designed for multifaceted action to clean the external environment as well the body toxins responsible for causing diseases and to control the various conditions create in pandemics like Covid-19.

Therefore, for the successful management of covid -19 disease there is a need of promotion of Mental Health, and physical health through *Dev vyapaashrya Chikitsa* i.e. *Yagya* and Ayurveda can play a vital role in this field.