

## A LITERARY REVIEW ON EFFECT OF YAGYA ON PSYCHOLOGICAL DISORDERS

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The ancient Indian thought emphasized the theory of unity of body and soul and also explained how to deal with health and mental health problems in a psychosomatic way. A concern with mental health has long been a part of Indian culture, which has evolved in a variety of ways, attempting to understand and negotiate psychological disorder. *Vedas* mention mantras for prayers to bring noble thoughts to mind and purify it. *Rigveda* describes *sattva*, *raja*, and *tama* as personality traits and also identifies mental illness independent of physical illness. *Yajurveda* conceptualized mind as the inner flame of knowledge. *Atharvaveda* describes “*Manas*” as an instrument of hypnotism and talks in details about will power, emotion, inspiration, and consciousness. “*Unmad*” (psychosis) has been mentioned as a deluded state of mind in *Vedas* with etiology suggestive of both organic (worms/microorganisms, fever, etc.) and functional (sins

toward Gods) origin. *Vedas* also mention treatment for mental disorders ranging from psychosis, epilepsy, sleep disorder, and aggression in the form of “*Bheshaj*” (medicine) and prayers to God (psychotherapy), along with preventive methods such as “*Yam*” and “*Niyam*” (behavioral control) and “*Asan*” and “*Pranayam*” (physical activities). (Gautam S.1999).<sup>[1]</sup>

*Upanishads* describe the various states of mind (*Jagrat*, *Svapana*, *Sushupti*, and *Samadhi*), theories of perception, thought, and memory. *Ichchha Shakti* (will) *Kriya Shakti* (Action) and

*Jnana-Shakti* (Knowledge) were described by them as the three mental potencies, and the psychopathology was understood by *Trigunas* and *Tridosas*. (Sivananda S.1974).<sup>[2]</sup>

Gananath Sen and Karthick Chander Bose were the first to report on the use of alkaloid extracts from the *Rauvolfia serpentina* plant in reducing psychosis. Sen G(1931).<sup>[3]</sup> Initially overlooked, but when rediscovered, reserpine became one of the first agents to be used in the treatment of schizophrenia.

In ancient literature of *Vedas* and *Ayurveda* it is found *Yagya* play an important role in management of psychological disorders and various recent scientific studies have done on its mechanism and the most important part of its various components of *Hawan samagri* used for treatment of psychological disorders.

*Vedic* references indicated that *Yagya* was very advanced at that stage, however, in due course, the fine details of these protocols and applications were lost (Sharma S 1994).<sup>[4]</sup> The concept of burning herbs in the fire to generate medicinal-smoke and taking it through breath by performing *pranayama* prevails in the *Vedic* literature is similar to the concept of Intra Nasal Drug Delivery System (INDDS) in modern medicine. *Yagya* was defined for the present study as an ancient Indian therapeutic procedure of herbal pulmonary inhalation allowing administration of medicinal-smoke of specific herbs generated through sacrifice in specific-fire-environment (Raghuvanshi M, Pandya P, Joshi RR.2004)<sup>[5]</sup>, for health benefits knowingly or unknowingly.

## RECENT STUDIES ON THE EFFECT OF YAGYA IN PSYCHOLOGICAL DISORDERS

Various scientific studies have been done to see the effect of *yagya* in psychological disorders like Epilepsy, anxiety, stress, Alzheimer's disease.

A study on **the role of Hawan in Epilepsy was done in 2015 By R.P Kaur, Parveen Bansal, R Kaur, V Gupta and S Kumar (UCER, Baba Farid University of health sciences, Faridkot, India)**. From the metadata analysis authors found that *Hawan* has been designed by the ancient scholars to fight with a plethora of diseases related to brain, more than 70% of the components of *Hawan samagri* are having a number of volatile oils that volatilize due to high temperature of fire. Most of the components have been found to be having anticonvulsant activity through one or the other mechanism. The action of maximum

number of herbs is benzodiazepines, Phenobarbital, valproate like action that enhances GABA-ergic inhibition. It is quiet likely that the other volatile components those have not been explored for anticonvulsant action could add to further therapeutic antiepileptic action. The components of *Hawan* seem to have a multiple action in preventing epilepsy through scavenging of free radicals, increase in level of antioxidants, decrease in level of nitric oxide and other underlying mechanisms. From the pharmacological potentials of the components it can be concluded that the routine of performing *Hawan* might keep the threshold value of the antiepileptic elements in the body and help in preventing epilepsy however concerted efforts are required to prove the hypothesis.

The hypothesis behind action of *Hawan* on epilepsy is integration of modern and ancient concepts. As per modern science, it is a known fact that nasal drug delivery systems are the best drug delivery systems for the diseases related to brain. The specific energy currents reduced by *yagyagni* and *mantra shakti* have significant remedial effect on the disorders and diseases ranging from headache, migraine, cold to mental dullness, intellectual deficiencies, depression, insomnia, intemperance, epilepsy, schizophrenia and varieties of manias.

One more study was done on **“Scientific Basis of Hawan to be Used in the Alzheimer’s Disease Prevention”** published in Current Traditional Medicine 2016 By **R.P Kaur, Parveen Bansal, R Kaur, V Gupta and S Kumar (UCER, Baba Farid University of health sciences, Faridkot, India).**

Alzheimer’s disease (AD) is a neurodegenerative disorder of the central nervous system associated with progressive cognitive and memory loss, to cure it yagya was done by the authors of article and After complete study they found that nasal drug delivery systems are the best drug delivery systems for the diseases related to brain. There are some disorders that may require a constant concentration of medicine for curative and prophylactic measure. For medication and direct delivery of drugs to the brain drugs need to pass blood brain barrier. Other prerequisite for brain delivery is the nano-form or vapor form of drug that can be easily taken up through mucous membrane. The analysis of available data on pharmacological actions and therapeutic actions of components of *Hawan*, it seems that *Hawan* was designed by our ancestor physicians to keep away from AD. The periodic *Hawan* procedure is likely to create a threshold concentration of anti AD components in human body specifically brain tissue that may be sufficient to prevent pathogenesis of the disease. These days the

formulations are being designed in such a way that drug delivery is targeted and desired concentration of the drug is delivered at a target site.

A study was done in June 2017 **The inter-dependence between beliefs and feelings about a yagya: 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 yagya 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 yagya as well as their subjective feelings immediately after the yagya, the beliefs were chosen after carrying out an informal interview of approximately 50 participants who had attended somyagya. After data analysis researcher reach to a result that somyagya purifies the environment was positively correlated with: a feeling of calmness and warmth towards other after the yagna and they found that somyagya positively influences the mental health. Somayagya appear to induce feelings of physical and mental relaxation in participants attending it.

### **Yagya As A Nasal Drug Delivery System**

As per modern, it is a known fact that nasal drug delivery systems are the best drug delivery systems for the diseases related to brain. According to *Ayurveda*, “*Nasa hi shirsho dwaram*” i.e nose is the best route for administration of the drugs for the diseases related to brain and head. There are some disorders that may require a constant concentration of medicine for curative and prophylactic measure. For medication and direct delivery of drugs to the brain, drugs need to pass through blood brain barrier. Other prerequisite for brain delivery is the Nano form or vapour form of drug that can be easily taken up through mucous membrane. These days the formulations are being designed in such a way that drug delivery is targeted and desired concentration of the drug is delivered at a target site where required drug concentration is needed. *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 KD (2010)).<sup>[6]</sup>

A study was done on mouse brain which prove that the rapid intranasal delivery of therapeutic agents such as nerve growth factor to mouse brain allowed the by-passing of the blood brain barrier. The olfactory neural pathway provides both intraneuronal (via axonal transport a highly time consuming process) and extra-neuronal (via bulk flow transport

through peri-neural channels taking only few minutes) access to the brain (Sugawara Y, Hara C, et.al (2000)).<sup>[7]</sup>

Traditional aroma-therapeutic practices, dating back thousands of years, are thus verified by 21<sup>st</sup> century neuroscience. Equally fascinating is the evidence that an odour-enriched environment increases neurogenesis in adult mouse brain (Guedes DN, Silva DF, et.al (2002)).<sup>[8]</sup> Since agents promoting neurogenesis in adult human brain, including the hippocampus, are being investigated in a variety of psychiatric disorders (e.g. depression, dementia and schizophrenia) (Vernet-Maury E, et.al (1999)).<sup>[9]</sup>

One novel method of herbal delivery, called '*Nasya*', involves intranasal delivery of dry herbal powders or medicated oils and is a practical, non-invasive, rapid, and simple method to deliver the therapeutic agents into the CNS. *Nasya karma* is a therapeutic procedure, where drugs are administered through nose in a specific manner, to cure different systemic disorders. It is different from ordinary nasal medication in the purpose of administration, method of administration and in the contents of the medicines administered. Ayurveda has given prime importance to shiras, considering it as one of the three principle vital organs of the body, where prana i.e., life resides and seat for all indriyas, hence considered as uttamanga.

In Ayurveda Nasa i.e. nose is considered as one among the panchgyanendriya whose functions are not only limited to olfaction and respiration but also considered as a pathway for drug administration.

ऊर्ध्वजत्रुविकारेषु विशेषान्नस्यमिष्यते।

नासा हि शिरसो द्वारं तेन तद्वयाप्य हन्ति तान्।। (अ.ह.सू. २०/१.)

*Nasya karma* is the special procedure where the drug is administered through nostrils. The medicine that put in to nostrils moves in the channels up to Shringatak marma and spread to whole of the interior of the head and to the junction place here all the channels related to the eyes, ears, throat situated together. The olfactory nerves are connected with the higher centres of the brain i.e. Limbic system which contains amygdaloidal complex, hypothalamus, basal ganglia etc. so the drugs administered through nose stimulate the higher centres of brain which in turn effects the endocrine and nervous system functions by controlling the doshas. *Nasya karma* not only act as sirovirechan i.e. elimination of doshas but also plays vital role in nourishing the panchgyanendriya adhistana located in sira.

Nasya is indicated in various psychological disorders and disorders related to the upper part of the body.

विरेचनं शिरः शूलजाड्य स्यन्दगलामये ।

शोफ गण्डकृमिग्रंथिकुष्ठापस्मार पीनसे ॥ (अ.ह.सू. २०/२)

Aacharya Kashyap has mentioned about 40 types of 'dhoop' and some of them are specifically prescribed for psychological disorders

घृतनिम्बस्य पत्राणि जतुसर्जरसाक्षताः ।

.....धूमोऽपस्मारनारनाशनः ॥ ( का.सं. धूपकल्प अध्याय)

घृतं सिद्धार्थकाः श्वेताः कुष्ठं भल्लातक वचाः ।

.....तगरं भूर्जावर्तं सगुग्गुलु ॥ ( का.सं.धूपकल्प अध्याय)

दशांगो नाम धूपोऽयं प्रयोज्यः सर्वरोगिषु ।

अपस्मारे विशेषेण ग्रहेषूपग्रहेषू च ॥ ( का.सं.धूपकल्प अध्याय)

The pharmacokinetics of 'nasya karma' i.e. nasal drug delivery system involves the following pathway.

1. Neurological pathway
2. Diffusion pathway
3. Vascular pathway

### Neurological pathway

The nose is connected through vascular system and nerves plexus of olfactory nerve and ophthalmic and maxillary branches of trigeminal nerves of the brain.

A great extent with association of olfactory tract leads directly to a portion of amygdala called cortico medial nuclei that lies immediately beneath the cortex in the pyriform area of the temporal lobe.

The experimental stimulation of olfactory nerves causes stimulation of cells of hypothalamous and amygdaloidal complex. Electrical stimulation of hypothalamus in animals is capable of inducing secretions in the anterior pituitary.

The peripheral olfactory nerves are chemoreceptor in nature. The olfactory nerves differ from the other cranial nerves in its close relation with the brain. The olfactory nerves are connected

with the higher centers of brain i.e. limbic system, consisting mainly of amygdaloidal complex, hypothalamus, epithalamus, anterior thalamic nuclei parts of basal ganglia etc. so the drugs administered here stimulate the higher centers of brain which shows action on regulation of endocrine and nervous system function together with limbic system participate in expression of rage, aggression, pain, pleasure and behavioural pattern etc. (tortora grabowski 10<sup>th</sup> edition).

The drug administered even enters in to the systemic circulation and also direct pooling in to the intracranial region by vascular path.

### **Diffusion pathway**

Lipid soluble substances have greater affinity for passive absorption through the cell walls of nasal mucosa. Thus the navana nasya is superior to all varieties.

### **Vascular pathway**

Vascular path transportation is possible through the pooling of nasal venous blood in to the facial vein, which naturally occurs at the opposite entrance the inferior ophthalmic vein also pool in to facial vein. Such a pooling of blood from nasal vein to venous sinuses of the brain is more likely to occur in head lowering position due to gravity, the absorption of drug in to meningitis and related intracranial organ is point of consideration.(Greys anatomy 35<sup>th</sup> edition).(K Y Srikanth et al (2011,)<sup>[10]</sup>

Intra Nasal Drug Delivery System (INDDS) was used for intake of various medicinal compounds in Ayurvedic practices as Dhoopan/ dhoompaan. It has been extensively explored as an alternative system to promote more effective delivery of drug molecules. Intranasal administration has proven to be a reliable delivery system for several peptides, proteins and biopharmaceuticals like - insulin, Vascular Endothelial Growth Factor (VEGF), Nerve growth factor (NGF), Activity Derived Neurotrophic Factor (ADNF) and Vasoactive intestinal protein (VIP), NeuropeptideY (NPY) etc. If we specifically discuss the treatment of central nervous system (CNS) disorders, the clinical failure of much potentially effective therapeutics is often not due to lack of drug potency rather, due to shortcomings in the method by which the drug is delivered and hence, here INDD system has proven to be a landmark strategy in improving the drug absorption and bioavailability with respect to neuro therapeutics INDD encourages fast drug absorption, extensive vascular supply and quick onset of action of these agents with benefit of by passing the first pass metabolism of drugs.

Hence keeping in view of the above said facts, it can be concluded that either the essence of the nasya or nasya dravya is reaching the brain and acting on important centres controlling different neurological, endocrine and circulatory functions and thus showing systemic effects. (Sachin Chhajed (2011)).<sup>[11]</sup>

The herbal medicines in *Yagya* work on the principle of magnified potency by sublization and sublimation. It is a well-known fact the oral medicines consumed in gross form (e.g. tablets or syrup) have lesser effect as compared to those infused in the blood stream directly by injections. If inhaled through breath and the skin pores in vaporized or gaseous form, the same medicine would have many-fold positive effects. Sublization and sublimation increase their potency exponentially. When one takes an oral medicine (e.g. a tablet), it first reaches the stomach from where *only* a fraction of it goes to the blood after metabolism. The rest gets drained out with urine and faeces. Thus the effect of the drug materializes only partly; this is further reduced if the patient's digestive system is weak. The same drug if infused directly in to the blood stream by intra-venous injection, certainly shows rapid and better effect. However, here too its significant effect could be lessened by the deficiencies (of specific chemicals for instance) in the blood, problems of blood flow etc. The risks of counter-reactions are more in this case as the entire dose reaches the blood almost instantaneously. Moreover, it is not certain, whether the drug reaches the subtle components of the body in the desired form, The healing offered by *Yagya* is free from all such limitations. The sublimated drug (healing substances) reaches each and every *component* of the body through the skin pore and breathing. Respiratory system is most efficient and prominent among all the inlets (for energy and healthy substances) and outlets (for waste and harmful substances) of the body. We intake water and food through the mouth and expel the rejected and rotten portions through the urinary tube and rectum and through perspiration.... The most important source of our survival is given to us by our respiratory system. We all know the necessity of oxygen, which is inhaled by us through breathing. We might sustain our life for several days without food, could even continue to breathe without water for few days, but can't prolong it beyond few minutes in the absence of oxygen. (Joshi, Rajni R (2011)).<sup>[12]</sup> The non-stop work done by the respiratory system alone in carrying the vital energy source to every particle of the body, is more crucial and heavier than that of the digestive system and accessory components and organs in maintaining the living body. The respiratory system and the galaxy of skin pores play the key role in enabling the absorption of the *prana*, the energy and the healing currents

(including the herbal drug effects) of *Yagya* in the blood, organs and the cellular, molecular and subtler units of our body.(Pandya, Pranav (2009)<sup>[13]</sup>

## CONCLUSION

*Yagya* has been a common religious practice and has been recommended for mental peace and wellbeing by our ancient scholars and physicians. Analysis of literature demonstrates that the components of *Yagya* are having a number of volatile oils that are specifically useful for prevention and treatment of psychological disorders through one or the other mechanism of action. *Yagya* is not only an excellent process of environmental purification, but it could also be used as a powerful remedy against varieties of physical (bodily) and psychogenic diseases by selection of wood and *havan-samagri*. Appropriate selection of *mantras* and mode and timings of *Yajna* are outstanding applications for total health. The fumigation and sublimation of selected wood and *havana-samagri* in the scientifically designed *Yagya-kunda* offers therapeutic results. Environmental purification applications and ecological balance bestows psychological benefits. The spiritually empowered sonic waves generated by collective chanting of the *Vedic Mantras* and the immense energy of *Yagy Agni* melts and burns out the vices and untoward tendencies rooted in the conscious and the unconscious mind.

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 vatavaraña* 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*. The supreme philosophy and science of *Gayatri-Yagyas* can resurrect the divine glory of Vedic Age if we prudently perform and adopt them in our heart, thoughts, deeds and conduct. Oldest ancient texts on medicine advocate that, “*Nasa hi shirsho dwaram*” that implies to the fact that nose is the best route for administration of the drugs for the diseases related to brain and head. In fact, this statement is true today. Some disorders may require a constant concentration of medicine for curative and prophylactic measure. For medication and direct delivery of drugs to the brain, drugs need to pass blood brain barrier and be in nano-form or vapor form that can easily enter through mucous membrane. to the fact that nose is the best route for

administration of the drugs for the diseases related to brain and head. In fact, this statement is true today. Some disorders may require a constant concentration of medicine for curative and prophylactic measure. These days the formulations are being designed in such a way that drug delivery is targeted and desired concentration of the drug is delivered at a target site where required drug concentration is needed. For medication and direct delivery of drugs to the brain, drugs need to pass blood brain barrier and be in nano-form or vapor form that can easily enter through mucous membrane.

In *Yagya* more than 70% of the components of *Hawan samagri* are having a number of volatile oils that volatilize due to high temperature of fire. The maximum number of herbs used in *Hawan/ Yagya* contains benzodiazepines, Phenobarbital, valproate like active elements which enhance GABA-ergic inhibition. It is quite likely that the other volatile components those have not been explored for anticonvulsant action could add to further therapeutic actions. The components of *Yagya* seem to have a multiple action in preventing psychological disorders through scavenging of free radicals, increase in level of antioxidants, decrease in level of nitric oxide and other underlying mechanisms. From the pharmacological potentials of the components it can be concluded that the routine of performing *Yagya* might keep the threshold value of the antipsychotic elements in the body and help in preventing various mental disorders. The entire worldly life depends on the combination of mind (Mana), spirit (Aatma) and body, this tripod can sustain itself, so long as none of its three constitutes are disturbed. According to Ayurveda, the mind has a very powerful influence on our overall health and wellbeing. It defines health not only as an absence of disease, but also as a very holistic level of vitality throughout our lives. *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 process of *Yagya* inscribes this teaching and enduces the sentiments of altruist, generous life that is pivotal to happy growth and progress of social development and civilization. The blessings of the divine powers regulating the cycle of life and Nature are intimately linked with the continuity of *Yagya* on the earth. 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.

Therefore, for the management of psychological disease there is a need of promotion of Mental Health, through *Dev vyapaashrya Chikitsa* i.e. *YAGYA* and Ayurveda can play a vital role in this field.

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