

# Mantra and Homa Therapy: Computational Analysis of Different Aspects to Benefit Mankind With Healthcare 4.0 and Industry

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## ABSTRACT

The anxiety, depression, and stress, along with diabetes, obesity, lack of vital power, and many other threats to human health, are the issues which humans have to face in 21st century due to modern bad lifestyles. Many medicines and scientific experiments to find the solution in new ways through pharma industries are being sought. The present manuscript not only deals the scientific aspects on these all afore said issues, but also scientifically analyzes the experiments of energy levels and Chakra energy of subjects, which were measured through pre and post of this Indian ritual. The visualizations have been measured through Kirlian energy aura meter, which quantifies the complex bio energy, energy disbalances, and Chakra energy of the individual. It is also a blend of science and spirituality, and establishes strongly the fact that in the future, all global, physical, mental, and social problems will have a single solution; and that is Yajna and Mantra propounded by Indian Rishis.

## KEYWORDS:

Anxiety, Depression, Mantra, Mental Fitness, Stress, Yajna

## INTRODUCTION

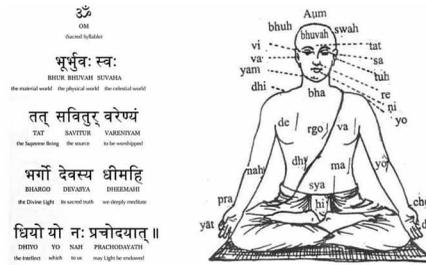
Let's see the scientific part of the syllables of Gayatri mantra, and its significant activation on 24 glands of a person who chants the mantra. The hormonal secretions are controlled and balanced, thus balancing the emotions, and helping the person to reverse back his physical and mental health, brings revolution in thought patterns in both alpha and beta levels, giving rise to his personality upliftment (Pl. refer Fig. 1).

DOI: 10.4018/IJARPHM.315815

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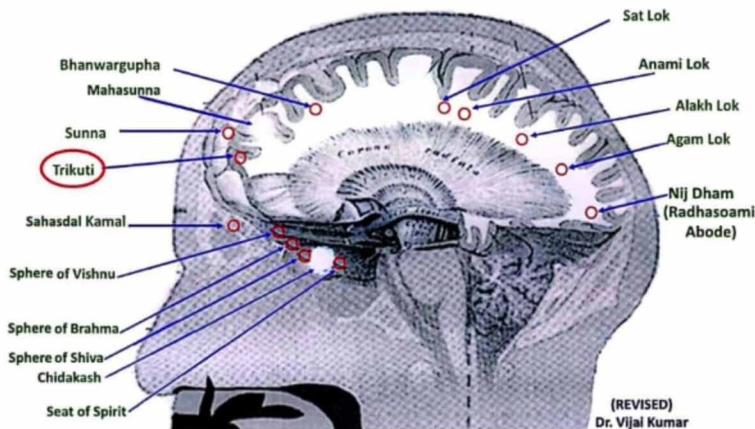
Figure 1. The Syllables of Gayatri Mantra and Their effects on the Human Body parts (Saxena, M. et al., 2018)



There are many neuro studies done on the effects of Gayatri Mantra. Its vibrations, frequencies on our system and also its effects on other patients have been medically proven.

It has been visualized that the effects of Gayatri Chanting are on nerves and its functions along with it works with both parts of your brain and then through whole system. The Meditation practitioners also teach this, how to take universal energy, through Gayatri Mantra and activate all glands individually with mantras to energize oneself (Pl. refer Fig. 2) (Ghosh et al., 2015); (Apte et al., 2016).

Figure 2. Brain Regions during Meditation. (Saxena, M. et al., 2018)



## Yajna Meaning, Fuctioining and Symbolic Intrepretations

Ms. T. Rajeshwari, an active Yajnapathy researcher has depicted that humans and deities are connected with Yajna. Every human is born with some traits, holds him in the form of faith, which is an inseparable aspect of human personality. It is embodied by birth as our psych. Our psych consists of consciousness (chitta), brain (buddhi), mind (Mana) and id (ahankara). Id is the primitive and instinctual part of mind that contains aggressive drive and hidden memories as Karma. Thus the nature of faith defines the quality of our life (Gupta et al., 2012).

Yajna means sacrifice, usually in the sense of ritual fire, worship ceremony in which negative Karmas can be consumed by giving oblations (ahutis) with clarified butter or certain medicinal herbs, along with Vedic mantras (chanting of mystic sound syllables repeatedly) and offering oblations with swaha (surrendering to supreme). Vibrations produced by mantras during Yajna penetrate the energy sphere at the subtle and cosmic level. The chanting of Vedic mantras are latently contain the

essence of quiet essential sound of torrent of life sustaining energies emanating from the cosmic energy centers (Chauhan et al., 2015); (Karatzas et al., 2010).

The two energies during Yajna are heat from the Yajna fire, and the sound of chanting Gayatri and other Vedic mantras are blended together to achieve the desired physical, psychological and spiritual benefits. The appearance and the energy of subtle body affects our physical and mental plain as it inter-penetrates our physical body by attracting the universal divine cosmic energy that further helps in cleansing the human psych helping to understand the true virtues and inculcate them, and thus the personality traits of demonic nature is destroyed and eradicated. We humans through Yajna are thus connected to our divine deities (Cortes et al., 2000).

Mantras and its place in Yajna (Mantra ka Yagyonme sthan, 'Place of Mantra in Yajna') where it has been explained what mantra is, how it works in human physical, mental and subtle level during Yajna and attains the cosmic level oneness. We all know that every mantra represents the energy of God or Goddess, and as per mythology, every divine has a plant origin. For example Lakshmi Mantra shreem is turmeric orient (When you chant Gayatri with shreemsamphut (Special syllables), revered Pt. Sriram Sharma Acharyaji has asked to use turmeric in oil to massage and in our food, also to imagine Gayatri in yellow attire in Gayatri MahaVigyan). When you have the fruits, oil, seed, leaves or roots that Mantra can get inculcated into blood, along with if you chant the mantras little the divine begins to live in that person's consciousness and the mantra siddhi happens (NadiShastra) (Dev et al., 2017); (Limaye et al., 2019).

This is for those who are unable to perform austerities like big anushthan due to busy life. This gives us an idea to search for plant origin for Gayatri mantra. It was searched and got a plant Himalayan intellect tree, also known as Jyotishmati, Vanhiruchi, Katumbhi etc. In English it's known as staff tree. Dr. VandanaSrivastava of Dev Sanskriti Univ. Haridwar has prescribed jyotishmati oil for autistic and MR patients. It is popularly used by Ayurveda doctors (McCarron et al., 2018).

## Mudra Science

Pradeep rao of Gayatri parivar explains that our body is made of five elements. The diseases and their symptoms are due to less or more components of these five elements. Our fingers represent five elements like the thumb for fire, point finger for air, middle finger for sky, ring for earth and little finger for water. By different Mudras and postures of hands, one can balance these five elements for procuring one's health and keeping diseases away. This has a complete science of holistic health (Rastogi et al., 2017).

## Publication and Newsletter on Yagyopathy to Spread this Therapy

Uma Sharma reflects that the Dhanvantarnewsletter is published by Ayurved and Holistic Health Department of Dev Sanskriti University <https://sites.google.com/dsvv.ac.in/dhanvantari-dahh/dn23>

E-newsletter which covers below contents along with departmental message and activities.

One can find all news with elink <https://sites.google.com/dsvv.ac.in/dhanvantari-dahh/dn23>

The Content contains the

Spiritual Healing and revitalization

Yajna- the main deity of Indian philosophy

Yajna Therapy in Veda

Your Health in perspective of Ayurved, What should be our diet

Lifestyle in Winter Season

The miraculous Traits of Tulsi

Usage of Single Herb Ashwagandha

Kitchen Pharmacy- the usage of Methi

Pomegranate—Health in kitchen garden

Home made treatments from spices—Dhaniya

Research papers on Yajna and Panch Karma from Departments

Dr. Mamta clarified that the news letter also covers not limited to share and discuss in this group like:

1. Any special experience of Yajna's effect on health, Agriculture or Horticulture production
2. Well being experiences etc. which can go as a testimonial and can be published in the newsletter
3. To expand the concept of Yajnopathy, one needs to conduct webinars amongst educated groups/institutions (Rastogi et al., 2018a).
4. It provides a forum for the associated members in related group who are actually interested in conducting small experiments are conveyed to conduct. Dr. Mamta Saxena, editor guides them and they can then send the data to author's team for further analysis.

## **2 Case Studies, Researches of Yajna and Mantra in Various Fields and Their Effects on Human and Environmental Bodies**

### *Importance of Yajna in Better Digestive System*

Mr. Lokesh Kumar, an active volunteer has informed that when the Oxygen content is higher in early morning time in the atmosphere then it is considered to be useful for the health while walking. One will get nourishment and nutrition of the contents when the useful components are available in air. Havan fulfills the same purpose. It helps in gasify the useful herbals so that all coming in the touch of that surrounding can be benefitted by this. This is very much important related to vitality and health. The same thing is related to nutritious elements (Devender et al., 2019); (Azam et al., 2016).

The nutritious diet is felt useful to make poor body stronger. But the question is that how the person with bad digestion can digest the nutritious and rich diets. The ill and poor person has slow digestive process. When ever they consume simple or small amount of diet, they feel omitting sensations. Yajna-Havan is the perfect and simplest means to help the person to digest the rich diet. The process is that rich diets like different nuts etc. are offered in oblations in Havan and they are consumed through nasal point, mouth or tiny body pores. Then this rich diet contents can easily enter in the body and can be more beneficial to people as per their convenience (Vangmay 26, Yagya EkSamagraUpcharParkriya, Page-312) (Rastogi et al., 2018b); (Rastogi et al., 2018c).

### *Effect of Mantra Chanting and Yajna Extracts / Ashes in Farming*

Mr. Dinesh Sharma is a businessman at Ramprastha Green, Vasundhara, Ghaziabad, U.P., NCR, India. He and his team have found surprising results at their home kitchen garden of Yajna ashes conducted with Vedic Mantra Chanting. They grew the tomatoes and fruits without using any fertilizer; also they got good productions of garlic, beetroot and Methi.

It was found astonishing effects of Yajna and its ash acted as a natural catalyst and fertilizer. Now they are trying with their team to work on some farms as a bigger sample work so that it later be proposed to be used as natural fertilizer to enhance organic food production (Rastogi et al., 2018d) (Pl. refer Fig. 3 to Fig. 6).

Figure 3. Yajna Based Farming



Figure 4. Crop after Mantra Chanting



Figure 5. Good Tomatos and Tasteful with Yajna Ashes



Figure 6. No Use of Pesticide



Figure 7. Pomegranate flower which will convert into fruits. This year due to Yajna Ashes, yield was high



Dr. Mamta Saxena got very good yield on pomegranate tree in her house in spite of from last 3 years, there was no flowers on it. But with regular usage of Yajna ashes, this year, a good and sufficient production is expected (Pl. refer Figure 7).

One can prepare the garden soil with bhasm (Ashes), sand and soil. Also one can Mix with water and sprinkle. It can be used to make compost too. It provides growth to plants along with Yajna energy so helps highly in plants growth (Nautiyal et al., 2012).

### **Yajna and Farming**

Ms. Preeti from Noida has sown the seeds and experimented on recommendations of experts and she has used Yajna ashes and water and little plastic container in home of mustered plant, coriander leaves, beetroot, and plenty with that. She tried pea seeds with Yajna ashes which are growing better than that of without one. She didn't use any special seeds, normal kitchen counter leftover (Rastogi et al., 2018e).

### ***The Research for Cure of Sugar, Blood Pressure, and many other diseases through Yajna***

Dev Sanskriti University in Haridwar has always reached different heights of various dimensions for the development of Indian culture. It is continuously applying new plans. In same sequence, the pro-vice chancellor of university, Dr. Chinmay Pandya has started the Yagyavalkya Research Center. The purpose of this center is to accelerate the work of Brahmavarchas established by Pt. Sri Ram Sharma Acharya ji in 1979 in a new modern ways. The Chancellor of University Dr. Pranav Pandya and patron Shailbaladidi conveyed their wellwishes for the continuous development of this center (Rastogi et al., 2018f).

Dr. Chinmay Pandya ji told that total seven research scholars have achieved their doctorate from the University on Yajna Sciences. The Center has been established caring their experiences. It is high need of time to make the access of Yajna and Gayatri to individual in modern domain. He stated that this center will act as a milestone for the scholars who are curious to do some concrete researches in Yajna Sciences (Oprea et al., 2011).

The sugar, BP and other diseases were diagnosed by medical doctors of the subjects and Yajna inhaling therapy was used to cure them.

The labs for microbiology, Phytochemical, Environmental, Plant Physiology, Human-Electro Physiology have been established in this center. They will support the study based researches of Yajna vapors on the bacteria, the effect of Yajna smoke of Samidha and herbals on the air, water and soil, the effect of different components available in Yajna vapour, The effect of Yajna gases on human body and cells, the effect at the physical, mental and subtle level, Effect of Yajna over plants and farming.

For this purpose, air sampler, rotary evaporator, liophilizer and other modern machines. Recently the DSVV is doing researches on Diabetes, High Blood Pressure, Vatrog, Mental syndromes, Thoiroid etc.) and satisfactory results are being obtained (Rastogi et al., 2019a).

Pro-VC also explained that Yagyopathy is widely being used in human health, social betterment, help in farming and purification of environment and many more benefits by it are being studied. He expressed his desire that the scholars of various domains like microbiology, biochemistry, molecular biology, drug development, therapeutics, farmocology, psychology etc. environmental sciences, farming science, archeology, and history should visit and jointly collaborate for tis purpose. All these researches can be studied and published in Interdisciplinary Journal of Yajna Research, IJYR being published online. On this occasion, Dr. Viral patel and Dr. Vandana Srivastava etc. were present (Rastogi, R. et al., 2019b).

### *Yajna Applications in Rain*

Mrs. T. Rajeshwari found that there is ambrosios divine shower through yagya. Any greasy substance when added to water, it never enters the water, rather spreads on the surface undissolved. In the same way the fumigations emitted in the yagya, as greasy spreads over clouds as sheath, like the way humans apply oily or greasy lotions to prevent the cool air of winter as an insulation. These greasy fumigations of Yajna too prevent and protect the clouds from dispersing, and this prevention becomes main cause for rain. Greasy substance gets frozen when comes in contact with cool environment along with the water molecules in them, just like ghee (clarified butter) gets frozen during winter. The ghee offered as oblations during yagya when sheath of becomescLOUDS increases their density forcing them to shower as rain (Pt. Sri Ram Sharma Acharya).

Treatment for fatal diseases like tuberculosis through yagya is mentioned in CHARAK SAMHITA also. French research scholar in chemistry; Dr. Trelle has done vast research on “the impact or effects of flames and fumigations on the air”. According to his studies the gas Formic Aldehyde formed by burning sugar works as vermicide destroys the parasites causes, cholera, TB etc. comparing to sugar candies, if black raisins, dry dates, small raisins like sweet things, offered in the Yajna flames, has some special nutrients along with vermicide effects. It has been proven scientifically, if Yajna offerings are of herbs like Justicia adhatoda (vasa) and Commifora and Boswellia (guggule) destroys the bacterial parasites and also prevents the chronic diseases from spreading. Fumes emitted from flowers like Asian pigeon wings (Aparajita) helps in destroying all types of parasites. If Guggule, cloves, ghee, sugar (brown, unrefined) Sandle powder are used in yagya on daily basis increases the quality of fire element of the person who performs Yajna (Pt. Sri Ram Sharma Acharya) (Rastogi et al., 2019c).

### *Effect of Gayatri Mantra on Personality*

Every moment everybody is broadcasting their being continuously as subtle vibrations. We feel stressed, restless, and tired when we come in touch with negative vibrations knowingly unknowingly. If a tense person is passing around any one, one gets exposed to tension, if one comes across sick person, one is vulnerable to sickness. When one experiences meditation, one becomes soft and vulnerable. What ever comes near one, it enters in oneself. Hence, there were Kavacham. The acoustic vibrations due to its chanting along with meditation develop a shield around oneself. Gayatri Mantra chanting, meditation on the rising sun in front of the sun etc. cleanses one's aura. Trikal Sandhya (3 Times Chanting in a day) helps one to remain unaffected even when one is in crowded place or exposed to negative person

or space. Hence, when one takes spiritual endeavours like Ashwamedha Yajna; it is advisable to first do collective Sadhana and Tapas to clean and purify the subtle vibrations (Rastogi et al., 2019d).

### *Yajna Ashes and Herbs in Hair Fall*

Dr. Gayatri Kumawat, Uttarakhand, India and Sh. Sandeep patel, USA has shared their experiences for hair fall, one can add Yajna Ashes with Giloy, Ashwagandha, Kalmegh, Tulsi, Neem, Manjistha etc., Vasa and Adusaare same herbs.

Dr. Gayatri Kumawat experimented 6 months before and checked the ph-value of water mixed with Yajna ashes, then it came as ph-8, but without this, the ph-value was 7 to 7.5 maximum

The maximum p-value recorded was for water with Yajna Ash. The Subjects were asked to take water with Yajna Ash then 90 to 95% hair fall was recorded to be reduced.

Ms. Preeti from Noida also explained that one can apply it mixing with oil. It highly benefitted in hair fall of the respective subject after suffering from Pneumonia. It could be applied on braces sores as well the oil or plain will work well (Rastogi, et al., 2019i).

1. Moothplant which was refrigerated and sprouted for seven days.
2. Mustered seeds from Shantikunj Haridwar (Rastogi, R. et al., 2019e).

### **Case Study**

Mr. Preeti from Noida, NCR explained that last year, a mother with her differently abled son visited the Yagayopathy Stall and now in constant touch with the author's team and doing Yajna. She was planning to visit Shantikunj but due to Covid she failed to do so. She is attending the online webinars and we earned it last year's Yagayopathy Stall. A much relief and cure has been recorded to this subject (Rastogi et al., 2019f).

### *Yajna Role in Organs*

Ms. Preeti from Noida, NCR, and India also revealed that the organ charts play an important role in treatment of illnesses. As acupuncture and acupressure are given to the patient during the up and down cycles and they can help a lot. If one gives treatment as per the up-cycle time then chances of healing can be increased. Normally, Yajna is suggested on fixed time and can be taken one or two cases and try with this method (Rastogi et al., 2019g).

Ms. T. Rajeshwari also depicts that when she takes up the case, her first correction is on life-style change, then positive attitude, understanding the philosophy of Yajnopathy, (how, why and when), proper diet and if necessary dietary supplements are suggested, its circular process, initially lifestyle changes. The practitioners give timings according to circadian rhythm and omkara meditation (Rastogi et al., 2019h).

In Muslims, they suggest bhramari. So the percentage of getting normalcy is more. Team Yajnopathy is active in Delhi and NCR region with guidance of Dr. Mamta Saxena, Dr. Nidhi Maheshwari, Dr. Viral Patel and Dr. Vandana Srivastava from DSVV Haridwar, Dr. Alka Mishra from Haridwar. One can go through related You-Tube channel by the same name (Rastogi et al., 2019j).

### **Case Studies**

#### *Case Study*

Sh. Susheel Verma, an active volunteer of Yajnopathy informed that Baba Ramdev claimed in India TV that two of his serious patients were treated from Yagayopathy. A girl who was in coma for around 3 months in Apollo hospital and spent thirty lakhs rupees, is normal now from Yajna treatment. In Second Case, a lady suffered with four heart attacks and EF of heart was around 15%, a valve was damaged, and she is fine now with Yajna inhaling and alternate therapy where the subject is kept near

the fumes and vapours coming out amidst the process. It reflects that the therapy is much useful and effective in inevitable diseases.

### *Experience of Yajna*

Ms. Reema performs Yajna for almost 2 years literally daily and she has complete faith in it and she feels divine power and whenever the oblations are given, she feels that as if she is feeding Gayatri maa, it is awesome. Yajna gives instant relief in anxiety, depression and really positive atmosphere in house. It gave confidence in all critical times of covid and procuring right stuff. She strongly feels the need that Yajna should be always followed by pranayam as that's when divine healing starts in you (Ritchie et al., 2019); (Saxena et al., 2018).

### **Yajna is the only way to fight against Bacteria**

Sars-Cov'19 like virus and diseases are impurities of atmosphere. The scientific Vedic sanitization is the only permanent solution to fight against it. To purify the whole atmosphere, Yajna is the most suitable and effective therapy at global level. Today, the demand of time is to make it spread and people aware about the scientific Yajna. As per the scientific experiments of Yajna, the effect of Yajna remains for one month and also the different bacteria of atmosphere are destroyed in the heat of the process (Romana, R.K. et al., 2020).

SarsCov effect vanishes at 55 degree Celsius while the temperature during Yajna reaches 400 to 1300 degree. For this scientific Yajna, 6 components are required

Yajna Kund, Scientific Yajna Samagri, Camphor, Mango wood, Cow milk and Cow clove.

To avoid such diseases and to be healthy, in all the flats, societies, offices, sanitization at least once in a month is necessary (Sharma, et al., 2019).

### **Gayatri Mantra Researches on Neuro Sciences**

Ms. Rajeshwari also revealed the fact that there are many neuro studies on effects of Gayatri mantra, on its vibrations, frequencies on our system and on any patients. Also there is study for the effects on which part of brain and nerves and its functions. It has been found that it works with both parts of your brain and then through whole system. The practitioners teach how to take universal energy through Gayatri mantra and also activate all glands individually with mantras to energize.

You can opt for Vangmay" NAADA-BRAHMA, SHABDA-BRAHMA" to go and explore in more details. <https://www.facebook.com/2039279573047305/videos/442158706694861>. Please see complete video for this research by Dr. Rama Jaysundarji of AIIMS (Sharma et al., 2019).

## **LITERATURE SURVEY**

### **Pollution Control through Yajna**

Speaker and writer Dr. Omprakash Pandey of Banswada, Rajasthan has stated in his article which has been published in Dainik Bhaskar Hindi newspaper through Bharatiya Vidyapeeth, B. Ed college campus, Banswada Rajasthan, India that Global warming has been a cause of crisis not only for India but for whole world. Every year the conferences, seminars and summits are held at global level to check it. If, Ebola, Nipah, Dengue, Chikungunya, swine flu are those viruses, which were not in existence earlier and one has never heard those names. These viruses are spreading only due to the reason because there are holes in Ozone layer of the earth, even larger the size of Antarctica continent and it is causing the radiation incoming to the earth (Singh et al., 2018).

The fevers and diseases are increasing and for new such issue, WHO even takes more than 10 years to do research on it and thousands of lives are sacrificed till then.

Dr. OP Pandey has been the ex cosmic scientist and scientific advisor of Ex-prime minister Sh. Atal Bihari Vajpayee. In his address to the national seminar on Indian knowledge tradition and

environment protection occurred in Bed College campus of BhartiyaGyanMandir, Banswada. Dr. Pandey stated this serious problem and also suggested its cure too. He told that the solution of aforesaid issue is only with our Indian Rishi Tradition and Vedic culture. He told that in Havan and Yajna, when we use mango wood, the ethylene oxide gas is emitted through it and also releases the copious gases which destroy the external radiation of atmosphere and saves us. He also informed that it has been tested in laboratory of Bengaluru that there is no pollution effect in the hundred yard perimeter of place of Yajna but now this rich tradition is at threat in our society.

Dr. Pandey also stated the scientific effects and benefits of tradition of lighting Diya at homes. He told that Diya with pure clove of cow is effective in closing the O<sub>3</sub> depletion. Usually ladies follow these rituals and unknowingly in their daily worship but they naturally help the health of the society and world.

Also in ancient times the disciples were taking knowledge below the banyan tree which has the reason that Magnesium Phosphorus is released through it and it helps in memory sharpening. He also stated that one should use the Peepal leaves on palm and consume the juice and it will never cause cough to individual in life. MarloMalesis helps in digestive system which is released from Bel Tree. Ashok tree helps in anxiety and depression to different subjects. Neem tree helps in skin diseases, depression and fever to patients.

Prof. Neeraj Sharma of LLSU that real knowledge releases from any worries and bad circumstances. There is difference between knowledge and education. Knowledge is actually resultant of education. Knowledge proves our existence. One can be center of much information but can not be knowledgeable. The real knowledge reflects in our behavior and culture. With only purified conduct, one can preserve the environment. The plantation and environmental protection can only restore the peace on earth.

## **Evidences of Gayatri Mantra in Modern Aspects of Science**

The doctors of AIIMS (All India Institute of Medical Sciences) and professors of IITs have discovered the intellect powers can be enhanced at eternity by continuous chanting of Gayatri Mantra for some time daily.

AIIMS is doing research continuously on effects of Gayatri Mantra. AIIMS doctors have experimented on the males of 25 to 30 years and did this experiment for 9 months. Then they analyzed this data for five years. In this, the changes occurring in prefrontal area of brains were studied. It was found that this area was responsible for making plans, finding solutions of problems and to be aware.

It was found in the studies of five weeks MRI (Medical Resonance Imaging) that those who chanted Gayatri Mantra, their brains were peaceful and cautious. In their primary research by AIIMS, it was found that chanting of Gayatri mantra enhances the hidden powers. It is sure possibility that in future, the science based secrets of Gayatri Mantra will be revealed in near future.

In This Research, the subjects were divided in 2 groups, in one group, people didn't chant and in other, subjects chanted Gayatri mantra for 108 times daily. The chemical named as GABA was found to be produced in such subjects who were responsible to produce happiness. When GABA is less in the body, it reflects as sleeplessness and chanting of Gayatri Mantra also ensures the increase of chemicals in brain parts responsible for increasing awareness and care.

Famous scientist of USA, Dr. Harvard Stanmeril experimented on different Mantra of world and checked their effects on human body. He found that the Gayatri Mantra from India is most effective and it generates the 1, 10, 000 vibrations per second sound energy waves and these responds positive effects on human body.

## EXPERIMENTAL SETUP AND METHDOLOGY

### Household Mass Yajna Experiment

US Gupta ji informed his experiences that the mass level of Yajna Rituals were conducted simultaneously at the same time and in parallel way on 30 October 2020 in 2400 households. Dr. Mamta Saxena and her team did the scientific experimentations and research analysis for which the graph has been provided.

This Yajna Analysis proves that there was a significant reduction in PM2 and PM 10 after Yajna and pollution was reduced in atmosphere.

The smoke of Yajna also diminishes the problem related to respiration, lungs and brain and respiratory systems works well through this ritual. The ill effect of different planets is also rectified by this process. The Bad effects on Kundali are also correcte through Yajna.

The diseases related to females, Vata, Pitta, and fever caused for long time are cured by Havan Samagri in Yajna through Bel, Shyonak, ginger, Jayfal, Nirgundi, Kateri, Giloy, Ilayachi, Shakkar, Yah, Honey, Semal, Sheesham.

In Making males powerful and related to male diseases, the Havan Samagri in Yajna like powder of white chandan, agar, tagar, Ashwagandha, Palash, camphor, Makhana, Daalchini, Guggul, Talispatra, Laung and Gola.

## RESULTS AND DISCUSSIONS

### Biowell Experiment

Dr. Mamta Saxena and her team conducted the series of the experiments that it can predict diseases much before its symptoms appear physically in the body. It is a sort of advance Kirlian photography camera. Authors performed an experiment on Yagyopathy using the Biowell device based on electrophotonic/Gas Discharge Visualization technique on seven subjects measuring their energies before and after Yagya.

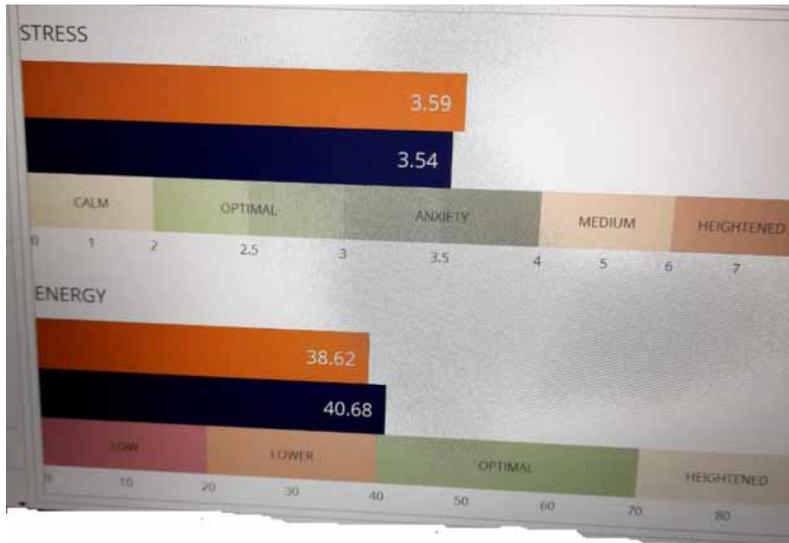
Results were interesting. Almost all the subjects showed an increase of overall energy ranging from 1 to 4 points by just performing havan once. It's based on Gas Discharge Visualization (GDV) Technology which is the Bio-well device principle. Which in brief is as below-

As we know all the organs are connected to the nerves bundle at the finger tips so, energy picture and its assessment of various organs and the whole physical body and emotional and mental health can be judged from these.

It's was found amazing, exceptional experiment that means it senses the aura of a human body, where the disease first appears before entering the human body. It would be a great beneficial for mental patients.

It was stated that it does not measure the aura directly but you can say sort of proxy, it is measuring the energy emitted through pores of hand fingers and then it is calculated by the various parameters.

Figure 8. Biowell experiment on a subject and measurement of Energy Level



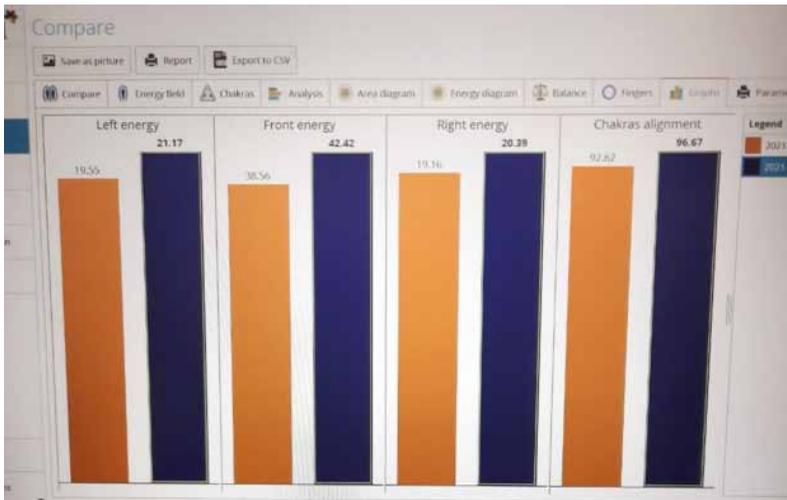
Analysis of Shri Abhishek Kumar's scan depicts that his anxiety level dropped from 3.59 to 3.54 and Energy level increased from 38.62 to 40.68 just by doing Yagya once (pl. refer Fig. 8).

Figure 9. Display of Overall Balance through Aurameter



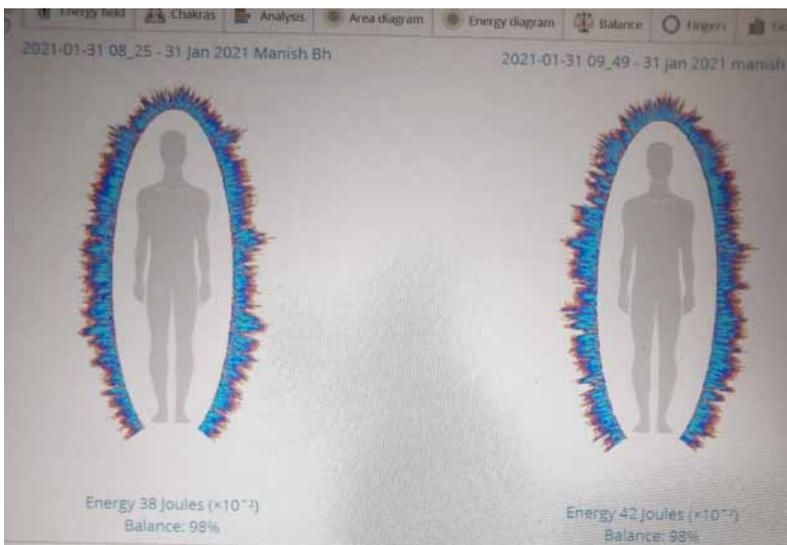
His over all balance improved from 98.19 to 99.17 which are very good. Further the organ disbalance was reduced from 2.27 to 1.24 which is also very good (Pl. refer Fig. 9). This is the stepping stone to leap miles in yagyopathy.

Figure 10. Comparative Energy visualizations of different Body Components from Various Angles



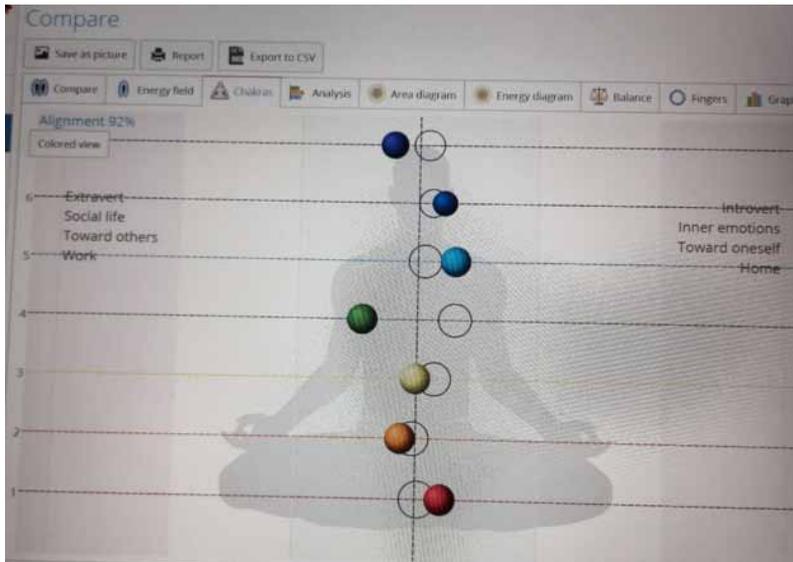
Comparative Energy in different aspects of body left, front and right side and Chakras exact alignment before and after Yajna. Yellow column is before and dark blue color is after Yajna state (Pl. refer Fig. 10).

Figure 11. Change in overall Energy



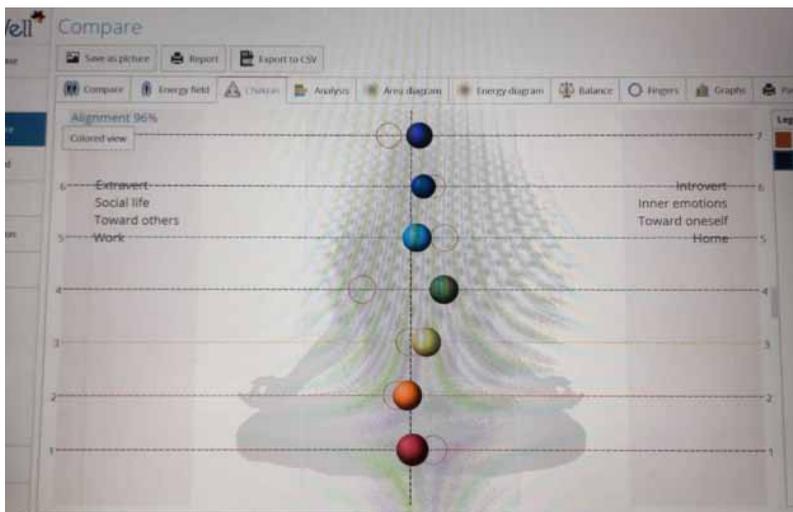
Analysis of energy and balance of Manish Kumar. Overall energy increased from 38joules $\times 10^{-2}$  to 42 joules  $\times 10^{-2}$   
Although balance remained 98% (Pl. refers Fig. 11).

Figure 12. Chakra Energy Measurements



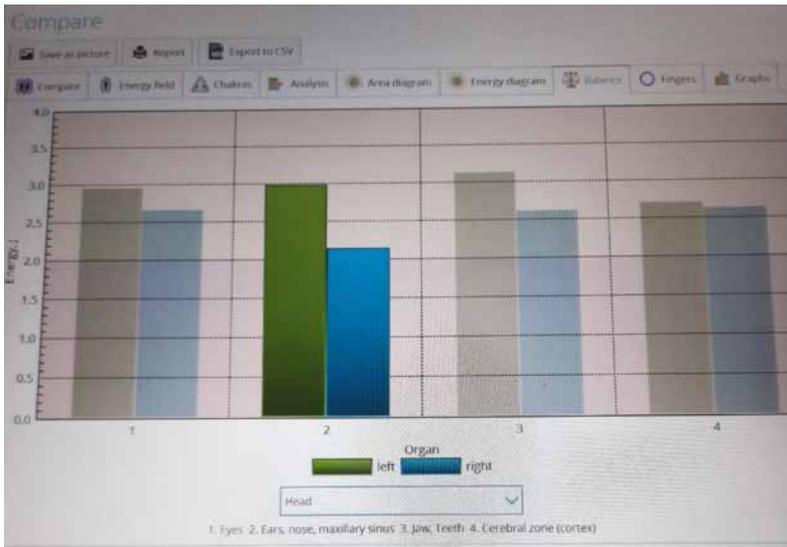
Chakras alignment was 92% before Yagya(pl. refer Fig. 12).

Figure 13. Improved Chakra Energy



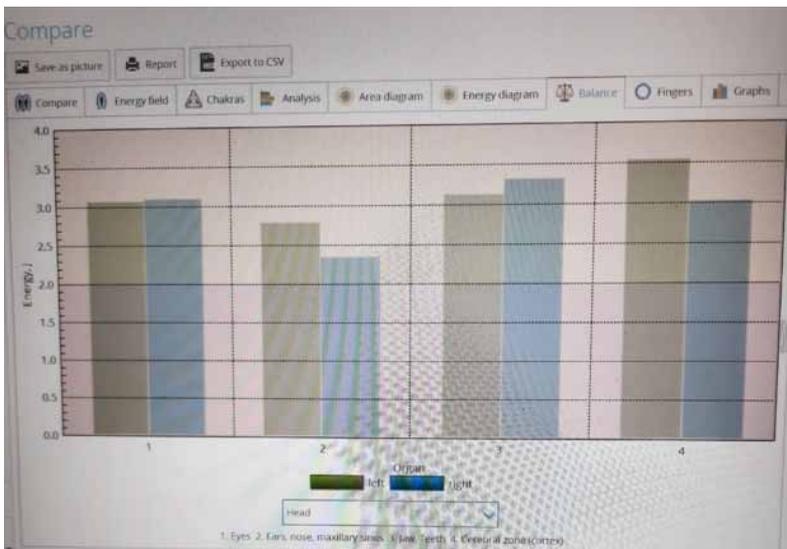
It has been improved to 96% after yagya which is excellent, now we can see results with proof (Pl. refer Fig. 13).

Figure 14. Energy Distribution in different body parts



Energy balance of 1. Eyes, 2. Ears, nose, maxillary sinus 3. Jaw, teeth 4. Cerebral zone in left and right organs before Yajna. There significant difference in ears, nose left and right energy levels (Pl. refer Fig. 14).

Figure 15. Energy Distribution after the Yajna



After yajna it has improved significantly (PL. refer Fig. 15).

## NOVELTY

The presented manuscript depicts the novel way of measurement of energy and aura pre and post Yajna rituals. It is a new approach to measure quantitatively the effects of Indian Vedic Science depicted in its scriptures.

The manuscript also elaborates in detail the science, process, significance and effects of Gayatri mantra and Yajna on human body and whole human race can be benefitted after adopting it in their daily life.

The Article strongly advocates the inclusion of divine secrets of Indian Vedic wisdom to face the threats of modern situations against the human life on the planet Earth.

## FUTURE RESEARCH DIRECTIONS

In Sanskrit, the basic meaning of "Gou" stands for Gunasutra (DNA). Many people perform Agnihotra in Germany, Poland, and in Russia. The numerous experiments through Yajna are by active researchers are on Physical health, Mental well being and Spiritual well being. Health is something which is essentially required by all of us so we can do researches on health together. Many more researches are possible and needed in these directions. The need is to float ideas/ topics to be taken up as experiment.

## CONCLUSION

Usually Mango woods are being used in Havan ceremony which produces the pharmonic aldehyde gases after burning. It destroys the bacteria of the atmosphere and purifies the air. The negative energy is also omitted after chanting of Mantra in Yajna Process. According to Scientist named as Tauteek, the gases generated during fumigation at Havan period enters in the subject's body and destroys the bacteria like typhoid which are fatal for human life. Havan process provides the gift of healthy and disease free life but also empowers the religious faiths in individual.

Havan Samagri contains the mango woods, pure Clove, Til, Barley, honey, camphor, agar, tagar, Guggul, Laung, Akshat, coconut, sugar etc. along with medicinal herbs are used for oblations and they are responsible to kill the bacteria which are fatal and very tiny and of atomic structure.

The vapor, smoke and heat of Yajna also omits the dreariness, anxiety and maintains the inner-peace.

The above experiment reveals the fact that the bio energy was significantly increased after the Yajna Process and the vital power, reduction in energy imbalance and energy of Chakras were significantly observed through Yajna experiments.

## REFERENCES

- Apte, K., & Salvi, S. (2016). *Household air pollution and its effects on health*. F1000Research. 10.12688/f1000research.7552.1
- Chauhan, P.(Sept.2015). An overview of air pollution in India at present scenario. *International Journal Of Research Graanthalayah*, 3(2350-0530), 1-4.
- Cortés, U., Sánchez-Marrè, M., & Ceccaroni, L. (2000). Artificial Intelligence and Environmental Decision Support Systems. *Applied Intelligence*, 13(1), 77-91. link.springer.com
- Dev, M.(2017). Indian culture and lifestyle for environment conservation:A path towards Sustainable development. *International Journal On Emerging Technologies*.
- Devender, K. (2019). Air pollution mitigation through yajna: Vedic and modern views. *Environment Conservation Journal*, 20(3), 57–60. <https://environcj.in/volume-20-issue-3-20308/2019>. doi:10.36953/ECJ.2019.20308
- Ghorani-Azam, A., Riahi-Zanjani, B., & Balali-Mood, M. (2016). Effects of air pollution on human health and practical measures for prevention in Iran. *Journal of Research in Medical Sciences*, 2016(1), 65. <http://www.jmsjournal.net/text.asp?2016/21/1/65/189646>. doi:10.4103/1735-1995.189646 PMID:27904610
- Ghosh, D., & Parida, P. (2015). Air Pollution And India:CurrentScenario. *International Journal of Current Research*, 7(11), 22194–22196.
- Gupta S. (2012). *Hawan for cleansing the Environment*. Speaking Tree. <https://www.speakingtree.in>blog>
- Karatzas, K. (2010). Artificial Intelligence Applications in the Atmospheric Environment: Status and Future Trends. *Environmental engineering and management journal*, 9, 171-180. .10.30638/eeemj.2010.026
- Limaye,V.G. (2019).Agnihotra (The Everyday Homa) and production of Brassinosteroids:A scientific validation. *international journal of modern engineering research*.volume, 8(2), 41-5.
- McCarron, G. (2018). Air Pollution and human health hazards: a compilation of air toxins acknowledged by the gas industry in Queensland's Darling Downs. *International Journal Of Environmental Studies*, 75(1), 171-185.
- Nautiyal, C. S., Chauhan, P. S., & Nene, Y. L. (2007). Medicine smoke reduces air born bacteria. *J Ethnopharmacol*, 114(3), 446-51.
- Oprea, M., & Iliadis, L. (2011). An Artificial Intelligence-Based Environment Quality Analysis System. In L. Iliadis & C. Jayne (Eds.), *IFIP Advances in Information and Communication Technology* (Vol. 363). Springer. doi:10.1007/978-3-642-23957-1\_55
- Rastogi, R., Chaturvedi, D. K., Satya, S., Arora, N., Sirohi, H., Singh, M., Verma, P., & Singh, V. (2018b). Which One is Best: Electromyography Biofeedback Efficacy Analysis on Audio, Visual and Audio-Visual Modes for Chronic TTH on Different Characteristics. In *The proceedings of International Conference on Computational Intelligence &IoT (ICCIoT)*. ELSEVIER.
- Rastogi, R., Chaturvedi, D. K., Arora, N., Trivedi, P., & Singh, P. (2017). Role and efficacy of Positive Thinking on Stress Management and Creative Problem Solving for Adolescents. *International Journal of Computational Intelligence Biotechnology and Biochemical Engineering By Mantech Publications*, 2(2), 1–27.
- Rastogi, R., Chaturvedi, D. K., Arora, N., Trivedi, P., Singh, P., & Vyas, P. (14th – 16 March, 2018e). Study on Efficacy of Electromyography and Electroencephalography Biofeedback with Mindful Meditation on Mental health of Youths. *Proceedings of the 12th INDIACom*, (pp 84-89).
- Rastogi, R., Chaturvedi, D. K., & Satya, S. Arora, Gupta, M., Verma, H., Singhal, P., Singh, A.(2019e). Comparative Study of Trends Observed During Different Medications by Subjects under EMG & GSR Biofeedback. *IJITEE*, 8(6s), 748-756. <https://www.ijitee.org/download/volume-8-issue-6S/>
- Rastogi, R., Chaturvedi, D. K., Satya, S., Arora, N., Gupta, M., Saini, H., Mahelyan, K. S., & Verma, H. (2019g). Comparative Efficacy Analysis of Electromyography and Galvanic Skin Resistance Biofeedback on Audio Mode for Chronic TTH on Various Indicators. *International Journal of Computational Intelligence & IoT*, 1(1), pp. 18-24. <https://ssrn.com/abstract=3354371>

- Rastogi, R., Chaturvedi, D. K., Satya, S., Arora, N., Gupta, M., Singhal, P., & Gulati, M. (2019f). Statistical Analysis of Exponential and Polynomial Models of EMG & GSR Biofeedback for Correlation between Subjects' Medications Movement & Medication Scores. *IJITEE*, 8(6S), 625-635. <https://www.ijitee.org/download/volume-8-issue-6S/>
- Rastogi, R., Chaturvedi, D. K., Satya, S., Arora, N., Gupta, M., Sirohi, H., Singh, M., Verma, P., & Singh, V. (March 18, 2019h). Which one is Best: Electromyography Biofeedback, Efficacy Analysis on Audio, Visual and Audio-Visual Modes for Chronic TTH on Different Characteristics. *International Journal of Computational Intelligence & IoT*, 1(1), pp. 25-31: <https://ssrn.com/abstract=3354375>
- Rastogi, R., Chaturvedi, D. K., Satya, S., Arora, N., Gupta, M., Yadav, V., Chauhan, S., & Sharma, P. (2019i). Chronic TTH Analysis by EMG & GSR Biofeedback on Various Modes and Various Medical Symptoms Using IoT. In series: Advances in ubiquitous sensing applications for healthcare, Book-Big Data Analytics for Intelligent Healthcare Management, pp. 87-149. Academic Press. doi:10.1016/B978-0-12-818146-1.00005-2
- Rastogi, R., Chaturvedi, D. K., Satya, S., Arora, N., Saini, H., Verma, H., & Mehlyan, K. (2018c). Comparative Efficacy Analysis of Electromyography and Galvanic Skin Resistance Biofeedback on Audio Mode for Chronic TTH on Various Indicators. *In the proceedings of International Conference on Computational Intelligence & IoT (ICCIoT)*. ELSEVIER.
- Rastogi, R., Chaturvedi, D. K., Satya, S., Arora, N., Saini, H., Verma, H., Mehlyan, K., & Varshney, Y. (2018f). Statistical Analysis of EMG and GSR Therapy on Visual Mode and SF-36 Scores for Chronic TTH. *Proceedings of international Conference on 5th IEEE Uttar Pradesh Section International Conference, MMMUT Gorakhpur*. DOI: doi:10.1109/UPCON.2018.8596851
- Rastogi, R., Chaturvedi, D. K., Satya, S., Arora, N., Singh, P., & Vyas, P. (14th – 16 March, 2018d). Statistical Analysis for Effect of Positive Thinking on Stress Management and Creative Problem Solving for Adolescents. *Proceedings of the 12thINDIACom; INDIACom-2018*; pp 245-251.
- Rastogi, R., Chaturvedi, D.K., Satya, S., Arora, N., Yadav, V., Yadav, V., Sharma, P., Chauhan, S.(2019d). Statistical Analysis of EMG & GSR Biofeedback Efficacy on Different Modes for Chronic TTH on Various Indicators. *Int. J. Advanced Intelligence Paradigms*. .10.1504/IJAIP.2019.10021825
- Rastogi, R., Chaturvedi, D. K., Sharma, P., Yadav, V., Chauhan, S., Gulati, M., Gupta, M., & Singhal, P. (2019j). Statistical Resultant Analysis of Psychosomatic Survey on Various Human Personality Indicators: Statistical Survey to Map Stress and Mental Health. In S. Sisman-Ugur, & G. Kurubacak (Eds.), *Handbook of Research on Learning in the Age of Transhumanism* (pp. 363-383). IGI Global. doi:10.4018/978-1-5225-8431-5.ch022
- Rastogi, R., Chaturvedi, D. K., Sharma, S., Bansal, A., & Agrawal, A. (2018a). Audio Visual EMG & GSR Biofeedback Analysis for Effect of Spiritual Techniques on Human Behaviour and Psychic Challenges. In *Proceedings of the 12th INDIACom*, pp 252-258.
- Rastogi, R., Saxena, M., Gupta, U. S., Sharma, S., Chaturvedi, D. K., Singhal, P., Gupta, M., Garg, P., Gupta, M., & Maheshwari, M. (13-14 Dec. 2019b).Yajna and Mantra Therapy Applications on Diabetic Subjects: Computational Intelligence Based Experimental Approach. *Proceedings of The 2nd edition of International Conference on Industry Interactive Innovations in Science, Engineering and Technology (I3SET2K19)*. JIS College of Engineering. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3515800](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3515800)
- Rastogi, R., Saxena, M., Sharma, S. K., Muralidharan, S., Beriwal, V. K., Singhal, P., Rastogi, M., & Shrivastava, R. (2019a). *Evaluation Of Efficacy Of Yagya Therapy On T2- Diabetes Mellitus Patients*. The 2nd edition of International Conference on Industry Interactive Innovations in Science, Engineering and Technology (I3SET2K19). Kalyani, West Bengal. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3514326](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3514326)
- Rastogi, R., Saxena, M., Sharma, S. K., Murlidharan, S., Berival, V. K., Jaiswal, D., Sharma, A., & Mishra, A. (13-14 Dec. 2019c). Statistical Analysis on Efficacy of Yagya Therapy for Type-2 Diabetic Mellitus Patients through Various Parameters. In: Das A., Nayak J., Naik B., Dutta S., Pelusi D. (eds) *On Computational Intelligence in Pattern Recognition (CIPR)*, (pp. 181-197). Advancesw in Intelligent Systems and Computing.. doi:10.1007/978-981-15-2449-3\_15
- RitchieH.RoserM.(2019).*Outdoor Air Pollution*. OurWorldInData. <https://ourworldindata.org/outdoor-air-pollution> [Online Resource]

Romana, R. K., Sharma, A., Gupta, V., Kaur, R., Kumar, S., & Bansal, P. (2020). Was Hawan Designed to Fight Anxiety-Scientific Evidence? *Journal of Religion and Health*, 59(1). NLM (Medline). 10.1007/s10943-016-0345-1

Saxena, M., Kumar, B., & Matharu, S. (2018). Impact of Yagya on Particulate Matters. *Interdisciplinary Journal of Yagya Research*, 1, 01-08. . 10.36018/ijyr.v1i1.5

Sharma P., Ayub S., Tripathi C. (2019). AGNIHOTRA-A Non Conventional Solution to Air Pollution. *International Journal of Innovative Research in Science & Engineering*, 8(12).

Sharma, P. K., Ayub, S., Tripathi, C. N., & Anjavi, S. (2019). A Non Conventional Solution to Air Pollution. *International Journal of Innovative Research in Science & Engineering*, 2347-3207. <https://m.hindustantimes.com>.

Singh, R., & Singh, S. (2018). Gayatri Mantra Chanting Helps Generate Higher Antimicrobial Activity of Yagya's Smoke. *Interdisciplinary Journal of Yagya Research*, 1, 09-14. <http://ijyr.dsvv.ac.in/index.php/ijyr/article/view/610.36018/ijyr.v1i1.6>

## ADDITIONAL READING

Acharya, S. S. (2001). *The Integrated Science Of Yagna*. IIT Bombay.

Adee, S. (2019). Our Bodies are full of electricity that could help us fight cancer. *Quartz*. <https://qz.com/1630159/bioelectricity-may-be-key-to-fighting-cancer/AND> <https://onlinelibrary.wiley.com/doi/abs/10.1111/jtsb.12101>

Bansal, P., Kaur, R., Gupta, V., Kumar, S., & Kaur, R.P.(31 Dec. 2015).Is There Any Scientific Basis of *Hawan* to be used in Epilepsy-Prevention/Cure? *Journal of Epilepsy Research*, 5(2), 33–45. . 10.14581/jer.15009

Buelteman R. (2012), Shocks Flowers With 80,000 Volts Of Electricity, *BSIII*, 4.

Dudeja, J. (2017). *Scientific Analysis of Mantra-Based Meditation and its Beneficial Effects: An Overview*. ResearchGate.

Ferrera, L. A. (2006). *Focus on Body Mass Index And Health Research*. Nova.

Grimnes S. & Martinsen G. (2015), Bioimpedance and Bioelectricity Basics. *ResearchGate*, (3).

Grujin, J. (2016). *What is Kirlian Photography? Aura Photography Revealed*. Light Stalking.

Haider, P. (2020). 14 Proven Scientific Health Benefits of Chanting. *Sicana Spirit*. <https://blog.sivanaspirit.com/sp-gn-scientific-benefits-chanting/>

LaMeaux, E. (2022). How Does Meditation Affect the Body? *Gaiam*. [gaiam.com/blogs/discover/how-does-meditation-affect-the-body](https://gaiam.com/blogs/discover/how-does-meditation-affect-the-body)

Mills, A. (2009, June 29). Kirlian Photography. *History of Photography*, 33(3), 278–287. doi:10.1080/03087290802582988

Prabhat, S. (2022). Difference Between Ying and Yang. *Difference Between*.

Sia, P. D. (2016). *Mindfulness: Consciousness and Quantum Physics*. University of Padova.

Singh, A. (2015). *How Mantras Work*. Do You.-<https://www.doyou.com/how-mantras-work-39322/>

Smith, J. A., Suttie, J., Jazaieri, H., & Newman, K. M. (2018). *Things We Know About the Science of Meditation*. Mindfulness Research.

Sui, C. K. (2012). *Pranic Energy: Feel Divinity All Around You*. IJITEE.

Sui, C. K. (2022). The Ancient Science and Art of Pranic Healing & Advanced Pranic Healing. *Encyclopedia.com*. <https://www.encyclopedia.com/medicine/encyclopedias-almanacs-transcripts-and-maps/bioelectricity>

VarmanH. (2014), five important levels of the human consciousness,*BSIII*).

Wikipedia. (2022). *Chakra*. Wikipedia.

Williams, M. (2006). *Nutrition for Health, Fitness and Sport*, 8th Ed. McGraw-Hill. .

Wisneski, L. A. (2010). *The Scientific Basis of Integrative Medicine*, IJITEE. Chhabra G. (2015), *Human Aura: a new vedic approach in it*, University of Petroleum and Energy Studies. Chig T. T. (1998), *What is Yin Yang? Always Dream Even When Awake*. Taoist Articles.

World Pranic Healing Foundation. (2022). Pranic Energy: Feel Divinity All Around You. *World Pranic Healing*. <https://www.worldpranichealing.com/en/energy/what-is-pranic-energy/AND>

## APPENDIX

### KEY TERMS AND DEFINITIONS

**Yajna**-Yajna literally means “sacrifice, devotion, worship, offering”, and refers in Hinduism to any ritual done in front of a sacred fire, often with mantras. Yajna has been a Vedic tradition, described in a layer of Vedic literature called Brahmanas, as well as Yajurveda. The tradition has evolved from offering oblations and libations into sacred fire to symbolic offerings in the presence of sacred fire (Agni).

**Mantra**-A mantra is a sacred utterance, a numinous sound, a syllable, word or phonemes, or group of words in Sanskrit believed by practitioners to have psychological and/or spiritual powers. Some mantras have a syntactic structure and literal meaning, while others do not.

**Jap**-Jap is the meditative repetition of a mantra or a divine name. It is a practice found in Hinduism, Jainism, Sikhism, Buddhism, and Shintoism. The mantra or name may be spoken softly, enough for the practitioner to hear it, or it may be spoken within the reciter’s mind. Jap may be performed while sitting in a meditation posture, while performing other activities, or as part of formal worship in group settings.

**Ayurveda**-Ayurveda system of medicine with historical roots in the Indian subcontinent. Globalized and modernized practices derived from Ayurveda traditions are a type of alternative medicine. In countries beyond India, Ayurvedic therapies and practices have been integrated in general wellness applications and in some cases in medical use. The main classical Ayurveda texts begin with accounts of the transmission of medical knowledge from the Gods to sages, and then to human physicians. In SushrutaSamhita (Sushruta’s Compendium), Sushruta wrote that Dhanvantari, Hindu god of Ayurveda.

**Sanskrit**-Sanskrit is an Indo-Aryan language of the ancient Indian subcontinent with a 3,500-year history. It is the primary liturgical language of Hinduism and the predominant language of most works of Hindu philosophy as well as some of the principal texts of Buddhism and Jainism. Sanskrit, in its variants and numerous dialects, was the lingua franca of ancient and medieval India. In the early 1st millennium AD, along with Buddhism and Hinduism, Sanskrit migrated to Southeast Asia, parts of East Asia and Central Asia, emerging as a language of high culture and of local ruling elites in these regions.

**Vedic**-The Vedic period or Vedic age (c. 1500 – c. 500 BCE), is the period in the history of the northern Indian subcontinent between the end of the urban Indus Valley Civilization and a second urbanization which began in the central Indo-Gangetic Plain c. 600 BCE. It gets its name from the Vedas, which are liturgical texts containing details of life during this period that have been interpreted to be historical and constitute the primary sources for understanding the period. These documents, alongside the corresponding archaeological record, allow for the evolution of the Vedic culture to be traced and inferred.

**Energy Measurements**-There are various kind of units used to measure the quantity of energy sources. The Standard unit of Energy is known to be Joule(J). Also, other mostly used energy unit is kilowatt /hour (kWh) which is basically used in electricity bills. Large measurements may also go

up to terawatt/hour (TWh) or also said as billion kW/h. Other units used for measuring heat include BTU (British Thermal Unit), kilogram calorie (kg-cal) and most commonly Tonne of Oil Equivalent. Actually it represents the quantity of heat which can be obtained from a tonne of oil. Energy is also measured in some other units such as British Thermal Unit(BTU), calorie, therm, etc which varies generally according to their area of use.

**PM level-Particulates** – also known as atmospheric aerosol particles, atmospheric particulate matter, particulate matter (PM), or suspended particulate matter (SPM) – are microscopic particles of solid or liquid matter suspended in the air. The term aerosol commonly refers to the particulate/air mixture, as opposed to the particulate matter alone. Sources of particulate matter can be natural or anthropogenic. They have impacts on climate and precipitation that adversely affect human health, in ways additional to direct inhalation. Types of atmospheric particles include suspended particulate matter, thoracic and respirable particles, inhalable coarse particles, designated PM<sub>10</sub>, which are coarse particles with a diameter of 10 micrometers (µm) or less, fine particles, designated PM<sub>2.5</sub>, with a diameter of 2.5 µm or less, ultrafine particles, and soot.

**Emission of Gases-**A greenhouse gas (sometimes abbreviated GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range. Greenhouse gases cause the greenhouse effect on planets. The primary greenhouse gases in Earth's atmosphere are water vapor (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and ozone (O<sub>3</sub>). Without greenhouse gases, the average temperature of Earth's surface would be about -18 °C (0 °F), rather than the present average of 15 °C (59 °F). The atmospheres of Venus, Mars and Titan also contain greenhouse gases.

**Machine Learning-** Machine learning (ML) is the study of computer algorithms that improve automatically through experience. It is seen as a subset of artificial intelligence. Machine learning algorithms build a mathematical model based on sample data, known as "training data", in order to make predictions or decisions without being explicitly programmed to do so. Machine learning algorithms are used in a wide variety of applications, such as email filtering and computer vision, where it is difficult or infeasible to develop conventional algorithms to perform the needed tasks.

**Sensor and IoT-**The Internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. Sensors are devices that detect and respond to changes in an environment. Inputs can come from a variety of sources such as light, temperature, motion and pressure. Sensors output valuable information and if they are connected to a network, they can share data with other connected devices and management systems. They are an integral part of the Internet of Things (IoT). There are many types of IoT sensors and an even greater number of applications and use cases.

**Pollution-**Pollution is the introduction of contaminants into the natural environment that cause adverse change. Pollution can take the form of chemical substances or energy, such as noise, heat or light. Pollutants, the components of pollution, can be either foreign substances/energies or naturally occurring contaminants. Pollution is often classed as point source or nonpoint source pollution. In 2015, pollution killed 9 million people in the world. The major kinds of pollution, usually classified by environment, are air pollution, water pollution, and land pollution. Modern society is also concerned about specific types of pollutants, such as noise pollution, light pollution, and plastic pollution. Pollution of all kinds can have negative effects on the environment and wildlife and often impacts human health and well-being.

Annex

Figure 16. Permission Letter by Jabalpur Gayatri Centre for Scientific Analysis of Yajna Ash

**श्री राम प्रभात फेरी प्रज्ञा मंदिर, सुंदरपुर**  
महिला स्वास्थ्यसेवा इकाई, सुंदरपुर, जबलपुर ( म.प्र. ), संपर्क सूत्र - 9424959299

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क्रमांक - 45दिनांक - 02 जुलाई, 2020

श्रीमान्/अथवा प्रशासित/ताक एवं विभागाध्यक्ष महोदय,  
भारतीय भूवैज्ञानिक सर्वेक्षण,  
राजिबजी रोड,  
जबलपुर।

(प्रधानाचार्यन : विदेशक, राजनीकी सहायता एवं परामर्श सेवा प्रभाग)

विषय :- देही गाय के गोबर से बने कण्डे एवं विशेष औषधियों से किंचे गए यज्ञ की भरत का औषधीय उपयोग हेतु परीक्षण करवाने हेतु।

साधनर,

उपरोक्त विषयसंबंधित विवेचन है कि भारतीय संस्कृति अग्नि संस्कृति, देव संस्कृति रही है। प्राचीन समय से ही यज्ञकण्डे अग्नि परवरत के अंतर्गत यज्ञ का वैज्ञानिक एवं अध्यात्मिक दृष्टि से ता विवेचन करवा रहा ही है साथ ही मानव विभिन्न विज्ञान में भी इसका विवेचन करवा रहा है। इस ही में आयुष्य चिकित्सा, भारत सरकार द्वारा भी इस विषय को सज्ञान में लेकर यज्ञ की भरत का सांख्यिक दृष्टि से विवेचन करा गया है। विभिन्न वैज्ञानिक दृष्टि से यज्ञ की भरत का विभिन्न औषधियों का विज्ञान में विवेचन करवा है।

बड़े ही हर्ष का विषय है कि भारतीय भूवैज्ञानिक सर्वेक्षण भारत सरकार का एक वैज्ञानिक एवं पारदर्शी संस्थान है। इस लोक कल्याण के काम हेतु आपकी प्रयोगशाला से देही गाय के गोबर से बने कण्डे एवं विशेष औषधियों यज्ञ की भरत में मौजूद विभिन्न तत्वों की मात्रा का परीक्षण करवाने के इच्छुक है :-

क्र.	तत्व रूप	औंससाइट रूप
1.	सिलिकॉन Si	सिलिकॉन डाइऑक्साइड - SiO2
2.	एल्यूमीनियम Al	एल्यूमीनियम ऑक्साइड - Al2O3
3.	लोहा Fe	आयरन ऑक्साइड - Fe2O3
4.	मैंगीज Mn	मैंगीशियम ऑक्साइड - MnO
5.	सोडियम Na	सोडियम ऑक्साइड - Na2O
6.	पोटेशियम K	पोटेशियम ऑक्साइड - K2O
7.	मैंगीशियम Mg	मैंगीशियम ऑक्साइड - MgO
8.	कैल्शियम Ca	कैल्शियम ऑक्साइड - CaO
9.	टाइटेनियम ट्राइऑक्साइड - TiO2	
10.	फास्फोरस P	फास्फोरस ट्राइऑक्साइड - P2O5
11.	बेरियम Ba	बेरियम ऑक्साइड - BaO
12.	गैलियम Ga	गैलियम ऑक्साइड - Ga2O3
13.	रुबीडीयम Rb	रुबीडियम ऑक्साइड
14.	क्रोमियम Cr	क्रोमियम ट्राइऑक्साइड
15.	निकल Ni	निकल ऑक्साइड
16.	कोबाल्ट Co	कोबाल्ट ऑक्साइड
17.	नियोबियम Nb	नियोबियम पेंटाऑक्साइड
18.	तांबा Cu	तांबा ऑक्साइड - CuO
19.	लेड Pb	लेड ऑक्साइड - PbO
20.	ज़िंक ऑक्साइड Zr	ज़िंक ऑक्साइड - ZnO
21.	ज़िंक Zn	ज़िंक ऑक्साइड - ZnO
22.	वैनेडियम V	वैनेडियम ऑक्साइड - V2O5
23.	स्कैंडियम Sc	स्कैंडियम ऑक्साइड
24.	थोरियम Th	थोरियम ट्राइऑक्साइड
25.	स्ट्रोंशियम Sr	स्ट्रोंशियम ऑक्साइड - SrO
26.	यूट्रियम Y	यूट्रियम ऑक्साइड

यज्ञ भरत को संभवतः आपका उपयोग करवा दिया जाएगा। आपसे विवेचन है कि दृष्टवा यज्ञ प्रदान का मत कर कि उचित परीक्षण कार्य का शुभ देय राशि कितनी होगी। प्रस्ताव का चयन भी प्रदान का मत करें। यदि आपके विभाग में NEFT/RTGS चयन से प्रस्ताव की सुविधा है तो दृष्टवा करवा।

जैसा कि आपके विदित है कि उचित परीक्षण कार्य लोककल्याण के उद्देश्य से है, जहाँ उचित दूत प्रदान कर वा नियुक्त रूप से यज्ञ कार्य संचालित हो सके तो हमें प्रत्यक्षता होगी, आपके आभारी रहेंगे।



अमरशक्ति ए. ए.  
मुख्य अधिकारी एवं प्रमुख अधिकारी  
भारतीय भूवैज्ञानिक सर्वेक्षण,  
राजिबजी रोड, जबलपुर-482001

Figure 17. Analysis by Geological Survey of India on Yajna Ash



भारत सरकार / GOVERNMENT OF INDIA  
भारतीय भूवैज्ञानिक सर्वेक्षण / GEOLOGICAL SURVEY OF INDIA  
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Phone: 0141-2710753  
Email: dir.chem.wr@gsi.gov.in

**CHEMICAL ANALYSIS REPORT**

1. Sender's Name : Director(G) & TCS, GSI, WR, Jaipur  
2. Sender's Letter No. : 611/13/LAB/TCS/WR/2 dt. 07-08-2020  
3. Nature of Sample: Commercial (Powdered Sample)  
4. Name of the Party: Shri Ram Prabhat Pheri Pragya Mandir, Sundarapur, Mahila Swavalambi Unit, Sundarapur, Jabalpur (M.P.) Contact No.: 9424959299  
5. Nature of Test desired by the party: Major, Minor and Trace Elements (WD-XRF)

5. Preliminary Registration No.: X-6992 (1-01)  
6. Date of Registration: 10/08/2020  
7. Method of Analysis: GSMCL/JPR/SOP/02/XRF/2A Issue No. 2  
8. Instrument used: WD XRF Zetium PanAnalytical  
9. Working group: Dr. C.D.Misra, S.K.Roymahury, Sanjay Kumar, Pankaj Koli, Sr. Chemists, V.K.Jangid, Chemists  
10. Month of Analysis: August, 2020

Seq.	Sample No/ Ref No	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)	MnO (%)	MgO (%)	CaO (%)	Na <sub>2</sub> O (%)	K <sub>2</sub> O (%)	TiO <sub>2</sub> (%)	P <sub>2</sub> O <sub>5</sub> (%)	Ba (ppm)	Co (ppm)	Ni (ppm)
1	X-6992-1	52.07	3.21	2.47	0.11	5.03	7.07	1.39	8.56	0.33	4.89	628	8	14

Seq.	Sample No/ Ref No	Cr (ppm)	Cu (ppm)	Ga (ppm)	Nb (ppm)	Pb (ppm)	Rb (ppm)	Sc (ppm)	Sr (ppm)	Th (ppm)	V (ppm)	Y (ppm)	Zn (ppm)	Zr (ppm)
1	X-6992-1	52	58	8	9	14	66	6	204	<4	29	6	107	108

This report related to particular sample(s) tested under stated condition.Result pertains to the sample(s) only.  
Sample(s) not drawn by us.Any discrepancy in this report should be brought to notice within 15 days from the date of certificate.  
\*Value is semi-quantitative as standard is not available

Reported by:

Reviewed by:

Authorised Signatory

Dr. Vinod Kumar Jangid  
Chemist

Dr. C.D.Misra  
Sr. Chemist

D.K.Varshney  
Superintending Chemist & OIC

Rohit Rastogi received his B.E. degree in Computer Science and Engineering from C.C.S.Univ. Meerut in 2003, the M.E. degree in Computer Science from NITTTR-Chandigarh (National Institute of Technical Teachers Training and Research-affiliated to MHRD, Govt. of India), Punjab Univ. Chandigarh in 2010. Currently he is pursuing his Ph.D. in computer science from Dayalbagh Educational Institute, Agra under renowned professor of Electrical Engineering Dr. D.K. Chaturvedi in area of spiritual consciousness. Dr. Santosh Satya of IIT-Delhi and dr. Navneet Arora of IIT-Roorkee have happily consented him to co supervise. He is also working presently with Dr. Piyush Trivedi of DSVV Hardwar, India in center of Scientific spirituality. He is a Associate Professor of CSE Dept. in ABES Engineering. College, Ghaziabad (U.P.-India), affiliated to Dr. A.P. J. Abdul Kalam Technical Univ. Lucknow (earlier Uttar Pradesh Tech. University).Also, He is preparing some interesting algorithms on Swarm Intelligence approaches like PSO, ACO and BCO etc.Rohit Rastogi is involved actively with Vichaar Krnati Abhiyaan and strongly believe that transformation starts within self.

D.K Chaturvedi is working in Dept. of Elect. Engg, Faculty of Engg, D.E.I., Dayalbagh, Agra since 1989. Presently he is Professor. He did his B.E. from Govt. Engineering College Ujjain, M.P. then he did his M.Tech. and Ph.D. from D.E.I. Dayalbagh. He is gold medalist and received Young Scientists Fellowship from DST, Government of India in 2001-2002 for post doctoral research at Univ. of Calgary, Canada. Also, he had research collaboration with different organizations at national and international level. He is the Fellow - The Institution of Engineers (India), Fellow - Aeronautical Society of India, Fellow - IETE, Sr. Member IEEE, USA and Member of many National and International professional bodies such as IET, U.K., ISTE, Delhi, ISCE, Roorkee, IIE, Mumbai and SSI etc. The IEE, U.K. recognized his work in the area of Power System Stabilizer and awarded honorary membership to him in 2006. He did many R&D projects of MHRD, UGC, AICTE etc. and consultancy projects of DRDO. He contributed in the national mission of ICT of Govt. of India as Virtual Power Lab Developer. He has guided 10 Ph.Ds., 65 M.Tech. Dissertations and published more than 300 International and National Papers. He has chaired and Co-Chaired many International and National Conferences. He is referee of many International Journals including IEE Proceedings and IEEE Transactions. He is Head of Dept. of Footwear Technology, Convener, Faculty Training and Placement Cell, and Advisor, IEI Students' Chapter (Elect. Engg.), D.E.I. Dayalbagh, Agra.