



Promising Benefits of *Ashwamedha Yagya* — A Scientific Investigation

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Abstract. Scientific aspects and promising applications of yagya are discussed in this paper in the light of the recent investigations and findings in some modern laboratories. Potential benefits of the Ashwamedha Yagya in Mumbai are discussed with this backdrop. Importance of the unique confluence of the energies generated by yagya and collective rhythmic chanting of the Vedic Mantras is also highlighted with the scope of path-breaking advanced scientific research.

Keywords. Ashwamedha Yagya, Scientific Investigation



Introduction

Yagya (*Yajña*) is the core of the most ancient philosophy and science connecting human beings with the divine essence. It is signified in the Vedas as the nucleus of the cycle of Nature and sustenance of life on this earth. Its philosophy is considered as the foundational principle of the Universe. As a fire-ritual, yagya is an experimental procedure of the Vedic system that holds great scientific, spiritual, and social significance. The spirit inherent in yagya is sacrifice for noble cause and expansion of benevolence and altruistic service (*seva*) as the way of life.

Yugrishi Pandit Shriram Sharma had successfully revived the Vedic tradition of Gayatri Yagya and disseminated this ancient science expansively through the platform of the All World Gayatri Pariwar with the noble objective of socio-cultural uplift and spiritual awakening of the masses. He also pioneered and guided the practice of yagya as a scientific process to provide effective solutions to counter the growing global challenges on the health and environmental fronts [1–3]. He emphasized the need for systemic investigation of the ancient science of yagya through modern scientific methodologies for this purpose. Motivated by his vision and guidance, brilliant scientist and specialist MD Medicine, Dr. Pranav Pandya, laid the important milestone of starting scientific research on *Yagyopathy* (yagya-therapy) in the "Brahm-Varchas Shodh Sansthan (BSS)" Research Centre, Shantikunj, Haridwar, within one year its establishment in 1978-79.

The scientific research work initiated at this centre has continued to progress steadily and expanded with the establishment of the Dev Sanskriti Vishwavidyalay (DSVV), Haridwar. So far, several collaborative/interdisciplinary research experiments/projects have been completed that have led to several authentic research papers [4–24] and more than seven Ph.D. degrees. Extended and new research studies on yagya have gained a boost with expansion of the university and establishment of its "Yagyavalkya Center for Yagya Research" with a well-equipped laboratory for advanced experiments at cellular

and molecular level as well.

Recent Scientific Findings

As a fire-ritual, yagya is an ethno-Indian mode of herbal treatment. In this process, medicinal vapors, gases, essential oils, and volatilized phytochemicals etc. are released through controlled processing of *Havan Samagri* (coarse powder of specific herbal/plant medicines) in the fire of selected types of woods in a specifically designed firepit (*yagya-kunda*). These healthy natural products of yagya are inhaled by the participants and are also spread in the surroundings.

Scope of Yagya-Therapy

The research experiments on multiple aspects of yagya-therapy conducted so far include — (A) analysis of the effect of yagya in healing some psychological problems/disorders that are prominent in modern society. (B) in-vitro experiments, clinical trials, and pharmaco-kinetic modeling and analysis to investigate the potential of yagya for treatment of Pulmonary Tuberculosis (P. Tb) (C) some case studies of improvement in the quality of life of cancer patients after doing yagya.

Yagya as a Psychology Booster

As part of a Ph. D. research work [25], several experiments were conducted on the effect of yagya on adult subjects suffering from Anxiety, Stress, Depression, Regression and/or Guilt. All the subjects resided in Shantikunj, Haridwar for about a month. The subjects in the experimental group participated in yagya every morning at the scientifically designed *yagyashala* of BSS. Those in the control group lived in the same spiritually vibrant, calm ambience at Shantikunj, but did not participate in any yagya or other experiment. There were about 10-15 subjects in each category of the two groups. Blind-tests were conducted by expert Psychologists on both the groups in the beginning of the study and after 20 days. The results show overall psychometric analysis showed about 66% improvement in the control group and over 86% improvement in

the experimental group. The proportion of positive response of female subjects was much higher than that of the males [4].

Role of Negative Ions

Release and spread of negative ions through yagya are supposed to be important in its remedial effects on psychological problems [3]. These negative ions also generate positive impact and elevate mental peace and energy of normal people as well. Initial indoor experiments to measure the negative ionic particle concentration around the *yagya-kunda* during and sometime after yagya have shown affirmative results with best results when pure ghee made from the Indian cow's milk is used.

In-vitro Testing

For in-vitro analysis, the positive sputum samples of several patients of P. Tb were collected as per the bioethics norms. Each sample was divided into three parts and tagged as – control, 'part-experimental', and 'yagya-experimental'. The slides of the control samples were simply incubated for 8 weeks. Each slide of the samples of the 'yagya-experimental' type was first treated with the output (medicinal vapors, mild fumes, etc.) generated by yagya in the lab for 45 minutes and then incubated in the same conditions and for the same duration as the control sample. Each slide of the samples of 'part-experimental' type was first treated with the mild fumes generated by only burning the same type of wood in the same pit and same lab for the same duration as the 'yagya-experimental' samples and then incubated in the same conditions. Blind tests were conducted on the incubated samples in an authorized and recognized microbiology/pathology lab. The results showed significantly high growth of Mycobacterium Tubercular (M. Tb) in the control samples. On an average, there was a 15% reduction of this growth in the 'part-experimental' samples and 75-80% reduction in this growth in the 'yagya-experimental' samples as compared to the controls [5].

Pharmaco-Kinetic Modelling and Analysis

PK modeling and analysis of yagya-therapy has shown it as a very effective mode of pulmonary drug administration in terms of significantly high bio-availability at the site of infection (lungs in the case of P. Tb) for consistently higher duration as compared to oral and i.v. modes of drug administration [6].

Clinical Studies

For clinical study, comparable groups of authentically diagnosed patients of P. Tb were put under 'control' and 'experimental' categories. In the beginning of the study, the symptoms, and clinical and pathological parameters/measures used in diagnosis of P.Tb were tested for all the patients. Both lived in the same conditions, but the patients in the 'experimental' group performed yagya in the scientifically designed *yagyashala* of BSS every morning for about 30 minutes and later on sat there calmly for about 15 minutes (to continue to inhale the yagya-treated air spread in the lab). All the patients were tested for the same symptoms and parameters/measures after one month. The experimental group showed significant improvement with almost 70% chances of becoming asymptomatic on an average as compared to the control group [7].

Three adult cancer patients had participated in yagya (performed with special anti-cancer *Havan samagri* prepared in the Pharmacy of DSVV) for 2, 7 and 12 months along with their normal regime of allopathic treatment. They responded positively with average percentage of improvement in all the available parameters (associated with physical and psychological complaints) as 40%, 42% and 75% respectively [8]. Good improvements were also found in the health conditions of patients suffering from hypothyroidism and Epilepsy [9–11].

Chemical Analysis of Yagya-Output

Theoretical modeling of the chemical reactions of the specific herbs processed in the

anti-tubercular yagya has shown the presence of several phytochemicals that are reported in standard journals of phytochemistry and herbal medicines as having anti-bacterial and anti M. Tb. Activities [26]. For chemical analysis of the output of yagya, some yagya-experiments have been initiated in research labs at DSVV with specific herbs individually and also using the *havan samagri* used for general health and environmental purification. The study so far shows the presence of nourishing substances, antioxidants, and greater anti-bacterial activities as compared to those in the solvent extracts of the same herbs [12, 27].

All these results show remarkable scope of yagya as a therapy as well as a natural mode for sustenance of a healthy and active mind-body system. Most importantly the yagya-therapy also offers the added benefits of — cost-effectiveness, possibility of simultaneous treatment of several patients, additional nourishing support of the synergistic effects of the multiple herbs with some specific healthy natural nutrients and cow's *Ghee* used in yagya. Further research on chemical aspects of yagya are currently under progress at the Yagyavalkya Centre of DSVV.

Significantly, the process of yagya is also found to purify the surrounding atmosphere.

Potential of Yagya in Improvement of Air, Water and Soil Quality

Several samples of the air, water and soil within 500 meters of the yagya-site were collected one day before, during and one day after the Ashwamedha Yagya, at Gorakhpur, U.P. A team of Environ. Tech. Consultant Lucknow had collected and analyzed these samples under the supervision of UP Pollution Control Board. The results showed consistent reduction in the harmful gases during and after yagya as compared to the background level (before yagya). The average background level of SO₂ was almost 3 times more than that of NO₂ and so was its average reduction — nearly 50% reduction during the first day of yagya and about 76.2% on

the first day after the yagya. The average reduction in bacteria in the water samples was also almost 43% during the first day of yagya and about 72.5% on the day after the yagya [28].

The *yagya-bhasma* (fine ash remaining in the yagya-kunda after completion of the yagya) rich concentration (from 3407 to 7820 mg/kg respectively) of healthy minerals like Potassium, Phosphorous, Magnesium and Calcium [28].

Indoor and Outdoor Experiments in New Delhi [13–16]

Scientific experiments to assess the potential of yagya in a highly polluted metro city like Delhi is indeed important. This study was taken up as part of a PhD research in collaboration with the Central Pollution Control Board (CPCB) of India [29]. Major findings of this investigation are highlight below.

The woods used in yagya are found to release minimum levels of CO when burned as compared to the other woods. In the controlled process of slow combustion during yagya, this level is almost zero.

In all the indoor experiments, the effect of yagya was studied on the atmospheric odor, air microflora and the gaseous pollutants like NO₂, SO₂ the case of yagya where there was a reduction of 79%, 68%, 69% and 33% respectively as compared to the background in the bacteria, fungi, TMF and the pathogens till two days after the yagya. On the contrary, there was an increase of 111%, 257%, 104% and 100% respectively as compared to the background, one day after the non-yagya (only burning plain wood, in the same condition for the same duration but without any ritual or mantra chanting) experiment.

Outdoor Yagya Effects

A large-scale yagya of 108 *yagya-kundas* was performed in Karawal Nagar, East Delhi in 2003. The air-sampling and testing were done by CPCB in the same way as in the case of indoor experiments and a comparison of the microbe colony counts for four consecutive days during yagya and two successive days after it.

The results show that in comparison with the background counts, there was a reduction of 55% in bacteria, 15% in fungi, and 79% in the pathogens on the next day after the yagya was over. The reduction in pathogens was 79% even on the second day after yagya. The total microflora had reduced by 49% on the 2nd day after yagya.

In order to study the effect of Yagya on the gaseous pollutants, two experiments were performed in the open air. Samples of air were collected by CPCB in one case and by Envirotech in the second case and analyzed for gaseous pollutants SO₂ and NO₂. The two experiments were performed at M.S. Apartments, K.G. Marg, New Delhi, in the open air in January 2004 and February 2005, respectively.

The results in both the cases were encouraging. On average, there was a reduction of 47% in NO₂ on the day of yagya and 60% on the next day. In the case of SO₂, the reduction was 86% on the day of experiment and almost 100% on the next day as the presence of this gas was below detection level.

Automated continuous recording of multiple parameters of air-quality — including the measure of the concentration/presence of particulate matter (PM), ozone, formaldehyde, CO, CO₂ together with the factors like temperature, humidity, etc., is done for several consecutive days at the *yagyashalas* of the Gayatri Pariwar in Thane (W) and Andheri (W), Mumbai where at least 1-*kundiya* yagya is performed every day. Analysis shows consistent results with healthy effects. Thorough analysis w.r.t. to the (phyto)chemical constituents of the PMs is planned for the next phase after collection of large data collection at the grand Ashawamedha Yagya, which is going to take place in Khargar, Navi Mumbai during 21st to 25th February, 2024.

Significance of Ashwamedha Yagya at Mumbai

While, Yagya can certainly play a role in improving our mental and physical health, and disseminating social harmony and value-based cultural awareness, it can also effectively resolve

the man-made ecological imbalances that have become a global concern today. Therefore, the large scale Yagyas like the Ashawamedha Yagya are conducted as a scientific-spiritual experiment for the purification of the physical and subtle environments.

Meaning of Ashwamedha

Lord Indra, the Sun God and also the sacrificial fire of Yagya are referred to as *Ashwa* in different contexts in some Vedic Scriptures. '*Ashwa*' being the Sanskrit/Hindi name of an animal (horse) implies, in the allegorical descriptions of some ancient scriptures, the beastly instincts prevailing in the society and '*Medha*' signifies the power that uproots the evils. '*Ashwa*' is also a symbol of mobility, valor and strength and '*Medha*' a symbol of refined intelligence and wisdom. The innate meaning of 'Ashwamedha' is combination of valor and strength and illumined power of intellect. '*Ashwa*' is the symbol of muscle power, strength and '*Medha*' is the symbol of mental strength and their combination for a noble cause makes a great, sacred ritual of Ashwamedha Yagya.

Potential Benefits of the Ashwamedha Yagya in Mumbai

Organization of a grand Ashawamedha Yagya in a grand city like Mumbai is indeed a once-in-life great event with far-reaching positive effects at the juncture of epochal transformation of the world. Mumbai is a cosmopolitan grand metro city with a dense population with very rich socio-cultural diversity. The collective benevolent efforts of millions of people from different walks of society in this Ashawamedha Yagya will inspire and strengthen social-harmony and cultural awareness here with impact across India.

The collective performance of yagya by tens of thousands of people at a time in 1051 *yagyakundas* simultaneously for several hours every morning will compound the intensity and synergy of the healthy outputs. Accordingly, the beneficial effects on the mind-body system of the participants and on purification of the air, water

and soil around the site, as affirmed by scientific research, will also be multiplied significantly.

The impact of the collective chanting of the Gayatri Mantra and some other Vedic Mantras by millions of people during this grand yagya will generate immense spiritual energy that will purify the sublime ambience as well.

Unique Confluence of Thermal Sonic Energy

The volatilized and electrified particles of the herbal-material sublimated in the yagya-fire, because of the special design of the *yagya-kundas*, move upward in a spiral form at an ultra-fast rate. The loud collective chanting of mantras during yagya intensifies the thermal, electromagnetic, medicinal, and purification effects of yagya to further energize the sonic vibrations of the mantra and expand them at unbounded high levels. The thermal energy generated by the yagya-fire and the collisions of sonic waves with the ultra-thin screen of its flames help exponential amplification of the physical as well as spiritual power of *shabda* (eternal element of sound) in the Vedic mantras being chanted. Thus, the psychological and spiritual effects of the rhythmic chanting of mantras thus get compounded magnificently and offer manifold benefits to the surrounding areas.

The spiral waves of electrons (due to dense presence of negative ions) in the yagya's vapors/mild fumes play the role of transmitters. These have the potential to 'communicate' the powerful 'signals of the mantras', generated by the perfect activation of the mantra-energy by the meditative chants of spiritually evolved *sadhaks*, in the etheric whole.

Scope of Future Scientific Research

The use of fire and thermal energy in general has been advancing ever since the journey of human civilization. Scientific and technological advancement of the 20th century has also offered tremendous applications of sound. Scientific experiments on the conjunction of the thermal energy of yagya and sonic energy of mantras

should also be carried out in order to investigate the possibilities of viable global benefits, keeping in total harmony with multiple realms of life and Nature.

If specific experiments of mantra *sadhanas* with yagya are performed scrupulously under the disciplines guided by adept spiritual masters, the unique confluence of their energies combined with the eternal flow of Consciousness-Force in the etheric medium would offer global benefits at physical as well as spiritual levels. Such boons would range from purification of the atmosphere, harmonizing the ecological balances, holistic improvement in the physical and mental health to the spiritual upliftment of all beings.

Compliance with ethical standards Not required.

Conflict of interest The authors declare that they have no conflict of interest. **Financial support and sponsorship** None

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