



Analysis & Effect of Auricular Therapy of OM- The Divine Mantra using Autocorrelation function in EEG (electroencephalogram) to test Certain Diseases: A Review

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ABSTRACT

Om (AUM) is a mantra, or vibration, that is commonly chanted at the beginning and end of yoga sessions. Peoples have misinterpretation about OM that it is a religious mantra related to Hindus. But reality is that it is a primal sound and totality of all sounds which originate the creation of natural world, the mantra is considered to have high divine and original power but despite this, it is a mantra that can be recited by anyone. It's both a sound and a symbol rich in meaning and depth and when pronounced correctly it is actually AUM. Chanting OM has an effect on our hormonal system as the thyroid gland respond to the vibrations while chanting. Regularly chanting OM also reduces stress, anxiety, depression, insomnia and also helpful in diseases like epilepsy and seizure. Vibration frequency plays an important role in enhancing physical health. To systematically understand the sound 'OM' and its effect on various human diseases is the main object of this research work. By this analysis we could have a conclusion that OM is therefore serves as a brain stabilizer, which is a great medicine for human being under stress, epilepsy, seizure, thyroid etc. EEG(electroencephalography) is most often used to diagnose epilepsy, seizure it is also used to diagnose sleep disorders,

depth of anesthesia, coma, and brain death. The paper is conceptual and descriptive in nature in which different dimensions of significance of AUM has been explored. It has been known that chanting AUM mantra on regular basis restores the balance of the body at physical, mental, emotional and spiritual level.

Keywords:—OM (AUM), EEG, stress, thyroid, brain stabilizer, epilepsy, seizure.

I. INTRODUCTION

Current headway in technology and spiraling responsibilities is often lead to stress. Highly experienced people are more possibly to be certain and productive in their life in modern days. As consequences of a few real circumstances in certain occupational actions, the psychosomatic complication termed psychological stress occurs. It brings out that concurrently they are not able to give concern and think a roundabout way. Whether in the medical or technological or social spheres, to extend our purity of life, human venture has sought all down the ages. To promote the standard of living and thinking of our mind it is important to expand our quality of life. To cope up with the rising stress of modern standard of living, Humanity is looking forward they are turning in the direction of

different meditative practices. For psychological stress, Speech signal is uttered to be a considerable indicator. The speech signal expresses the information enclosed in the vocal word. As with several real-world signals, Speech signals are unstable. Hence the frequency contents changes diagonally the time. The concept behind using mantras or chanting is that the body and mind begin to reproduce with the frequency of the voice helping to regulate attention and awareness. Performing a mantra repeatedly "purifies the speech and 'protests the mind. If there is no religious preference then the sound vibration 'OM' is a universally recognized mantra .The sound of OM is also called Pranava, meaning that it sustains life and runs through Paran  or breathing. The chanting of 'OM' mantra drives away all worldly thoughts and removes distraction and infuses new vigor in the body. OM mantra chanting allows our mind to focus and clear away unnecessary thoughts, sensations and distractions which divert our energies. In this paper, by utilizing signal processing techniques OM mantra chant signal is analyzed to uphold its effects on consciousness and stability of mind. Our analysis results confirm that the chanting of OM mantra will improve our awareness and gives strength to mind by clearing all worldly thoughts. Om acts a brain stabilizer which recovers the body without medication.

II. EEG (ELECTROENCEPHALOGRAPHY)

EEG is a electrophysiological monitoring method to record electrical activity of the brain. It is typically noninvasive, with electrode placed along the scalp. EEG measures voltage fluctuation resulting from ionic current within the neurons of the brains. In clinical contexts, EEG refers to the recording of the brain's spontaneous electrical activity over periods of time. EEG is most often used to diagnose epilepsy, which causes abnormalities in EEG readings. It is also used to diagnose sleep disorders, depth of

anesthesia, coma and brain death. EEG used to be a first-line method of diagnosis for tumors, stroke and other focal brain disorders. This technique is used in cognitive science, cognitive psychology, and psycho physiological research. An electroencephalogram (EEG) is a test used to evaluate the electrical activity in the brain. Brain cells communicate with each other through electrical impulses. An EEG can be used to help detect potential problems associated with this activity. An EEG tracks and records brain wave patterns. Small flat metal discs called electrodes are attached to the scalp with wires. The electrodes analyze the electrical impulses in the brain and send signals to a computer that records the results. The electrical impulses in an EEG recording look like wavy lines with peaks and valleys. These lines allow doctors to quickly assess whether there are abnormal patterns. Any irregularities may be a sign of seizures or other brain disorders.

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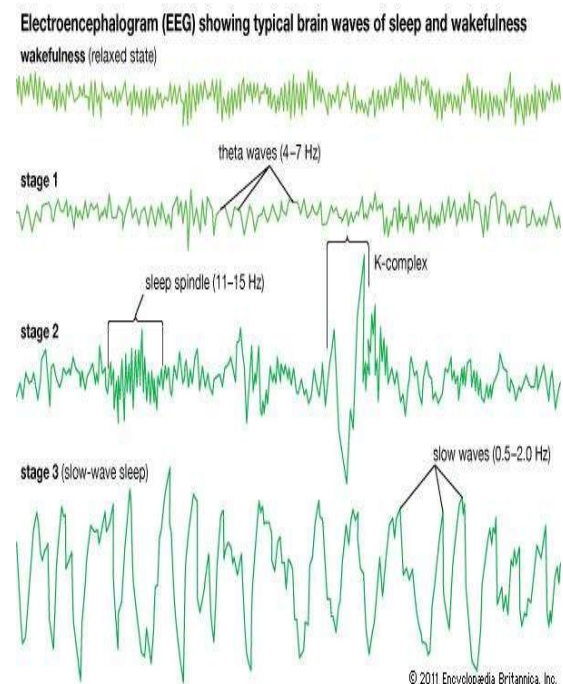


Figure 1. EEG showing typical brain waves.

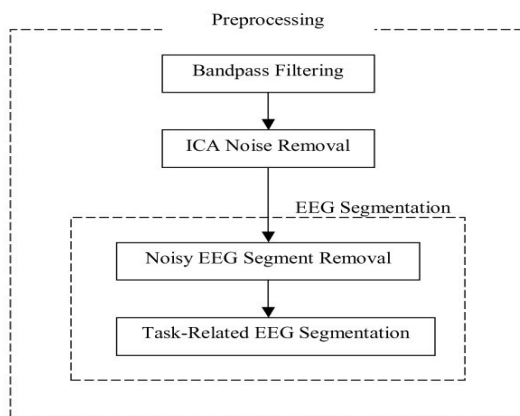


Figure 2. Flowchart diagram of the steps of EEG preprocessing.

III. HEALTH PROBLEMS

Health problems such as thyroid, stress, epilepsy, seizure, sleep disorder. These problems can be diagnose by EEG and can be reduced or cured by chanting OM mantra simultaneously.

Thyroid:

Thyroid disorders weakens normal working of the thyroid gland arousing affect On abnormal production of hormones leading to hyperthyroidism. If left unrecognized, hypothyroidism can cause raised cholesterol levels, an increase in blood pressure, cardiovascular complications, decreased fertility, and depression. There is various Anti-thyroid medications that are present in the market today but the treatment and harmful side effects associated with it are harsh. According to Thyroid Epidemiological (EPI) Study conducted across metro cities in India, 10% adults in India are suffering from thyroid disorder and women are three times more likely to be affected than men. There are many medication procedures to get rid of this disorder, but leading to the painful side effects there is need to find an alternative soothing treatment. Chanting OM has an effect on our hormonal system as the thyroid gland respond to the vibrations while chanting. Vibration frequency plays an important role in the enhancing of our physical health.

Stress:

Stress is your body's way of reacting to any kind of demand or threat. Stress creates harmful effect on physical as well as mental health. Stress can also help you rise to meet challenges. Our first reaction to stressful situation is rapid increase in our pulse rate. Short term duration stress is easy to control. But long time duration stress may be results in mental illness like anxiety, depression, breathlessness, sleep disorders, eating disorders etc. So it is very important that we use techniques to decrease the adverse effect of stress at right time.

Studies have shown that techniques like meditation, mantra therapy, music therapy or Raga therapy can help us in this situation. From ancient times yogis and saints of India were using mantra therapy for maintenance and improvement of mental, physical as well as spiritual health.

Epilepsy:

A disorder in which nerve cell activity in the brain is disturbed, causing seizures. Epilepsy is a neurological disease that causes people to have recurrent seizure. Vagal nerve is used in the treatment of epilepsy but apart from medication there is a therapy called mantra therapy 'OM Chanting' for epilepsy, OM chanting has a similar effect on the brain and vagus nerve as implanted electrical devices, it confirms that chanting has discharging effect on brain. Effective Om chanting is associated with the experienced of vibration sensation around the ears, it is expected that such a sensation is also transmitted through the auricular branch of the vagus nerve which helps to manage epilepsy.

Seizure:

A seizure is a sudden rush of electrical activity in the brain. There are two main types of seizure, generalized seizure affect the whole brain. Focal or partial seizures, affect just one part of the brain. Some seizure causes uncontrollable shaking and loss of

consciousness. In such cases exercise is recommended and social activities are encouraged. Chanting Om is also one of the factors in managing seizure. The sound vibration which produces through the chanting acts as brain stabilizer. It is a method of practice that focuses the mind that is distracted.

EEG in Medical Science and in Research Areas:

In medical use the clinical EEG recording typically lasts 20–30 minutes (plus preparation time) and usually involves recording from scalp electrodes. Routine EEG is typically used in clinical circumstances to distinguish epileptic seizures from other types of spells, such as psychogenic non-epileptic seizures. EEG is not sufficient, particularly when it is necessary to record a patient while he/she is having a seizure. In this case, the patient may be admitted to the hospital for days or even weeks, while EEG is constantly being recorded (along with time-synchronized video and audio recording).

In research use EEG and the related study of ERPs are used extensively in neuroscience, cognitive science, cognitive psychology, neurologist and psycho physiological research. Many EEG techniques used in research are not standardized sufficiently for clinical use. But research on mental disabilities, such as auditory processing disorder (APD), ADD, or ADHD, is becoming more widely known and EEGs are used as research and treatment.

Om (Aum) Effects in EEG:

OM does not have a transcription. Therefore, the Hindus consider it as the ultimate, it is body of sound. In the scriptures of ancient India, the OM is considered as the most powerful of all the mantras. The others are treated as forms of the OM mantra, and the OM is the matrix of all other mantras. It has been found that the Mantras have great effects

on human beings and even plants. The Hindus are quite familiar with the syllable OM. Every prayer or after yoga sessions it is mandatory that OM mantra has to be done. Invocation to most gods begins with this syllable. OM is also pronounced as AUM. The evocable OM is not specific to Indian culture. OM has religious significance in other religions as well. Specific definition is not given to OM mantra, although it is considered to be a cosmic sound, a primordial sound, the totality of all sounds etc. The entire mental strain and worldly thoughts are cleared by chanting OM Mantra. To systematically understand the sound 'OM' and its effect on nervous system is the endeavor of this research work. With proposed algorithm analysis has been carried out for the divine sound OM. By this analysis we could conclude OM is therefore serves as a brain stabilizer, which is also an energy medicine for human being under stress

Performance of Brain after Practicing Om (Aum) Chanting:

OM (AUM) Mantra itself is not a simple human creativity, walking along with distinct cultures or groups. To some realities, the OM Mantra (or AUM Mantra) is a symbol of deep realities that already exist, although the symbolism captured in the mantra when stated as AUM Mantra. It is these realities that are most useful in our spiritual practices. If the OM mantra is repeated just for the feeling, having no sense of meaning at all, the experience can be quite pleasant, calming, and balancing. However, if one has a sense of the deeper meanings of the mantra, and different methods of using it, then the experience can be even richer and more revealing as one progress in yoga meditation. By experimenting with the various methods, one of them may emerge that feels most personally in rhythm. The use of this mantra can be profound. At first, it is best to use the mantra gently and for short periods of time. The insights from the OM mantra can be

significant, and it is good to integrate the Insights gradually with daily life. It Improves steadiness, It sets your mood right, It strengthen Spinal Cord, It helps in detoxifying your body, It takes care of your digestive system & Heart, It helps you sleep well. It enables to have control over the feelings And emotions, It helps us get rid of negativity. Chanting of the Om Mantra purifies the environment around you and creates positive environment around you, our concentration increases when you chant OM this universal hymn, Om chanting gives you better immunity and self-healing power.

IV. CONCLUSION

OM (AUM) Mantra itself is not a entire human innovation, going along with particular cultures or groups. Rather, the OM Mantra (or AUM Mantra) is a symbol of deep realities that already exist, regardless of the symbolism captured in the mantra when stated as AUM Mantra. It is these realities that are most useful in our spiritual practices. If the OM (AUM) mantra is repeated just for the feeling, having no sense of meaning at all, the experience can be quite pleasant, calming, and balancing. However, if one has a sense of the deeper meanings of the mantra, and different methods of using it, then the experience can be even richer and more revealing as one progress in yoga meditation. By

experimenting with the various methods, one of them may emerge that feels most personally in tune. The use of this mantra can be profound. At first, it is best to use the mantra gently and for short periods of time. The insights from the OM mantra can be significant, and it is good to integrate the insights gradually with daily life.

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