



## Review Article

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### A REVIEW OF THE EFFECT OF OMKAR MANTRA CHANTING ON THE NERVOUS SYSTEM AND ITS BENEFITS

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#### ABSTRACT

Through this review, we are trying to explore the relevant work done on the Om Mantra chanting effect on the Nervous System and its benefits. Mantra yoga is one a part of yoga since ancient times. Om is the matrix of all mantras. The Om Mantra is described as Pranav in Patanjali Yogsutra. Its Japa [constant repetition], with bhavnam is the way [ should be done] or is advised at the beginning of Yoga sutras. Its Japa results in overcoming the obstacles of the mind before doing yoga and turning inward consciousness. The Upanishads are full of references regarding the 'Om' mantra. Om is composed of three sounds, A, U and M, with a deep breath. It encompasses the sound of syllables that have an eternal purpose. When we chant 'AUM', a vibration sound is felt through our vocal cord, which clears and opens up the sinuses touching our front teeth gently, will now start to feel the top of our head. 'Om' and its effect on the Nervous System is the endeavour of this review work. Research shows that Om chanting stimulates the Vagus Nerve through its auricular branches, sharpening the brain. The studies show that chanting Om can reduce activities of limbic brain regions, amygdala, hippocampus, parahippocampal gyrus, insula, orbitofrontal and anterior cingulate cortices and thalamus. These are the portion of the brain associated with stress and emotions. When the 'A' sound starts, it generates a vibration in the abdomen. This strengthens the spinal cord. With all these reviews, we conclude the beneficial effect of Omkar Mantra Chanting on the Nervous System.

**Keywords:** Om Mantra, Japa, Nervous System, Vagus Nerve, Limbic region.

#### INTRODUCTION

The use of 'OM' chanting for meditation is well known. OM is considered the sound of God. OM is described as Pranav in Patanjali Yogsutra.<sup>1</sup> It is the matrix of all mantras. In Upanishads, it is described that the levels of gross (A), subtle (U), and causal (M), and the states of waking (A), dreaming (U). Deep sleep (M) is there, regardless of the symbolism captured in the mantra, when stated as AUM Mantra.<sup>2</sup> Om chanting is a tool for relaxation of the mind. Many researchers say that Om chanting helps manage stress, anxiety, depression, lack of concentration and hypertension as yoga therapy.<sup>3</sup> The vibrations produced during pronunciation act on the auricular branches of the vagus nerve. The limbic region of the brain controls psychological and emotional functions. In further studies, it is revealed that these symptoms actually can be controlled by reducing the activity of the limbic brain region and vagus nerve stimulation. In modern-day lifestyles, humans are prone to diverse psychological and physiological issues that induce pressure or stress and face problems of depression, anxiety, hypertension etc. So 'OM' chanting will become a helpful tool to relieve stress by altering the neurological physiology of emotions.

**Reviewed Manuscripts:** Upanishads, Yogsutras, Articles, Research and related studies.

#### REVIEW OF LITERATURE

##### The Absolute Sound OM

In Mandukya Upanishad, it has been described that Om is the syllable of the past, the present, and the future.<sup>4</sup> From the original

sound, Om, all things become manifest as its extension embodiments.

Patanjali's Yoga Sutras (PYS) is one of the classical yoga texts in which the explanation of Om is well defined. In PYS, there is a single direct mention of Pranava (OM).

Tasya vachakah pranavah (Ch: I; V: 27).

This means that pranava is virtually Ishwara or Om, where Ishwara is the word denoting God. Since PYS has described pranava (Om) as Ishwara, it is interesting to note that Sutra 28 describes what sadhana requires for Ishwara's realisation. Sutra 28 states.

Tajjapastadarthabhavanam (Ch: I; V: 28).

This means that repetition of Om with bhavanam (meditating on its meaning) should be carried out. In PYS (Ch: I; V: 30) stated, the obstacles to mind before doing yoga-like disease, mental laziness, doubt, calmness, false perception, not attaining concentration and falling away from the state. To overcome these obstacles and gain knowledge of introspection, chanting is advised.

At a physical level, the Aum syllable addresses the whole of the human sound instrument: we open the mouth ('a'), move the lips closer to each other ('u') and then close the mouth ('m'). This activates the larynx fully. This 'A' resonates in the stomach and chest, 'u' in the throat and chest and 'm' in the nasal cavity, skull and brain. We move the energy from the abdomen to the brain by

chanting Aum. Those who chant Aum daily feel how it helps us calm our minds and clear our thoughts. Mantras are syllables that influence or effect through sound vibrations that resonate on specific body parts.<sup>5</sup> Daivavyapasraya is the spiritual therapy related to blessings and the power of God and consist of a Mantra. Here the mantras are the sacred words having spiritual potency. It means a sound, combination or sequence of sound develops spontaneously. Their power is not in the word themselves but in sound vibrations created when they are uttered verbally.<sup>6</sup> Mantra – the sound therapy of healing effect on the body, mind, and spirit through the tongue and mouth movement. It changes the chemical in the brain, which relaxes the brain wave, detoxifies the mind, cleansing the cellular toxin. Mantra instills confidence, improves concentration and sound therapy in the future medicine, sounds as a carrier wave of consciousness, protects us from several diseases and reforms the end.<sup>7</sup>

#### About Om Vibrations

The sound Om when chanted, vibrates at the frequency of 136.1 Hz, which is the same vibrational frequency found throughout everything in nature. Interestingly, it is also the frequency of the 32nd Octave of the Earth Year.<sup>8</sup>

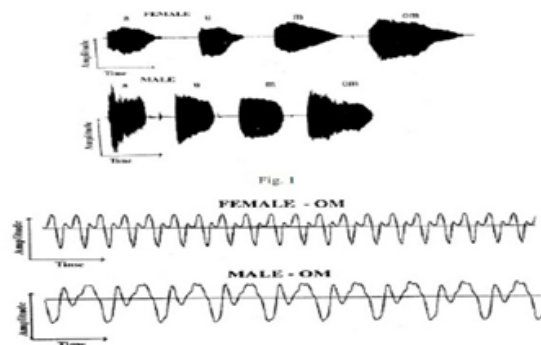


Figure 1: Jina Devi et al.: Spectral analysis of Vedic Mantra Omkara<sup>9</sup>

#### About limbic system

The limbic system, especially the amygdala, plays a vital role in controlling various emotional behaviours, such as fear, rage, anxiety, etc. The anterior limbic network and related regions, including the orbitofrontal cortex and amygdala, are the leading players in regulating such emotions. Dysfunctional limbic system is associated with many clinical manifestations, such as epilepsy, limbic encephalitis, dementia, anxiety disorder, schizophrenia, and autism.<sup>10</sup>

**Hypothalamus.** In addition to controlling emotional responses, the hypothalamus is also involved in sexual responses, hormone release, and regulating body temperature.

**Hippocampus.** The hippocampus helps preserve and retrieve memories. It also plays a role in understanding the spatial dimensions of your environment.

**Amygdala.** The amygdala helps coordinate responses to things in your environment, especially those that trigger an emotional response. This structure plays a vital role in fear and anger.

**Limbic cortex.** This part contains two structures, the cingulate gyrus and the parahippocampal gyrus. Together, they impact mood, motivation, and judgement.<sup>11</sup>

#### Om chanting benefits related to the Nervous System

A study shows that om mantra chanting has been beneficial in depression, anxiety, stress and cognition.

A magnetic resonance imaging study shows that significant deactivation is observed bilaterally in orbitofrontal, anterior cingulate, parahippocampal gyri thalami and hippocampi during om chanting. In addition, the right amygdala demonstrated significant deactivation. No significant activation was observed during the 'OM' chant. This suggests that the neurophysiological effects of 'OM' chanting may be mediated through the auricular branches of the vagal nerves.<sup>12</sup>

Om Meditation Studies Using EEG Methods shows reduced complexity of EEG signal.<sup>13</sup> Many mantras that end with Anuswaram M produce Nitric oxide, a molecule that our body has to help its 50 trillion cells communicate with each other by transmitting signals throughout the entire body. Nitric Oxide (NO) is an important regulator and mediator of numerous processes in the nervous, immune, and cardiovascular systems. These include vascular smooth muscle relaxation, resulting in arterial vasodilation and increasing blood flow.

Chanting makes use of deep breathing, filling us with fresh air. The rhythmic tapping of the tongue against specific points along the roof of our mouth sends signals to the hypothalamus. It regulates chemical activity and secretion of 'feel good' brain neurotransmitters like endorphins. Om chanting acts on neurotransmitters; Dopamine, Oxytocin, Serotonin and Endorphins are the essential central c generated in the body during low-frequency chanting of om meditation. These have a significant impact on stress, anxiety, and depression.<sup>14</sup>

With the spectral analysis and imaging of the brain, we can conclude positive health benefits of the Om mantra.<sup>15</sup>

#### DISCUSSION

Om is the absolute sound of nature. A lot of research has been done to find the scientific evidence for the effects of OM chanting on the human body. But after reviewing the various studies, publications and articles, it is observed that the impact of om chanting on the Nervous system is to deactivate the limbic region of the brain and vagus nerve stimulation resulting in relaxation in the thought process. Thus 'Om' chanting is helpful in the management of stress, anxiety, depression, lack of concentration and hypertension as a therapy of yoga. Ayurveda also allows mantra chikitsa as a treatment (Daivavyapasraya chikitsa). Nowadays, lifestyle is full of mental stress resulting in many diseases like depression, anxiety, and hypertension. So 'Om' chanting should find a place as a part of Dincharya to live a stress-free life, improve memory, reduce stress, and fight depression in this modern era.

#### CONCLUSION

The literature review on the effect of om mantra chanting on the Nervous System and its benefits shows that, with the spectral analysis and imaging of the brain, we can conclude the positive health benefits of the Om mantra. Om chanting can be a powerful means of calming down the mind and enhancing memory. We recommend further detailed studies on Om chanting and implementing it in our daily life to live stress-free and joyful lives. Still lot of other areas are to be reviewed, which may be a further detailed scientific analysis of the OM mantra, and audio commentary to validate its positive effect on consciousness, cognition, endocrine system etc.

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