

# Frequencies of the Buddhist Meditative Chant – Om Mani Padme Hum

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**Abstract:** *Om Mani Padme Hum is a six syllable mantra in Tibetan Buddhism associated with the bodhisattva – Avalokitesvara. This mantra as known by the Buddhist generates positive energies within the body through mystical vibrations and frequencies when chanted repeatedly. The mantra has shown enhanced cognitive effects in organisms without auditory apparatus where the interaction is assumed to be taking place at a cellular and biochemical level (Pereira 2015a, b; Pereira 2016a,b). Based on the results of these studies, this paper evaluates the frequencies associated with each syllable of the mantra comparing it to therapeutic/healing effects that have been known or studied for some frequencies by holistic healers, meditators and non-invasive medical practitioners. The study confirms that the mantra Om Mani Padme Hum is made up of frequencies that are known to generate powerful vibrations when chanted. These vibrations during chanting are presumed to be creating a resonance effect, as a result of formation of constructive interference patterns between the frequencies of each syllable which maybe the reason this chant exhibits a therapeutic/ healing effect on the body and its functions.*

**Keywords:** Frequencies, Chanting, Healing, Resonance, Syllable, Meditation

## 1. Introduction

### OM MANI PADME HUM in Tibetan Buddhism

The six-syllable Buddhist chant, Om Mani Padme Hum, is the most important mantra associated with the bodhisattva – *Avalokiteshvara* (Studholme 2002). Wherever there is a Tibetan Buddhist settlement this mantra is found carved and painted on rocks or on hill sides. It is even found on the Mani walls; it is printed on paper and placed in the prayer wheels which are found in different shapes and sizes that line the outside walls of the Buddhist monasteries and temples. The Tibetan Buddhist people are also seen with hand-held prayer wheels which are accompanied with the prayer beads while reciting this mantra (Rizvi 1998). The whole of the Tibetan Buddhist world is known to vibrate with the vibrations generated while reciting the *Avalokitesvara* mantra which is an important aspect while understanding resonance (Santina 1997). This mantra is said to have originated from the *Karandavyuha* Sutra which contains the manifestations and works of *Avalokitesvara*. Since this sutra has close affinities to non-Buddhist literature, the six syllable mantra is said to have been conceptualized or evolved from „Siva“s“ or „Shiva“s“ five syllable mantra “*Om Namah Shivaya*” (Studholme 2002).

Om Mani Padme Hum is a chant with beautiful expressions for an ultimate experience. The chanting of syllable – Om, makes everything disappear from your being – no thought, no dream, no projections, no perceptions, no expectations; like the calmness of the sea, where not even a single ripple is seen. It is therefore an inner form of music that is heard by none, but is full of harmony, joy and blissfulness. Once you have heard each syllable, you have entered into the very secret of its existence (Rinpoche 2000). The gap within the syllables is where the actual music is present; these are the gaps of silence, where the true inner music is experienced. The alternating gaps and sounds are what make the experienter experience the inner self. The six syllable mantra generates vibrations that somehow interacts at a

cellular level; where every fibre of the body feels connected as they vibrate in synchrony; resonating at the same wavelengths. The syllables when repeatedly chanted can make one hear it more than music, as the mind aligns to its vibrations and frequencies.

The mantra has a whole philosophy within it. If started from the “hum”, the last word and the first word will arise on its own accord and when the inner self is filled with the sound of silence, the experience is beautiful. This experience is said to resemble a lotus with a diamond in the early morning sun, with the diamond radiating in the sunlight and the lotus as a soft and delicate form in its presence. The literal translation of the mantra is “Behold the jewel in the lotus”. This mantra is not just a chant to be chanted without feeling it within, but needs to sink deep in your being, in order to grow higher and beautiful to make it demonstrate blissfulness. The mantra is like an inner pilgrimage, which explains how you need to begin; just like the blooming of a flower and the experience of one’s inner treasures that are expressed through the blossoming of the flower (Lopez 1998).

According to some Tibetan Buddhist scholars like Dilgo Khyentse Rinpoche, the syllable OM helps achieve practice of generosity, MA relates to pure ethics; NI helps achieve perfection in the practice of tolerance and patience; PAD is the fourth syllable which helps to achieve perfection of perseverance; ME helps in the practice of concentration; HUM helps in the practice of wisdom (Rinpoche and Rinpoche 1992). Karma Thubten Trinley has a deeper explanation for these syllables; those which prevent rebirth into the six realms of cyclical existence. The mantra literally translates as ‘OM the jewel in the lotus HUM’ wherein OM prevents rebirth in the god realm, MA prevents rebirth in the Asura (Titan) Realm, NI prevents rebirth in the Human realm, PA prevents rebirth in the Animal realm, ME prevents rebirth in the Hungry ghost realm, and HUM prevents rebirth in the Hell realm (Wikipedia)

His Holiness, The 14<sup>th</sup> Dalai Lama of Tibet says, the six syllable chant Om Mani Padme Hum is great but you need to think of each syllable when you chant it. The OM is an indivisible union of method and wisdom that can transform your impure body, speech, and mind into the pure exalted body, speech, and mind of a Buddha. MANI, the jewel, symbolizes factors of method, compassion and love, the altruistic intention to become enlightened. PADME means lotus and symbolizes wisdom. Growing out of mud, but not being stained by mud, lotus indicates the quality of wisdom, which keeps you out of contradiction. The last syllable, Hum, means inseparability; symbolizing purity and can be achieved by the unity of method and wisdom (Lopez 1998).

### Science of Chanting a Mantra

Sound is an excellent method for causing a deep stimulation at a cellular level as sound can travel five times faster in water than air. Chanting one's personal resonant frequency is the perfect way of awakening the consciousness within. Music articulates our life, evoking emotions from joyous to sadness and regulating moods (Pereira 2015c). Experiments have provided a confirmation that resonant based experiences are not illusionary or imaginary, but occur through a form of interconnectedness created by resonating frequencies inside and outside the living system (Cambray 2009). Resonance is a phenomenon that occurs when a given system is driven by another vibrating system or external force to oscillate with greater amplitude at a specific preferential frequency (Wikipedia).

Resonance can occur when an object is vibrated at its natural frequency or naturally occurring frequencies, which is possible by music or chanting. The technique of repeated chanting during healing sessions is a best example of resonance, where the music played creates a resonance interference pattern resulting in a healing effect, attributed to the supernatural. Similarly, when people pray together or recite a prayer or hymn, they initiate a non-local resonance, a process which may result in a positive effect due to focused attention. Brain regions associated with attention and sensory processing were found to be thicker in persons who would meditate and chant daily in comparison to persons who would not, and the thickness of these areas increased with increasing years of meditation practice (Lazar et al 2005). Music can be stimulating but depends on structural features such as tempo, pitch, frequency patterns, etc. which can be broadly categorized as pleasant or unpleasant by the listener (Brandt et al 2012).

Continuous chanting can activate the oscillators and bring about a creation of a standing wave within the body, which apparently enhances the natural vibration frequency of the body due to the presence of a same set of vibrating frequencies of a chant. Yeast cells have demonstrated a 12% increase in growth frequencies inside rate and 14% reduction in biomass production with a significant difference in the metabolite profiles on exposure to different sound frequencies, confirming the enhancing effect of these vibrations at a cellular level (Aggio et al 2012). Cultured human breast cancer cell line MCF7 showed an alteration in cellular morpho-functional parameters such as cell size and cell granularity when exposed to music generated resonant vibrations conforming to the direct interference of these

vibrations with hormonal binding processes that could modulate physiological and pathophysiological processes within these cells (Lestard et al 2013).

Music is made up of several frequencies and therefore these frequencies are the key to understanding the effect of a chant on the overall system. When these vibrations resonate at a particular frequency or frequencies it results in an interference pattern which can be constructive or destructive. Several frequencies are known to create constructive patterns within the brain which can enhance brain functioning and neuroplasticity. EEG recordings of skilled Buddhist monks with years of training and chanting have shown a significant rise in gamma wave activity in the 80 – 120 Hz range while this effect was lower in new meditators. For Buddhist monks, the purpose of meditation and chanting is to free oneself from suffering and gain spiritual liberation which is the same reason for meditative practice in other religions (Davidson and Lutz 2008).

Several studies have also been conducted in invertebrate organisms such as snails, which have shown that the Tibetan chant Om Mani Padme Hum has a direct effect on cognition (Pereira 2015a,b). In another study, a significant reduction in recovery time from a hypothermic exposure was also observed in snails which shows a direct effect of this chant at a cellular level since snails are invertebrates with non-auditory features (Pereira 2016a,b). Om Mani Padme Hum is a meditational chant that is known to generate positive energies within the body through mystical vibrations (Misra and Shastri, 2014). Frequencies associated with a chant may have a direct effect on the body at a cellular level leading to biochemical changes within the cells to bring about a positive effect, such as cognition and several others which are yet to be known. In a study conducted in Vedic chanting, the chanting group showed a significant increase in scorings in memory tests and showed a considerable reduction in total error and total time taken for cancellation tests when compared to non-chanting practitioners (Ghaligi et al 2006).

## 2. Study

### Frequencies recorded for the mantra – Om Mani Padme Hum

#### Materials and Methods

The Tibetan meditational chant “Om Mani Padme Hum” soundtrack by Tibetan Incantations (Nascente) with a bit rate of 128 kbps was used for this study. On a broad scale, the frequency analyses of this soundtrack was done using the WavePad NCH software Version 6.18, which uses a FFT analytical tool to determine the actual frequency recordings of the soundtrack. The highest frequency recorded for the Tibetan meditational hymn was 21371 Hz (21096 Hz + 274.8 Hz) with a range varying from 236 Hz – 21371 Hz and a decibel gain range of – 23 db to -130 db. The soundtrack was further snipped using the Audacity version 2.1.2 software, where the soundtrack was further split into the six syllables – Om, Ma, Ni, Pad, Me, Hum using an online audio splitter software – Song Cutter by Mediafox Marketing and were saved as .mp3 files with a bit rate of

128 kbps. Each of the .mp3 files were replicated and joined using the Helium Audio Joiner by Imploded Software, to make a lengthiersoundtracki.e. approximately 5 mins each forevery syllablefor better analysis of each syllable.

The experiment was carried out in a semi-sound proof environment, where the generated .mp3 file for each syllable was played on an I-ball Tarang 2.1 music system with one sub-woofer (20 watts RMS max) and two satellite speakers (10 watts RMS max each) with a total output of 40 watts RMS max and frequency ranges for – woofer as 20Hz - 200Hz and satellites as 100Hz-20kHz at a decibel output range of 75 – 80 db. The frequencies for each syllable were analysed on three android based applications – Spectrum Analyzer by Raspberrywood Version 5.0.3, Spectrum Analyzer by Keuwlsoft Version 1.3 and Sound Analyzer by Tinia Soft Version 1.02 using a Lenovo Ideatab A1000-

Gtablet with a 1.2GHz dual-core Cortex A-9 processor (MediaTek 8317), a 4GB RAM withanAndroid 4.1 Jelly Bean operating software.The frequenciesfor each syllablewas analysed by the android applications that use a FFT analytical tool of Hz against the decibel output value.By comparing the frequencies recorded for each syllable by all three applications, a final set of frequencies for each syllable was confirmed. Besides, the high decibel frequencies considered for the study, there were several other background frequencies which were observed, but since they were at very low decibel range, they were not considered as part of the final set of frequencies. The comparative results for each of the android applications is provided in Figure 1 and the final set of frequencies confirmed for each syllable is provided in Figure 2.

Sound Analyzer - Tinia Soft						Spectrum Analyzer - Raspberrywood					
OM	MA	NI	PAD	ME	HUM	OM	MA	NI	PAD	ME	HUM
114.2						108.1					
				125	120					120	120.2
	140	140	140				138.7	140	133		
168						150					
280.4	294	294.8	293	294	290.3	296.7	293.2	276.3	276	294	294
		368		370.2	370			370.7		366.6	360.2
				488.3	483.6					475.2	470
	528.2	528	528	532.1	532		511	528	522	528	524
	639.7						600				
	852						864.2				

  

Spectrum Analyzer - Keuwlsoft					
OM	MA	NI	PAD	ME	HUM
110					
				123.3	126
	140.9	134.2	142		
174					
290.3	292.2	270	293	294	290
		393		372	375
				500.2	482.3
	520	512	527	522.2	532.1
	631.1				
	852.3				

**Figure 1:** Comparative results for each of the android applications

Final Grouping					
OM	MA	NI	PAD	ME	HUM
110.76					
				122.76	122.1
	139.86	138.06	138.33		
170.66					
289.13	293.13	280.46	287.33	294	291.3
		377.23		369.6	368.4
				487.9	478.6
	519.7	522.66	525.66	527.43	529.4
	623.6				
	856.1				

**Figure 2:** Final set of frequencies confirmed for each syllable of the mantra

### 3. Results and Discussion

#### Measured frequencies of the chant and its comparison to known therapeutic and healing effects of specific frequencies

The syllable OM is always considered as a sacred syllable and has been found in many religions. Gurjar and group ratified that chanting the OM mantra results in stabilization of the brain and removal of worldly thoughts with an increase in energy. The group also confirmed this chant as a brain stabilizer and suggested that by practicing it one can enter deeper and deeper into the own natural state (Gurjar et al 2009). In the mantra, the OM is made up of three frequencies - 110.76 Hz, 170.66 Hz and 289.13 Hz, where the first frequency – 110.76 Hz is part of the frequencies of the gamma waves recorded in the brain and therefore support gamma brainwave entrainment. The gamma brainwaves are the fastest documented brainwave frequency range, which oscillate within the range of about 25 to 100 Hz. Gamma waves have showed increased mental activity/cognitive enhancement, freedom from distractibility, high levels of info-processing, learning and focus, high short-term memory ability and migraine prevention (Zhuang et al 2009). In another study where monks were told to generate an objective feeling of compassion during meditation, their brain activity began to fire in a rhythmic, coherent manner, suggesting neuronal structures were firing in harmony. This was observed at a frequency of 25–40 Hz, which is a typical rhythm of the gamma waves recorded in the brain (Lutz et al 2004). Brain wave entrainment, sometimes referred to as binaural beat is becoming a popular way of inducing desired mental states and accessing our untapped potential. Binaural beats are aural tones played at different frequencies in each ear (Puzi et al 2013).

Frequency 170.66 Hz is very close to 174 Hz which is part of the ancient Solfeggio scale and also claimed to be a natural anesthetic as it tends to reduce pain physically and energetically (Hulse 2009). 174 Hz frequency is known to give organs a sense of security and also creates a foundation for acceleration and evolution of consciousness (Paddon 2012). 289.13 Hz frequency is close to 285 Hz, which is also a part of the ancient Solfeggio scale known to assist in the

expansion of consciousness in balanced multi-dimensional fields of awareness. This frequency is known to influence energy fields and therefore leaves the body rejuvenated and energized (Hulse 2009; Paddon 2012). The frequencies associated with the syllable OM for the Om Mani Padme Hum mantra can show a direct effect on the body and therefore is the most important and powerful mantra for Buddhist meditation. Buddhist teachings claim that by chanting the OM syllable, an impure body, speech and mind can be transformed into pure ones of a Buddha, who was once impure and later by removing negative attributes, achieved enlightenment on his path (Lopez 1998). This transformation may have been achieved as a result of the frequencies associated with this syllable which by interact with gamma waves.

The syllable MA is made up of five frequencies, of which two frequencies are unique to this syllable. The frequency 139.86 Hz is part of the gamma wave series which is known to show increased mental activity/cognitive enhancement (Zhuang et al 2009). 293.13 Hz is a similar frequency found in the OM syllable, which is part of the ancient Solfeggio scale known to assist in the expansion of consciousness in balanced multi-dimensional fields of awareness (Hulse 2009). 519.7 Hz frequency is close to 528 Hz which is known to bring in a miracle transformation in healing practices (Paddon 2012). Lee Lorenzen discovered that "6 Sided Water Clusters" form due to the vibrations generated at 528 Hz (Lorenzen 1989) may be the reason of the healing effect on the body at a cellular level. 528 Hz is the frequency linked to the environment; life on earth, it is the frequency of love. Ancient Egyptians used Solfeggio scale for healing and altering consciousness in large sound chambers where they would play frequencies at 528 Hz throughout the chambers to generate specific effects on individuals (Hulse 2009). The frequency is also known to increase energy, clarity of mind, awareness, awakened or activated creativity, ecstatic states like deep inner peace, dance and celebration and activate one's imagination, intention and intuition (Paddon 2012; Linstead 2013).

623.3 Hz frequency is close to 639 Hz, which is also part of the sacred Solfeggio scale. It enables in creation of concordant community and builds interpersonal relationships (Hulse 2009). Healers and meditators use this frequency on individuals while dealing with relationships problems – those in family, between partners, friends or social problems. This Solfeggio frequency can enhance communication, understanding, tolerance and love. Healers call this frequency as Relationship Harmonization where they claim that the frequency results in complete healing radiant light that descends upon the listener filling the personal mind with the influences of balance, health and tranquillity (Linstead 2013). 856.1 Hz is close to 852 Hz which is a frequency linked to the ability to see through the illusions of one's life. This frequency has been used to open up a person for communication with the awareness of the spiritual order. For cellular processes, this frequency is known to support the cell to transform itself into a system of higher level (Linstead 2013; Bonds-Garrett 2013).

The syllables NI and PAD show similar frequencies, where some of the frequencies also match the syllable MA. The NI

syllable possesses the 377.23 Hz frequency which is close to 396 Hz, which is also part of the ancient Solfeggio scale, known to liberate energy and has beneficial effects on feelings of guilt. It cleanses the feeling of guilt, which often represents one of the basic obstacles to realization, enabling achievement of goals in the most direct way (Bonds-Garrett 2013). 396 Hz frequency searches out hidden blockages, subconscious negative beliefs, and ideas that have led to your present situations (Paddon 2012; Hulse 2009). The syllable ME and HUM also show a similar pattern of frequencies that overlap with other syllable patterns. 122.76 Hz and 122.1 Hz are also part of the gamma wave series which is known to show increased mental activity/cognitive enhancement, freedom from distractibility, high levels of info-processing, learning and focus, high short-term memory ability and migraine prevention (Zhuang et al 2009; Hulse 2009). 487.9 Hz and 478.6 Hz are close to 528 Hz which is a well-studied frequency also a part of the MA syllable.

### Resonance and Frequency

The whole universe is vibrating with energy and this energy vibrates at various frequencies. Rocks, emotions, people and even planets differ from each other, and everything else, because of their unique vibrational frequency. Tuning the body to these frequencies can bring a phenomenal change in personality and this can be achieved by the frequencies generated from chants or mantras. Most living forms bear the sense of hearing; the ability to perceive sound within specific ranges of frequencies. Some organisms perceive frequencies as vibrations or via the phenomenon of resonance. In humans, music therapy is a proven relaxation technique that helps manage stress and acts as a form of secondary treatment for several neural based disorders (Thoma et al 2013). Schumann calculated the Earth's-ionosphere cavity resonance frequency to be 7.83Hz, which is known as the Schumann resonance, and which is also the frequency by which our biological system is tuned to earth. Several studies were conducted, where people were shielded from the naturally occurring Schumann resonance frequency, which resulted in disruption of circadian rhythms resulting in health effects such as migraine, headache and emotional stress which was restored when the subjects were re-exposed to this frequency (Persinger 2014).

Meditators, healers, religious, mystics and natural psychics routinely use the technique of resonance, by focusing attention on physical objects and icons by allowing intuitive perceptions to enter a state of conscious awareness. The experience is an altered sense of space-time with closure of self and a unified sense of relationship with all that exists through the balance of the resonating frequencies between the cells, the body, the earth and the universe (Mitchell and Staretz 2011). Meditation and healing practices that induce vibrations have provided us the secrets of resonance, which can induce several conformational changes in the patterns of consciousness. We are all part of a universe that demonstrates harmonic resonance, which includes the smallest wave-like vibrations that can be generated via the smallest particles of matter to larger orbital resonances that emerge from the galaxies and stars oscillating at specific frequencies.

Biophysics suggests that our biological systems are tuned into the background frequency of our planet via the Schumann Resonance which occurs at a steady pulse of 7.83 Hz within the ionosphere cavity of the earth and therefore could be the source of resonant vibrations that triggers the progression of quantum generated consciousness within cells of all living beings. A living system may have many resonant frequencies due to their degrees of freedom, where each can vibrate as a harmonic oscillator supporting the progression of vibrations as waves that moves as a ripple within the whole system (Pereira 2015c).

### 4. Conclusion

Om Mani Padme Hum is an amazing chant and there seems to be magic in each and every syllable which makes it more phenomenal. Chanting this mantra can actuate the frequencies associated with each syllable, to resonate at frequencies known to bring a change at a physical and biological level. These frequencies have been used for several healing practices which have never been understood from a scientific perspective and therefore needs to be studied further to better evaluate the significance of these frequencies in daily life. His Holiness The 14<sup>th</sup> Dalai Lama states that just by chanting the mantra would not help, but chanting each syllable with precision of note and frequency would show a meaningful effect. This mantra is like an inner pilgrimage, which explains how you need to begin; just like the blooming of a flower; the experience of one's inner treasures that are expressed through the blossoming of the flower which is a result of the specific frequencies associated with each syllable that can make a significant change from within.

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