



Physiological Effects of Cryptic Ancient Religious Chants

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Aim: One of the variables that contributes to higher academic achievement is awareness. In Indian schools, traditional practises are applied to improve mental skills with the purpose of adding value. Prayers and other mantras, for example, can help to regulate and enhance the cardiovascular heart's rhythm while also modifying baroreflex sensitivity.

Method: 50 healthy individuals were selected for the study. Comparisons of the effects of reciting Mary's petitions or mantra during voluntary breathing and metronome device control on rate of respiration, spontaneous pulse, blood pressure, and brain circulation in the RR region. The purpose of this study is to compare the impact of singing the Gayatri mantra (GM) on awareness to the function of letter substitution (DLST). Respiratory frequency, normal breathing, baroreflex sensitivity, heart oscillation frequency were recorded. The Bonferroni adjustment was utilised in the frequent measurement analysis of difference.

Conclusion: With the DLST net, both of these times showed complete upgrades in total points. In comparison to PL (3.85 percent), the extent of the development of net points was large after GM (22.67 percent). When repeated seven times per minute, both prayers and mantras generate a noticeable, forceful, and simultaneous rise in present-time cardiovascular system pulsations. The sensitivity of the baroreflex also increases significantly, from 9.2 (SD 4.4) to 11.7 (4.5) ms/mm Hg, P0.06.

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1. INTRODUCTION

The gayatri mantra has been shown to improve memory and attention in studies, but there is no research on the effect of traditional Vedic singing on memory and continuous attention, which is one of the most significant parts of cognitive skills [1].

The Mantras are derived from Bharat(IndiaVedic)'s culture and are an important component of old Indian traditional society and its people. The Rigveda samhita mentions the Gayatri mantra (GM). GM was revealed to the wise man, Vishwamitra, the most revered rishi-sage. Because it affects the god Savit, it is also known as the Savit mantra. . GM began his formal scholastic life as a student, as is customary in Indian society. It is said that a child's mental growth will be aided by singing. The Gayatri mantra (scripture sutras) and religious rituals (prayer) have also been discovered to have a substantial effect on many bodily and mental functioning, according to scientific studies. If there has been an increase in the coordination of cardiac beat and blood vessels as a result of both prayers and ancient Indian mantras [2].

They're read seven times per minute. Susceptibility to baroreflexes is also increasing. These findings imply that repeating prayers and other mantras in certain waves has beneficial psychological and physical effects. The repeating of the "GM" in 12 scales resulted in a modest shift in attitude accompanied by a decrease in skin resistance. Various styles of meditation used by Japanese and Buddhists have revealed different brain territorial activities. The Buddhist chant employed the dorsolateral prefrontal cortex and the right parietal cortex, whereas repetition of the Buddha's name stimulated the prefrontal cortex. Blood pressure and heart rate vary in healthy humans and organisms as a result of distinct regulatory mechanisms influenced by breathing, stimulations, and function. Mayer explained the second 10th series in blood pressure (7/min) in relation to female genital function and empathy more than a century ago. The limbic function is demonstrated by the neuro hemodynamic that corresponds to singing "GM." The findings of the study contradict the useful component of the 'GM' in therapeutic practise, because the identical observations were made

with nerve number 10 provocation therapy used for depression and seizures [3].

It is commonly known that 'GM' is used in meditation. The impression of feeling vibrating vibrations all around the ears is linked to 'GM's active singing. It is believed that such a sensation will be transmitted through the ear's vagus nerve division. As a result, we assume that 'GM' singing will cause limbic dysfunction as a Vagus nerve stimulation shortcut. Explicitly, 'GM' singing is expected to produce similar neuro hemodynamic similarities, including limbic system closure, amygdala, hippocampus, parahippocampal gyrus, insula, and orbitofrontal areas of the brain. Because they slow breathing to roughly seven breaths per minute, which is in line with the circulatory rhythm, prayers and mantras enhance and balance the heart and blood vessels [2].

Blood pressure and heart rate vary in healthy humans and organisms as a result of independent regulatory functions influenced by breathing, stimulations, and function. Mayer explained the second 10th series in blood pressure (7/min) in relation to female genital function and empathy more than a century ago. This is a perception that is caused by a central oscillation apparatus in the medulla oblongata area, or by an incomplete response direction generated by one or both of the conditions - constant motion. Low respiratory rhythm (7 beats per minute) improves cardiovascular system performance and promotes sinus arrhythmic ventilation, arterial baroreflex, blood oxygenation, and endurance exercise. Long-term heart failure reduces the responsiveness of the respiratory chemoreflex and outperforms aberrant ventilation. Reduced breathing can help to mitigate the detrimental effects of cardiac ischemia, as well as improve stability and well-being. The harmonisation of respiratory and cardiac rhythms with blood arteries is responsible for at least some of these outcomes [4].

Because it treats all diseases, "GM" is referred to as a superior medication. By constantly saying GM, any sick person can be cured of their disease. Self-purification is primarily accomplished through GM singing performances. (growing forms of existence and reducing optimality and boring quality) It improves, strengthens, and shields the soul from the destructive effects of sin. Under the Vedas, this

mantra is exalted to humanity and is full of power. The Gayatri mantra has a dynamic force that brings together bachelors, homeowners, and forest dwellers who all say it at least 108 times a day [5].

Previous research has shown that participating in behaviour therapy and practising mindfulness can help to reduce the impact of negative emotions and situations. These works are aligned with Buddhist philosophy, which claims that a well-trained practitioner may change the mind's response to unfavourable situations. When confronted with a harmful event, both a well-trained practitioner and an untrained layperson will experience the initial feeling of pain in their primary states, as if struck by a "arrow" (the "first arrow"), and this painful experience is unavoidable, according to the Sallatha Sutta (The Arrow Sutra).

2. METHODOLOGY

Respiratory reserve, systolic and diastolic blood pressure, and transcranial signals in progress.

During voluntary respiration, the automatic breathing rate will be 15.2 (4.7) per minute; you can even slow down when chatting for free. The rate of irregular breathing has decreased as a result of free speech. Breathing will be more common during shortness of breath, mantra, and easy speech than during unforced respiration (surprisingly, the normal respiration seen during repetition of mantra will be the same as normal during controlled breathing) in 7/min, demonstrating that these mechanisms can help in improving the velocity of respiration as well as precise time limit [2].

Furthermore, because of normal breathing, the greater respiratory rate will be lower during the prayer sequence than during the automatic phase of easy breathing and speaking. This increase in heart rate and blood vessel changes has had an impact on cardiovascular control mechanisms: In the transition from spontaneous breathing to 7-minute breathing and free speech with Ave Maria, or free speech with mantra, baroreflex arteries expand [2].

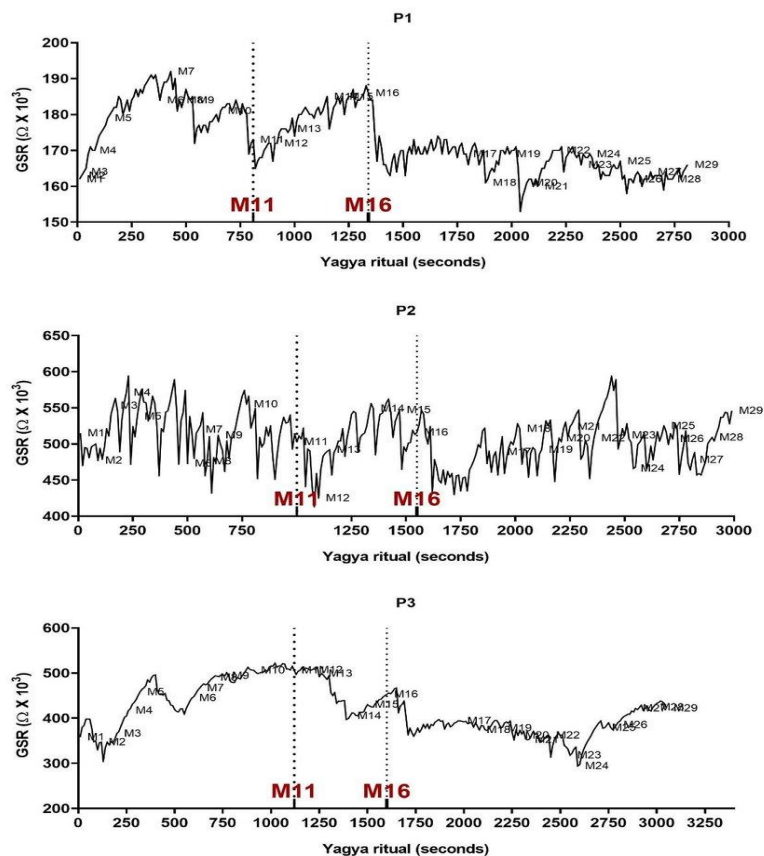


Fig. 1. Breathing and heart rhythm

The impact of rhythmic rhythms (gayatri mantra) on breathing and heart rhythm as compared to spontaneous breathing. During prayer recall and mantra, keep a slow-moving rhythm (about 7/min) for all signs [6]. GM is an enigmatic song with a cryptic message. It is more effective when recited correctly in order to understand its significance. It causes oscillations, which alter each person's natural and emotional condition. It has the power to alter another person's life and mental state. It's also capable of causing environmental changes. The mantra leads to the enlightenment of the full spirit, according to Patanjali's Yoga Sutra [7].

2.1 Relation between Frequency of Breathing and Life Span

There are 86,400 seconds in a day (24 x 60 x 60). If we take 4 seconds on average during the entire cycle of each inhale + expiration, we are chanting the Sohum/Humsa mantra 21,600 times every day (but not consciously). On average, it translates to 15 breaths per minute (10). 15 rotations per minute is equivalent to 75 or 80 years of life. When the breathing rate is increased, longevity is diminished. God Almighty determines the length of our lives based on the number of breath cycles (inhalation + exhalation) we take, not the number of days, months, or years we live. Intriguingly, the frequency with which living organisms breathe coincides with the duration of their lives. The average frequency per minute, for example, is listed in descending order as follows: It's 78 for a rabbit, which means an average life span of 8 years; 32 for a monkey, which means an average life span of 10 years; 29 for a dog, which means an average life span of 11 years; 19 for a horse, which means an average life span of 35 years; and 15 for a human, which means an average life span of 80 years. (vi) It is 8 for a snake, meaning a 1000-year average life span; (vii) it is 5 for a tortoise, implying a 2000-year average life span. As a result, we believe that one of the most efficient strategies to live longer is to reduce the average frequency each minute from 15 to 12 (say) with Sohum/Hamsa pranayama and live happily and healthily for over 120 years (unless there is an unnatural death).

3. RESULTS

Following the completion of GM recitation sessions for diverse individuals of various ages

and genders, there is a steady improvement in cardiovascular systems, circulatory systems, focus, heart rate, development of life skills, and so on. In general, the participating group of people receiving GM and EFT treatment will have a higher quality of life than the untreated group of patients [7]. 24 characters in GM correspond to 24 locations in the body where 24 such glands are located, which, when regenerated, utilise and stimulate mental energy in a rational manner [8] The rate of survival outcomes in the involved group of persons improved dramatically after treatment with GM and EFT. All health indexes did not improve significantly in the control group, but for all twelve indicators and total standards of life points, the involved group of people receiving GM & EFT therapy had a higher quality of life than the untreated control group.

4. DISCUSSION

Every cycle, the time of Ave Maria, as it is commonly said in the first language, will be around 8 seconds. This frequency (7/min) is similar to the Mayer frequency in unforced participants, hence increasing cardiac output by coordinating sympathetic ejaculation with vaginal discharge. This has even resulted in a shift in the rhythm of cerebellar blood flow, which can directly alter central nervous system oscillations. Ordinary speaking will have the effect of assessing respiratory velocity and normalising it, though it will remain anomalous. Breathing is consistent in a constant range if speech has a rhythm. These themes improve when they are accompanied with spontaneous cardiac beats. Breathing exercises that are repeated lessen the rate of voluntary breathing, which can have long-term implications. We'll have to show that repeating a prayer or mantra causes shortness of breath, which raises baroreflex, which is a good predictor of long-term cardiac patient research [2].

The anterior cingulate gyrus is made up of a web of brain areas including the section of the brain placed in front of the frontal lobe and temporal (including parahippocampal gyri) cortices. Several parts of the dorsolateral prefrontal cortex, including the anterior cingulate above the parietal area, near the rear and top of the brain, will show a decrease during the chosen awareness task. The connection between "GM" singing and the steady state of the orbitofrontal, anterior cingulate, parahippocampal gyrus,

thalamus, and hippocampus revealed considerable closure in the feeling of re-sounds when hearing "GM" singing. The performance of the right amygdala has also been impressive. While singing "GM," no notable performance was noted. During the comparative activity - the state of pronunciation - no activation or paralysis happened in these areas of the brain. Nembutsu prayer creates a medial frontal gyrus, which is comparable to the areas formed by meditation and is intimately linked to rational attention and visuospatial awareness. Meditation also requires the formation of the frontal left gyrus, the right angular gyrus, and the upper right gyrus, all of which are associated to visuospatial awareness. All of these studies indicate that GM replication may help to improve visual acuity [6].

The Emotional Freedom Technique, which includes GM as one of the hindu culture's beliefs, has a positive impact on patients' quality of life following a stroke. We'll have to come up with a new strategy to improve patients' quality of life by combining religious songs with a modern approach to current research [7-14]. This is a great example of a low-cost but effective attempt. There will, however, be a few restrictions. The size of the sample and the characteristics of the participants will have an impact on the first constraint. We won't be able to manage the severity of mental impairment based on age, gender, onset time, or side effects. The shorter period between therapy and additional research will be the second limitation. Only the people who are involved will receive additional treatment with GM and EFT, which can help persons suffering from mental illness, heart disease, high/low blood pressure difficulties, and so forth. Various other customs will provide a variety of opportunities for subjects to agree on their order and receive treatment while recovering. The researchers' studies, notably the EFT and GM, one of the Hindu religious doctrines, produce a good impact on the quality of life, and Leininger's Lw is visible in the research [15-17].

5. CONCLUSION

In a school setting, mantra repetition can be used to improve pupils' learning abilities and general growth. The age of a group of pupils, their level of awareness, and the methods used to assess physical differences might all vary. This can be done regardless of religious affiliation.

GM and Emotional Freedom Techniques (EFT) are non-medical treatments that use the flow of energy in a patient's body to improve the healing process in the most favourable phase for that patient. Mantras may appear to be a simple strategy for reducing breathing, increasing focus, and creating tranquilly. Mantras, such as the rosary, are frequently repeated in more than 108 series (152 times). All of the sequences were completed in the same amount of time as the present training period for any form of physical activities. This also suggests that one of the objectives may be exploited to induce physical change, which would then result in psychological change. These reiterations actually generate a rhythm that creates an allotted breathing rate at a predetermined frequency. A periodic formula was a simple way to keep track of correct time within a few seconds of breathing in ancient times, when stopwatches and devices producing an audible click had yet to be found, and so was a good way to slow down to some degree without having to focus on breathing itself. The two techniques (duration and number of repeats) and their effects on the cardiovascular system are very comparable. The ancient conditions that accompanied the rosary to Europe and contends that these uniformities were not random. This strategy introduced a new and old unknown feature of existing health procedures in Westbound culture, whether intentionally or unintentionally. The rosary is regarded as both a medicinal and a religious practice. The belief that specific sounds sound nice to a particular nerve system, as well as a unique mantram given to each individual. GM should be the first medium taught in preschool because it will help youngsters gain the necessary insight and foresight, as well as empower and embrace the lessons sooner in their lives. GM and (EFT) are a mix of non-medical interventions that use the body's own energy to improve the healing process in the rescue phase, which is appropriate for Hindus.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Kalyani BG, Venkatasubramanian G, Arasappa R, Rao NP, Kalmady SV, Behere RV, et al. Neurohemodynamic correlates of "OM" chanting: A pilot functional magnetic resonance imaging study. *Int J Yoga*. 2011;4(1):3–6.
2. Bernardi L, Sleight P, Bandinelli G, Cencetti S, Fattorini L, Wdowczyk-Szulc J, et al. Effect of rosary prayer and yoga mantras on autonomic cardiovascular rhythms: comparative study. *BMJ*. 2001;323(7327):1446–9.
3. Shimomura T, Fujiki M, Akiyoshi J, Yoshida T, Tabata M, Kabasawa H, et al. Functional brain mapping during recitation of Buddhist scriptures and repetition of the Namu Amida Butsu: a study in experienced Japanese monks. *Turk Neurosurg*. 2008;18(2):134–41.
4. Pradhan B, Derle SG. Comparison of effect of Gayatri Mantra and Poem Chanting on Digit Letter Substitution Task. *Anc Sci Life*. 2012;32(2):89–92.
5. Weiss EM, Siedentopf C, Golaszewski S, Mottaghy FM, Hofer A, Kremser C, et al. Brain activation patterns during a selective attention test--a functional MRI study in healthy volunteers and unmedicated patients during an acute episode of schizophrenia. *Psychiatry Res*. 2007;154(1):31–40.
6. Filbey FM, Russell T, Morris RG, Murray RM, McDonald C. Functional magnetic resonance imaging (fMRI) of attention processes in presumed obligate carriers of schizophrenia: preliminary findings. *Ann Gen Psychiatry*. 2008 Oct 3;7:18.
7. Thrisna Dewi NLP, Arifin MT, Ismail S. The Influence of Gayatri Mantra and Emotional Freedom Technique on Quality of Life of Post-Stroke Patients. *J Multidiscip Healthc*. 2020;13:909–16.
8. Sharma DR. To study the effect of Gayatri mantra on Manas Prakruti and stress. 2018;6(2):3.
9. Somani, Ayush, Deep Hathi, Sourya Acharya, Anusha Gupta. Traumatic rhabdomyolysis presenting as acute kidney injury and acute respiratory distress syndrome in young male athlete. *Medical Science*. 2020;24(102):771–75.
10. Acharya, Sourya, Babaji Ghewade, Samarth Shukla, Maria Prothasis. Electric shock-induced pulmonary hemorrhage - a rare phenomenon. *Indian Journal of Respiratory Care*. 2020;9(1):127–28. Available:https://doi.org/10.4103/ijrc.ijrc_49_19.
11. Dhar, Raja, Sheetu Singh, Deepak Talwar, Sagar Chandrashekariah, Surya Kant, Rajesh Swarnakar, Srinivas Rajagopala, et al. Phenotypes in bronchiectasis from the EMBARC India registry. *European Respiratory Journal*. 2018;52(62). Available:<https://doi.org/10.1183/13993003.congress-2018.OA4952>.
12. Dhar, Raja, Sheetu Singh, Deepak Talwar, Murali Mohan, Surya Kant Tripathi, Rajesh Swarnakar, Sonali Trivedi, et al. Bronchiectasis in India: Results from the European Multicentre Bronchiectasis Audit and Research Collaboration (EMBARC) and respiratory research network of India registry. *Lancet Global Health*. 2019;7(9):E1269–79. Available:[https://doi.org/10.1016/S2214-109X\(19\)30327-4](https://doi.org/10.1016/S2214-109X(19)30327-4)
13. Ghorpade, Deesha, Sheetu Singh, Deepak Talwar, Sagar Chandrashekariah, Surya Kant, Rajesh Swarnakar, Srinivas Rajagopala, et al. Post-tuberculosis bronchiectasis in India: Outcomes of the Indian EMBARC Registry. *European Respiratory Journal*. 2018;52(62). Available:<https://doi.org/10.1183/13993003.congress-2018.PA2748>.
14. Salampuria, Shruti, Shubhada Jajoo, Sourya Acharya. Acute respiratory distress syndrome during pregnancy and post-partum - A case series with spectrum of near miss to mortality. *Journal of Evolution of Medical and Dental Sciences-JEMDS*. 2019;8(49):3724–26. Available:<https://doi.org/10.14260/jemds/2019/806>.
15. Sharma SK, Sharma R, Singh BK, Upadhyay V, Mani I. A study of non-tuberculous mycobacterial (NTM) disease among tuberculosis suspects at a tertiary care Center in North India. *American Journal of Respiratory and Critical Care Medicine*. 2019;199.
16. Halani D, Jaiswal A, Kumar S, Talwar D, Madaan S. Post natal covid-19 induced severe acute respiratory distress syndrome managed with monoclonal antibody and

- prone ventilation. Medical Science. 2021;25(112):1427–31.
17. Reddy EM, Agrawal M, Kumar S, Talwar D, Madaan S. COVID-19 induced severe respiratory failure in early gestation with favourable outcome: A close escape. Medical Science. 2021;25(112):1422–6.

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