



Research Article

## Investigating The Physiological Impact of Sound Frequencies as Per Seven Chakra Theory and W.H.O. Noise Protocols and Studying Their Impact on Human Heart

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### Abstract

In this paper the effect of sounds of different frequencies on functioning of Human Body is explained on the basis of “Seven Chakra Philosophy” and protocols provided under the data of “World Health Organization” Noise Pollution Protocols, (WHO/Europe) Estimates in 2011 and Cardiovascular effects of Environmental Noise exposure is done. “The effect of sounds of different frequencies” has been analyzed with the help of frequency analyzing software and its co- relation is studied with “Human Heart Beat per Minute”. The measurement of (HBPM) has been studied Using Software Which Uses Photo plethysmography (PPG). This technology uses the Camera and Flash to monitor Blood Flow. When one places finger On Camera and Flash Illuminates the Screen, the camera captures Subtle Changes in Blood Volume in Capillaries with Each Heart Beat. Results from the study suggests that there is a variation in Normal heart rate (60-100) BPM ,when exposed to lower frequencies ranging between (250-500 Hz) ,while when sounds of higher frequencies of range( 800Hz-2Kz) were introduced the Number of Heart Beats per minute increases from normal range to higher Ranges Of About (115-120) This reflects the impact of environmental noises Human wellbeing by effecting the alignment of the seven chakras.

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**KEYWORDS:** Seven chakra philosophy, sound frequencies, photoplethysmography (PPG), Environmental Noise, Human physiology, Frequency spectrum analysis, Bio-acoustics.

## 1. INTRODUCTION

Sound is form of energy produced by vibrations that creates sensations of hearing, travelling through media (solids, liquids, gases) as longitudinal waves. It requires material medium to propagate and cannot travel through vacuum. Amplitude is the measure of loudness of a sound. In day today life we came across various sounds some of which are very loud and some are so soft the amplitude and frequency of sound governs whether the sound is soft or shrill. In this paper various sounds around us in the environment such as chirping of bird, soft music sounds, Lata Mangeshkar (renowned) singer's voice, DJ Sound, loud music sound of sitar, tanpura etc. are analyzed using frequency measuring software, corresponding to these frequencies human heart rate is also analyzed in response these frequencies using software which uses (PPG) Technology to detect human heart rate. Another aspect of the study is the exploration of in co-relation to Vedic philosophy of seven chakras. According to Hindu philosophy chakras are described as cosmic energy center of body located along spinal cord each of which is vibrating at resonant frequency according to this explanation of chakras in science, the most basic level is biological. Chakras interact with our nervous system as well as each chakra is associated with endocrine gland. Chakras are therefore engaged with our bodily functions. Another aspect of theory of chakra with regard to science is the sound theory according to that there is sound associated with each chakra, in Hindu traditions these chakra tones are called "bija or seed" and fifty sounds are spread among these seven chakras in Sanskrit. In Hindu philosophy chakras have three main functions whether the chakra is fully activated or not. The first function is physical processing: Many chakras are connected to nerves and endocrine gland and all of them manage certain part of function in human body. They are also described on the basis of sounds and colors which are related to vibratory bands and operate our senses. Psychological and spiritual processing are function of chakra also, but our study will be focusing majorly on physical processing as it's relating to vibratory bands of sound which is our major focus. Along with that the study will be considering WHO protocols of

noise pollution which aims to study the health hazards of exposure to loud voices for long time.

## 2. METHODOLOGY

Sounds of different frequencies are played on one device and in some cases live exposure of sounds was done and analyzed with the help of frequency analyzing software. The software uses phone's microphone to analyze the frequency and amplitude spectrum of sound exposed. At the same time heart beat per minute is analyzed on the other device using software which uses (PPG) technology to measure heart beat per minute. As mobile phone software is used as medium for measurement. So the working of a typical (PPG) device consists of a light source which emits light to tissues and photo detector (camera of phone) in our experiment, measures radiated light from tissue. The reflected light is proportional to blood volume variation, similar to ECG, PPG waves can also help to diagnose cardiac arrhythmias (irregular heartbeat) because they manifest cardiac and respiratory activities. There are different colors of led sensors in actual detectors which is simply because of range of penetrating power. This technology is capable of measuring the change in blood volume. This method has a limitation that it can be used at only several parts of body such as forehead, earlobe, wrist/forearm, ankle, and fingertip. In this research all the beats are measured with fingertip. Its advantage over (ECG) is that it uses simple hardware for measurement and have lower cost. The whole experimental study uses mobile and analyzer software to study variation of heart rate in co-relation with exposure to different frequencies.

## 3. RESULTS

As per the medical experts the normal heart beat of human heart is recorded between the ranges of (60-100 BPM). Some graphical data of frequency and variation of heart beat per minute analyzed with the help of frequency and (PPG) analyzer in the study is as follow:

- Lata Mangeshkar voice

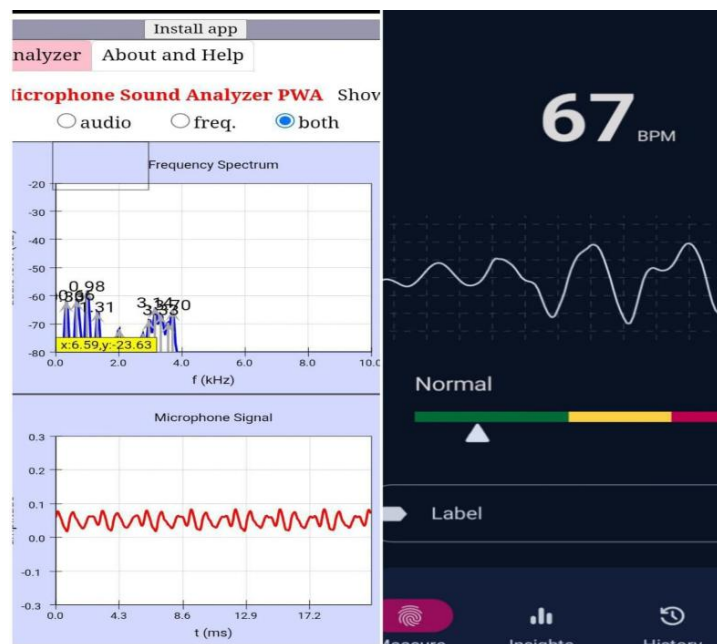


Figure 1: Frequency spectrum analysis of input sound correlated with real time PPG heart rate measurement.

- Listening to Flute sound

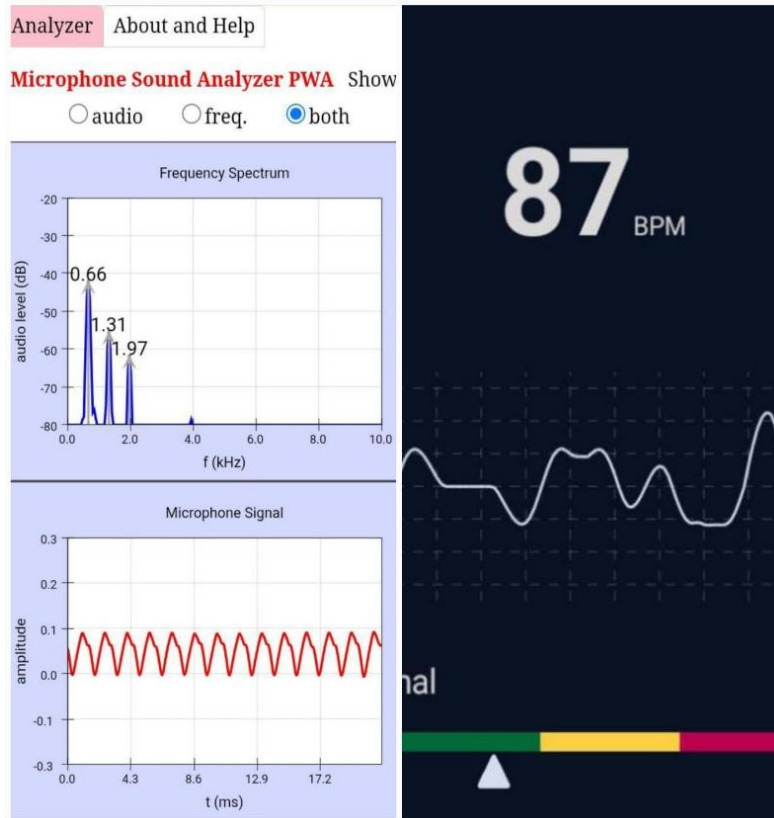


Figure 2: Frequency spectrum analysis of input sound correlated with real-time PPG heart rate measurement.

- Chanting of OM sound

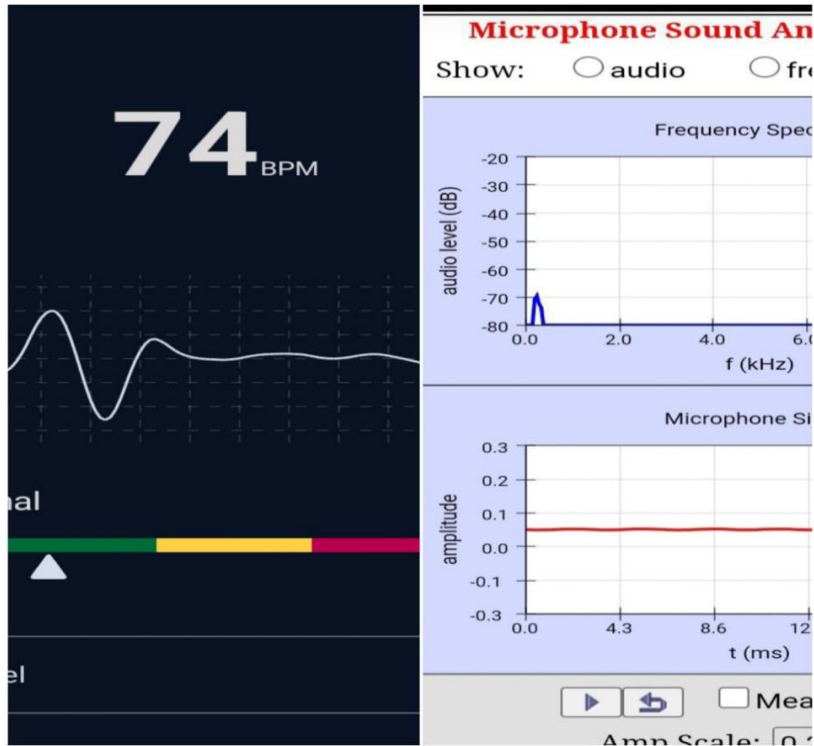


Figure 3: Frequency spectrum analysis of input sound correlated with real-time PPG heart rate measurement.

- Listening to loud DJ music

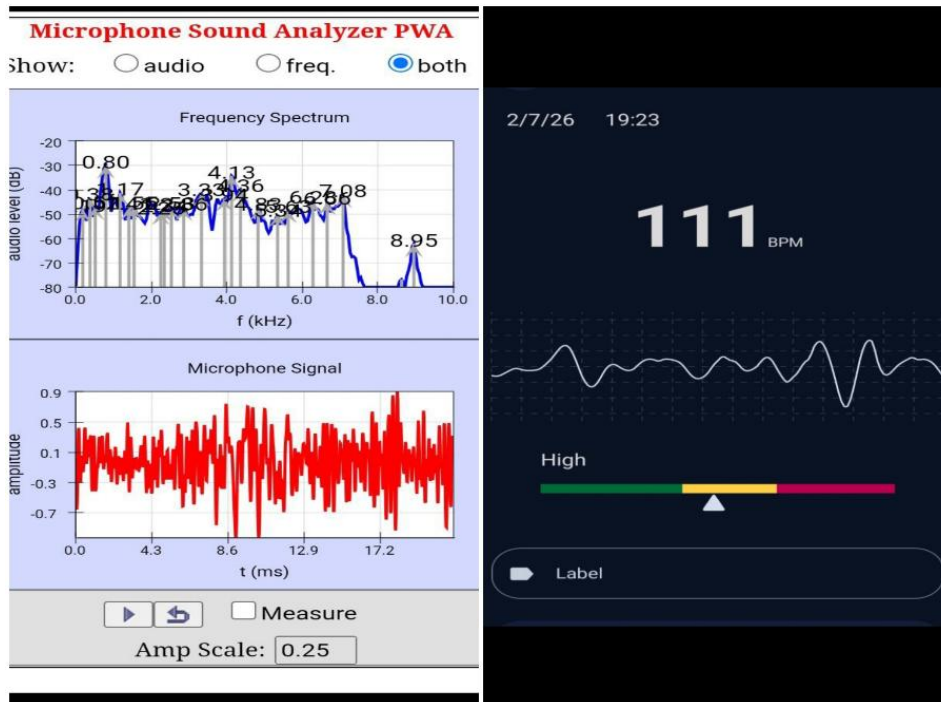


Figure 4: Frequency spectrum analysis of input sound correlated with real-time PPG heart rate measurement.

- Sounds ranging (4000-4040Hz)



Figure 5: Frequency spectrum analysis of input sound correlated with real-time PPG heart rate measurement.

- Some more analysed data :

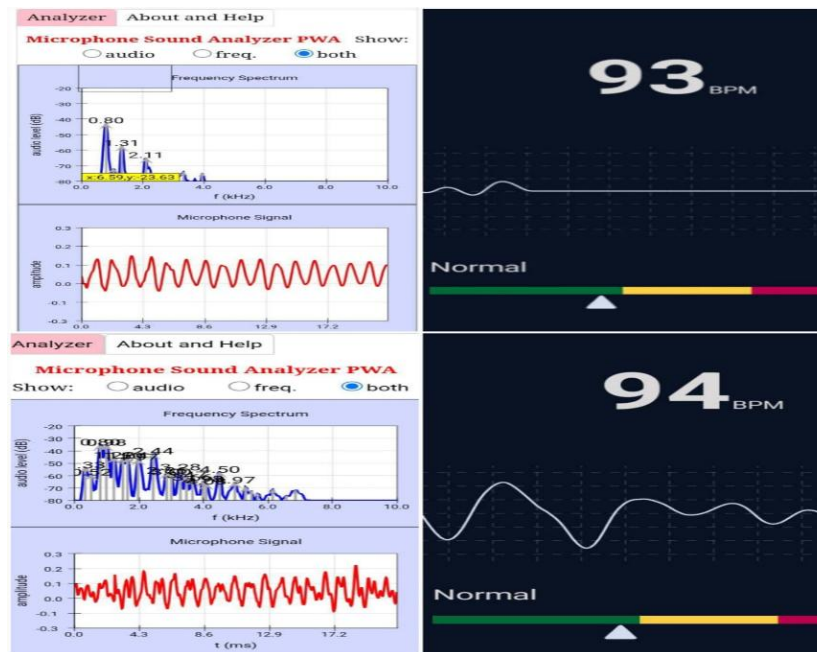


Figure 6: Frequency spectrum analysis of input sound correlated with real-time PPG heart rate measurement.

The variation in heart rate with exposure to sounds of different frequencies is tabulated below in a general comparison table:

| Sno. | Type of sound | Frequency range | (HBPM) |
|------|---------------|-----------------|--------|
| 1.   | Sitar         | (250-350 Hz)    | 83 BPM |

|     |                                 |                 |         |
|-----|---------------------------------|-----------------|---------|
| 2.  | Flute                           | (550-660Hz)     | 87 BPM  |
| 3.  | Tabla                           | (600-800Hz)     | 93BPM   |
| 4.  | LataMangeshkar Voice            | (440-500Hz)     | 67BPM   |
| 5.  | Car Horn                        | (2.07-2.44kHz)  | 95BPM   |
| 6.  | Loud Music                      | (1500-2000 Hz)  | 111BPM  |
| 7.  | High frequency                  | (4000 -4040 Hz) | 93 BPM  |
| 8.  | OM chanting                     | (432-528Hz)     | 73BPM   |
| 9.  | Frequency ranging 400 Hz        | (400-432Hz)     | 83 BPM  |
| 10. | DJ loud speaker at wedding hall | (3000-3660 Hz)  | 115 BPM |

The trends of value of heart beat per minute at different frequencies shows that as the frequency of sound is increased the value of heart rate per minute increases to (111-115BPM) while at medium and lower frequencies the value of heart rate per minute is normal ranging between(70-100BPM). Which suggests that the frequency range and amplitude of sounds effect heart rate per minute, with increase in frequency value of (HBPM) increases while at moderate and lower frequencies it is normal. As according to Hindu philosophy of chakras suggest the heart which is related to the fourth chakra “The Anhata Chakra” relates with love, emotions, relationship and healing etc.

#### 4. DISCUSSION

Chakras are subtle structure energy centers inside human body is depicted such that they are arranged vertically one below another, disturbance in alignment or spin of any one of the chakras affects other chakras as well. The number of chakras is different in different philosophies. In Hindu philosophy there

are seven chakras. The first one is “Muladhara”, “Svadishtana” The second, “Manipura” Third, Fourth “Anahata”, “Vishudha”, the fifth, “Ajna” Sixth and Seventh “Sahasrara”. The seven-chakra theory relates to seven bands of colors, seven band of sound waves. Sciences explains chakras in many different ways the most basic level is biological. Chakras interact with our nervous system as well as each chakra is associated with endocrine gland. Chakras are therefore engaged with our bodily functions. According to Hindu philosophy chakras have three main functions out of which the focus of our study is on the first function physical processing: Many chakras are connected to nerves and endocrine gland and all of them manage certain part of function in human body. They are also described on the basis of sounds and colors which are related to vibratory bands and operate our sense... [1].

As per the seven-chakra theory the division of the seven chakras on the basis of Hindu philosophy is tabulated below along with their core functions.

| Chakra        | Location     | Element | Color  | Gland          | Core Function                   |
|---------------|--------------|---------|--------|----------------|---------------------------------|
| Muladhara     | Hips/Base    | Earth   | Red    | Adrenals       | Survival, Safety and Security   |
| Svadhishthana | Abdomen      | Water   | Orange | Ovaries/Testes | Emotion and Creativity          |
| Manipura      | Solar Plexus | Fire    | Yellow | Pancreas       | Willpower, Self-esteem          |
| Anahata       | Heart        | Air     | Green  | Heart          | Love, Relationships and Healing |
| Vishuddha     | Throat       | Ether   | Blue   | Thyroid        | Communication and Truth         |
| Ajna          | Forehead     | Light   | Purple | Pituitary      | Perception, Vision, Intuition   |
| Sahasrara     | Crown        | Beyond  | White  | Pineal         | Divinity and Hope               |

Two organs associated with heart chakra is heart its selves and the endocrine gland. Anahata manages the heart circulatory system, blood, lungs, rib cage, breast, shoulder, diaphragm and esophagus. There are two philosophies about gland associated to heart chakra one suggests the endocrine gland while other suggests thymus. Heart is an organ which pumps blood twenty-four hours a day, made up of 4 parts two atria and two ventricles on top and bottom respectively. Scientists have discovered that heart is more than a circulatory organ, it is also an endocrine gland producing rich hormones and neurotransmitters including oxytocin and also transmit signals to brain. According to thymus theory and Richard Gerber, MD, author of vibrational medicines thymus is considered as minor chakra but is influenced by heart chakra as thymus is associated with hormonal gland. According to Naturopath Dr. Valerie Seeman Gersch, we can boost the functioning of thymus simply by tapping glands, as well as listening to relaxing music, meditation etc. as thymus affects the function of heart chakra. Doing so improves the functioning of “Anahata chakra” as thymus gland regulates life force and immunity. Modern day

research on the basis of (WHO) Noise protocols reveals that inner body light is under constant threat because of environmental noises. The World Health Organization identifies noise pollution as very important factor for physiological stress, the data suggests that constant exposure to noise ranging above 55Db triggers chronic stress causing heart to pump under duress which can shrink thymus which can affect the alignment of seven chakras, as per Hindu philosophy change in spin or alignment of one chakra affects others chakras too.

#### 5. CONCLUSION

“The evidence from the study of response of heart rate at different frequencies” and its relation to the seven-chakra

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theory as well as (WHO) environmental standards suggests that exposure to higher frequencies not only affect heart rate per minute, thymus gland and circulatory system but also disrupts spin and alignment of chakras. Excessive noise effects functioning of heart prevents which prevents from secretion of various important hormones. This suggests that (WHO) noise protocols are not just public policy protocols but they act as a measure to flourish “Anahata Chakra” and act as prevention for “the heart” which maintains the normal functioning of all the seven chakras as according to Hindu philosophy chakras are aligned vertically and functioning of one affects the other. This suggests that sounds of different frequencies affect spiritual protection and functioning of various organs affecting the physiological and physical processing in human body.

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### REFERENCES

1. Dale C. Llewellyn's Complete Book of Chakras: Your Definitive Source of Energy Center Knowledge for Health, Happiness and Spiritual Evolution. Woodbury (MN): Llewellyn Publications; 2019.
2. World Health Organization Regional Office for Europe. Environmental Noise Guidelines for the European Region. Copenhagen: WHO Regional Office for Europe; 2018.
3. Gerber R. Vibrational Medicine: The Handbook of Subtle Energy Therapies. 3rd ed. Santa Fe (NM): Bear & Company; 2001.
4. Gersch VS. Vibrational Medicine for the 21st Century. New York: Eagle Book; 2002.
5. International Journal of Biosensors and Bioelectronics. 2018;4(4):195-202. doi:10.15406/ijbsbe.2018.04.00125.