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Research Article

THERAPEUTIC ASPECTS AND SCIENCE BEHIND RAGA CHIKITSA

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ABSTRACT

Raga chikitsa is one of the ancient manuscripts which deals with the therapeutic effects of the ragas. Before some decades, the ancient Indian classical music maestros affirmed that, ragas influence emotions of human being by changing the resonance of the human body. By survey, it has been observed that no schemes have been demonstrate in this field. Therefore, in the light of discussion, this paper is a single step which aims to discover the science behind the phonetics of the raga and its effects on the nerve system. The paper further discusses about the rationality and science behind the ancient ways of alternative medicine, i.e. raga therapy, which is the need of the day since current advances in technology and rising workload on human beings is accompanied by stress. This paper demonstrates several detailed researches on influence of Indian classical ragas structure on human body while person is listening and experiencing emotions in it by capturing EEG signals.

INTRODUCTION

Locke once said, “A sound mind in the sound body is short but a full description of a happy state in the world.”

Music is the gift of God to mankind. It is a drug without side effects. Music has frequently been used as a therapeutic agent from the ancient times. Art of music is the foremost and important art among the 64 ‘Lalit Kalas’. From the very beginning, musical art served as a treasure to people’s culture, traditions, civilizations, humanism and other aspects of life. It is a well-known fact that Music is a kind of yoga system through the medium of sonorous sound, which acts upon the human organism and awakens and develops their proper functions to extent of self-realization. This is the ultimate goal of Hindu Philosophy and religion. Melody is the key-note of Indian Music. The 'Raga' is the basis of melody. Various ‘Ragas’ have been found to be very effective in curing many diseases.

Music therapy is well established in the west as a profession, with notable success, but here the music is used only to treat the handicapped people, children with autism, learning or communication difficulties or emotional and behavioral issues such as aggression in kids, the goal generally being the improved study behavior, social acceptance and improved social communication.

Raga and Related Healing Aspects

Raga and Emotion- In Indian classical music, raga is performed at a set time of the day or season with the intention of evoking specific moods within the listener and self like theatre and paintings, which are closely related medium of communication. The English word ‘emotion’ is derived from the French word ‘emouvoir’, which means ‘move’. Indian music is based on the melodic mode (raga) structures within the rhythmic cycles, hence, these two forms of music may demand qualitatively different cognitive engagements. Each raga is conventionally assigned to a corresponding rasa/emotion is known consistently evoke a certain emotion. The artist exploits his/her creativity and elaborates melodic framework to bring out the rasa or emotion. Emotions are not just what are displayed. In psychology, an explicit separation is made between the physiological arousal, the behavioral expression (affect) & the conscious experience of an emotion (feeling).1

Numerous brain systems responsible responses and there are specific systems for different basic emotions. The part of the brain which is most commonly associated with emotions is amygdala. There are three parts of the pre-frontal cortex that are connected to amygdala that is thought to be responsible for emotions. These parts of the brain are: the dorsolateral, the medial, and the orbitofrontal cortex. These parts are thought to regulate decision making, and negative emotions.2

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Raga and time-theory- Much importance is attached in Indian Classical Music to the connection between musical modes or ragas and the periods of the day. Westerners recognize that certain musical works can represent morning, midday or night, but they have never tried to define the intervals by which they are characterized, and they find it quite natural to play them at any hour. But Indian musicologists do not approve of it: ragas of the night should be played at night, and those of dawn at dawn. Then only we can fully understand and enjoy them without effort, because we ourselves change according to the hour; and the day. According to them, “Played at times other than those which they represent, ragas can, for a moment, change the course of Nature. Musicians playing in day time the ragas of night, have been seen to appear gradually surrounded by intense darkness.

Origin and background of Raga Chikitsa

“We cannot prescribe a raga like a medicine or drug” says Dr. Suvarna Naralapat, “Music therapy is all about interrelationships, communication and narrative medicine involving compassion and love.” Raga concepts and its forms uniquely belongs to Indian musical heritage and it will continue to spread love, compassion through its existence.

Mr. B.K.S. Iyengar’s comprehensive definition of Yoga is significant in this context: “Yoga is the rhythm of the body, the melody of the mind and the harmony of the soul, creating the symphony of life.” Similarly, there has been a hoary tradition in India of music as a holistic therapy for human ills, with emphasis on the spiritual dimension. As the body’s natural rhythm is tuned to the rhythm of music and the mind is tuned to the melody of music, harmony and peace of the soul result. That is why Indian classical music is often referred to as “Nada Yoga”.

Exploring the Philosophical and Musicological literature of Ancient India various terms like Akshara, Sabda, Om, Pranava, Udgitha, Nada, Para Brahma, Nada Brahman, Dhvani, Shruti, Swara, Sangeeta, Raga, Raginis etc., are respectively found in Sacred Vedas, Upanishads, Tantras, Epics, Puranas, and different classical musicological texts. Hypothetically, these have been discussed or used in context of/for sound and are considered likely to be the precursor of, what is known to us as Music today.

Ms. Sonia Parikh in her book, ‘Bhartiya Sangeet dwarachikitsa’ quotes that: Dr. Umesh Joshi in his book ‘Bhartiya Sangeet ka Itihaas’, states that in Copper age (Taanur-Yag), when the people got ill, they were treated by the Dravidians through musical tunes and chants for a few days, instead of drugs and pills. Consequently, the patients got normalized with even better health and physical systems. This statement has also been verified in the books, ‘The Enchanting Power of Music’ by Mr. Dowaskiremla and ‘The Health & Music’ by John Flocks.

According to Sakuntala Narasimhan in “Invitation to Indian Music”, p.12. - History of Indian music dates to 3rd and 2nd millennia BC i.e. the period of Indus valley civilization, references to Indian classical music can be found in the Vedas. Four in number: Rig-Veda, Sama-Veda, Yajur-Veda & Atharva-Veda. The oldest, the Rig Veda, dates to about 4,000 B.C. It was recited initially in a monotone and then later developed to 3 tones (one main tone and two accents viz., one higher (uddatta) and one lower (anudatta), and svarita. This was done to accentuate the words, since the text was of primary importance. The Yajur Veda, which mainly consists of sacrificial formulas, mentions the “veena” as an accompaniment to vocal recitations during the sacrifices. By this time, the chants had evolved to two main notes with two accents, which formed the first concept of the tetra chord (4 note chord). Three more notes were added to the original tetra chord, resulting in the first full scale of seven notes. These original seven notes used in reciting the Sama-Veda became the first ragas and, it later became known as the Kharaharapriya raga of the Carnatic (South Indian) system of music.

A lot of people argue that music can be used as a tool for relaxation but not therapy as it cannot mend broken bones. Even if this is true, relaxation is of course, the source and solve of all the diseases and this is proved scientifically.

Researches, even the doctors are now recommending mental wellbeing, mindfulness and positive thinking, meditation for relaxation to cure any dangerous diseases. Disease, whether the life-ending one, is the result of poor lifestyle, mental tension, stress, and of course lack of relaxation. Scientifically, it has been trending that any disease, be it cancer or hepatitis, is just the cause of some degeneration in our body which can be easily cured by proper lifestyle and mind-makeup. Every disease is first captured in the mind before occupying the body. Therefore, they say that all the diseases are psychosomatic or psychological, thus it is essential to music to step in to relax, pacify and heal the mind first and then body.

General talk on why raga music is more therapeutic than other music?

Music in India has great potential in this study because Indian music is melodic and has somewhat different pitch perception mechanisms. Western classical music which is based on harmonic relation between notes versus the melodic mode (raaga) structures in the Indian Classical Music System (ICM) within the rhythmic cycle music may demand qualitatively different cognitive engagement. The analysis of EEG data to determine the relation between the brain state condition in the presence of ICM and its absence would therefore be an interesting study. How rhythm, pitch, loudness etc. interrelate to influence our appreciation of the emotional content of music might be another important area of study. This might decipher a technique to monitor the course of activation in the time domain in a three-dimensional state space, revealing patterns of global dynamical states of the brain. It might also be interesting to see whether the arousal activities remain after removal of music stimuli.

There are a few unique aspects of raga music which may be considered more therapeutic and recommended for healing. However, there is a scarcity of rational researches in the field, whereas, west music has been researched and has gained pretty much authenticity. But there are various unique elements in raga music or Indian music which can be considered as the medium of more explorations and analysis and further for healing.

Home-concept: Indian music is a modal music or based on One base note system, having Sa as the base note. We set a specific
Repetition of the same set of sound frequencies: Another advanced stages of realization. That’s how the transcended sages and saints attain the accentuate on the focal breath whenever it is recalled. thoughts as it’s the work of the mind, but we must return to watching our subtle breath or ‘adhaar’ adhaarswar SA which mollifies the mind, and body. People subtly compose the mantras on the base note so that its connects us to the home after excess of travelling. Because the home provides us a stable platform to the music. Raga music incorporates a basis, a stable platform in which one finds refuge and stability of mind. Certain satisfaction, belongingness, relief dwells in the concept of Swarit or Sa which makes the listener and musician feel that ‘we need to return home’. Each interval is a tone defined by the ratio of its fundamental frequency with the tonic, or ‘root’ note and is termed as tonic interval. The “major” intervals are the shuddhswaras or the natural notes namely, second, third, sixth, and seventh while the “minor” intervals are the komalswaras (flat) positions of the same tones. (Tonic interval names used in NICM, frequency ratios, sizes in cents in Just intonation and 12-tone equal temperament (12-TET) tunings.\(^7\)

Psychologically, we all spend ample of time and money building homes because returning home is an essential factor in our lives. Our brain and mind is conditioned to settle on stable place, even after it gallivants the whole day, months or years. We do not forget our home while traveling in fact, we miss the home after excess of travelling. Because the home provides us the base, stability, space, where we sustain, rest, sleep, work, clean, amidst of all the freedom, routine and regularity. Similarly, SA is a fundamental note which works as a home where the musical tunes, tones or micro-tones find refuge. Why do we find peace and power in chanting mantras? Because we primarily use the base note SA on AUM and the nearby semi-notes nikomal or rekomal. We majorly stick to the adhaarswar SA which mollifies the mind, and body. People subtly compose the mantras on the base note so that its connects us to the omnipresent while praying or meditating.

On the contrary, the European music culture which is adopted in many countries, comprises of the harmonized music, i.e., harmonization/syncing the different chords at a time in same piece. Jumping from on chord to another might lack stability, and belongingness. Indian rhythm system also enriches the ‘home-concept’ through returning on the Sam (x), or the first beat of the tala. Sam is the stress-point or the ‘weight-beat’ in every single musical piece, which is attained regularly after every longer or shorter voyage of the full avartan/cycle. It can also be characterized as ‘tension-resolution’ state as said in the west music. Tension is when we wander throughout the talavartan, and resolution is returning to the sam. We find the listeners nodding their heads in bliss on the sam, which is an ‘aha’ moment for them.

Spiritually, meditation is said to be more effective when we return to watching our subtle breath or ‘pran’ or ‘adhaar’ even after mind wanders hither and thither within thoughts and memories. We should not repress our mind from generating thoughts as it’s the work of the mind, but we must return to accentuate on the focal breath whenever it is recalled. Gradually, frequent reminders of breath-watch make us stable, tranquilized and we reach less-thoughts zone to no-thought zone. That’s how the transcended sages and saints attain the advanced stages of realization. Repetition of the same set of sound frequencies: Another essential aspect of Indian ragas is rendering ‘a set of selected sound frequencies’. Every raga consists of selected minimum five and maximum seven notes and that tooobound with the pattern and rule of ascend and descend. The repetition of these selected notes make the raga a unique feature. It’s like, among the 12 notes (7+5) in an octave, one is served a handful of sound frequencies and instructed to recite for an hour. The basic set of tones and tone-relationships used in North Indian classical music from which ragas are derived are the 12-tone octave divisions.\(^8\) For instance, we are served with S, G, m, P, D, n, N, these notes omitting re while heading up; ascending with shuddha N and descending with the komaln. We name it raga Khamaj. The repetition renditions keeping in mind the rules of ascend-descend, structure, and chalan goes like this: S, G, M, G, R, P, M, D, M, G, P, M, G, S, S, M, S, P, G, M, G, P, n, D, n, P, D, N, S, N, D, N, S, R, S, D, P, D, N, D, S, PDMP S… PDMP R… n, D, P, S and so on…

Revolving and traversing around a few fixed set of frequencies only, abiding by the sound structure (Chalan) is a great healing aspect. These structured set of notes (Swar-sancahaar) make the specific characteristic tunes that provide belongingness and intimacy after a while. We familiarize and get intimate with those structures of sounds and our body cells starts reacting for good. Especially, a competent musician and his extempore unlimited abilities of improvisation makes one travel into the blissful world. It is known fact that specifically structured sounds, like in our ragas, stimulate the brain cells. The characteristic pattern of notes in every raga depending upon the transition of aroor-avroh (ascend-descend), vadi-samvadi (Stressed/frequent notes), nyas-swar (sustained note), swar-samudaye (Phrases of notes), etc. when sung or played repeatedly, evoke a certain emotion because they vibrate at a certain level.

Repeatedly listening to the correct ragas produces sound vibrations which passing through the nerves (which have the most connections in the body) produces contractions and relaxations in specific muscle, nerve, and chakras linked to the affected part. The contraction occurs when the musical impulse is received; the relaxation occurs between two impulses. During the contraction, blood is squeezed out of the affected part and during relaxation, blood from the neighboring part flows in. The blood flow release appropriate energy flow to the affected parts which helps in the healing process.

Ornamentation: Indian classical music comprises of certain unique style, mannerism of singing which is hardly found in the other musical cultures. The purpose of the mannerism or mechanism of note-treatment (Swar-lagaav) is to enhance the aesthetics and prospective mood of the raga. These ornamentations are: Kan, khatka, murki, meend, jhatka, gamak, zamzama, khanak, and so on. These elements add invariably to the songs if used favorably keeping in mind its nature and temperament. For instance, meend or the glide journey from one note to another is used for enhancing the seriousness or serenity of a raga or song therefore, it is used in raga bhairava, Todi, Ahirbhairav,puriyadhanashri more frequently than in the playful ragas like khamajkori. The individualistic ornamenting styles sometimes, change the voice or tones of the singers. Therefore, we find the numerous varieties of voices in the Indian music paradigm compared to the other music world. We have Chithra singing high-pitched; shubhaMudgal with a soprano voice on G\#; Indian music
heritage has Asha Bhonsle on one hand and Begum Akhtar on the other with totally different tonal quality, styles and singing mannerism.

ICM is monophonic or quasi monophonic. Well trained artists can highlight a definite rasa by altering the structures of musical presentations such as stressing on specific notes, accents, slurs, gamakas or taans varying in tempo etc. Musicians as well as ardent connoisseurs of music would agree that every single note can convey an emotion. Many experiences a ‘chill’ or ‘shiver down the spine’ when a musician touches certain note or sustains of a note. The meter system is again quite complex. Indian rhythm & meter system is one of the most complex systems compared to other meters used in world music. Film music, which has been influenced by music from all over the world, is much more popular in the current times.9

Ornamentations make the compositions and voices special and unique. Some of the Indian musicians by default or innately, have these ornamentations in their throat, which make them more popular a singer. The khanaik in their voice quality is developed by birth by imitating, learning, or listening to the Indian music since childhood.

Scientific Researches & Analysis in this Field

The earliest of these was conducted by Balkwill and Thompson (1999) where they asked 30 Western listeners to judge the expression of 12 Hindustani ragas intended to express anger, joy, peace, and sadness. They found that despite being culturally unfamiliar, listeners were sensitive to the intended expression of the ragas. A similar study was conducted by Chordia and Rae (2008) in which they studied emotional responses to five ragas on a scale of six emotions – happy, peaceful, sad, longing, tense, and romantic. While their results also suggested that ragas do consistently elicit specific emotions that are associated with musical properties, they also indicated that the primary predictors of emotion of ragas are pitch-class distribution, pitch-class dyad entropy, overall sensory dissonance, and note density. The multiple regression analysis conducted to determine the most important factors and their total predictive value revealed that these features in combination explained between 11% (peaceful) and 33% (happy) of response variance. However, none of the studies have elucidated the role of any specific tonic interval. To summarize, while the studies described above have clearly confirmed that distinct ragas elicit distinct emotions, they have used as stimuli the introductory section of ragas namely, the alap. None of them has investigated the emotions experienced during the gat of ragas. Consequently, there is little information about the complex interplay of rhythmic regularity and tempo in predicting the emotion experienced for gat of ragas.

CONCLUSION

A body in vibration tends to force vibrations similar to its own in bodies within the effective range of its waves, whether the latter body be initially at rest or already in motion. Every living being is in a constant state of vibration throughout its life. Sound perception converted into impulses take the form of emotions which result in specific sensory and motor reactions. Sensory and motor reactions as mentioned above can only be produced at will by sounds of known dimension. These sounds of known dimensions are musical notes which have been selected different systems of music and have been ascertained to produce pleasant or beneficial effects in persons who appreciate that particular system.

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