



Review Article

MUSIC THERAPY CLINICAL PRACTICE AND RESEARCH INITIATIVES IN INDIA: BRIDGE BETWEEN THE EXPERIENCES OF TRADITIONAL MUSIC HEALING PRACTICES AND ITS SCIENTIFIC VALIDATIONS

Sundar Sumathy^{1*}, Parmar Parin N²

¹Director, Center for Music Therapy Education & Research, Sri Balaji Vidyapeeth University, NH45A, Pillaiyarkuppam, Puducherry, India.

²Research Associate, Chennai School of Music Therapy, Chennai, India.

ABSTRACT

The aim of this review is to showcase and discuss about how music therapy clinical practice and research initiatives in India serve as a bridge between the experiences of traditional music healing practices and its scientific validations. The current status of these healing applications in the global framework of music therapy is highlighted. The multi-modal approach by which aspiring music therapists engage in clinical practice and research with an individualized approach to bring about the therapeutic outcome are presented. Traditional healing resources like Vedic chanting, *Raga Cikitsa*, *Garbha Sanskara* (Learning in the Womb), Time theory of ragas integrating the ancient Ayurvedic perspectives and *Cakra* activation (music and breathing technique using ragas) are enumerated. The clinical outcomes are reviewed as a way to impact biological, physiological, psychological, chrono-biological and spiritual dimensions.

KEYWORDS: Music Therapy, *Cakra* activation, Vedic chanting, *Raga Cikitsa*, *Garbha Sanskara*.

INTRODUCTION

Although profession of music therapy started developing in 1940s in USA and scientific research in field of music therapy has grown significantly during last 4 decades, influence of sound and music on healthy and diseased states of mind and body seems to have been known since ancient times. With advances in integrated medicine, psychoneuro-immunology, and psychoneuroendocrinology, it has been easier for researchers to see a big, holistic picture of health which is affected both positively and negatively by multiple factors such as genetic constitution, diet & lifestyle, environment, etc. Till date, there is convincing scientific evidence showing detrimental effects of noise and positive effects of music and music therapy on human health.^[1,2] However, still there are many questions to be answered, many why's to be explained, and many how's to be demonstrated.

Scriptures and documents suggest that ancient civilizations such as Indians and Greeks were aware of healing properties of music and had been using music therapeutically.^[3] The *Vedas*, the earliest Indian scriptures dating back to 1500 to 1700 B.C., contain many verses related to musicology and health. *Gandharvatattva*, literature on science of music in India, dates back to fourth century B.C. *Brahaddesi*, a 6th century a landmark work in Indian

musicology by Sri Matanga Muni, and *Sangitaratnakara*, a 13th century treatise by Sarangadeva, are not only important for musicological aspects but also for psychological, physiological, and metaphysical aspects.

In this article, we aim to discuss important Indian traditional healing systems in context of music therapy. We also have tried to connect the traditions with modern science by gathering latest scientific evidence that is directly or indirectly related to the ancient concepts.

Indian Traditional Music Therapy Techniques

Musicologically, Indian classical music can be broadly divided into Karnatik music and Hindustani music systems. Both the systems are rich in numerous *Ragas* (a *Raga* is a specific and melodious structure of selected notes and microtones). *Raga Cikitsa* is a very popular term in Indian traditional music therapy, which literally means "treatment by *raga*". In context of modern music therapy, *Raga Cikitsa* can be considered as a form of receptive music therapy experience with therapeutic interactions in which a patient is made to listen one or more specific *Raga/s* to experience its/their therapeutic effects. *Ragas* can be used in form of instrumental improvisations, vocal improvisations

and/or pre-recorded music/ performances. There is accumulating evidence showing effectiveness of specific *Ragas* on specific medical conditions, including a few randomized controlled trials.^[4,5] However, it has been difficult to explain how listening to a particular *Raga* is beneficial in a particular medical condition, considering multiple aspects of musical sound, complexity of human hearing process, and multifactorial nature of health and illnesses.

One possible explanation for therapeutic effects of specific *Ragas* on specific diseases could involve ability of specific *ragas* to evoke specific emotions in the listeners. In traditional Indian musicology, *Navarasas* (nine “*Rasas*”, *Rasa* being defined as a conglomerate of a few emotional states) have been described and different *Ragas* are believed to evoke different *Rasas* in the listeners. Such specific *Rasa*-evoking effects of specific *Ragas* have been recently validated by both Indian and Western Researchers.^[6,7] Several mechanisms, such as brain stem reflexes, rhythmic entrainment, evaluative conditioning, contagion, visual imagery, episodic memory, musical expectance, etc, have been proposed to explain emotional responses to music.^[8] Various factors such as tonic intervals, tonality, rhythm, tempo, etc modulate these effects, which is an area of further research.

From Ayurvedic perspective, *Charaka* and *Sushruta samhitas* have described 7 types of *Sattva*, 6 types of *Rajas*, and 3 types of *Tamas Gunas*, and *Sattva*, *Rajas*, and *Tamas* closely relate to purity, anger, and dullness, respectively^[9]. *Trigunas* are seen as psychological manifestations of the *Tridoshas*,^[9] and each *Dosha* has specific physical and psychological characteristics. Taking the very fundamentals of Ayurveda into consideration, it is the balance between the three *Doshas* that is necessary for health and it is the imbalance between them that produces different diseases. Thus, if it is possible to modify a person’s emotions or psychological state by use of different *Ragas*, it could be possible to modify the person’s physical health, positively or negatively.

Time Theory of *Raga* is another interesting concept in Indian Classical music. As per this theory, a 24-hour-day is divided into eight *Praharas* (3-hour-time periods) and each of the *ragas* is assigned a specific *Prahara*. It is believed that effects of a *raga* are best produced when it is performed or listened to during the specific time period assigned to it. Scholars have explained this unique concept in context of Indian philosophy.^[10] However, its significance in relation to therapeutic use of *ragas* needs to be evaluated.

Effects of different time periods during a 24-hour-day on *Tridoshas* have been described in

Ashtangahrudaya and other Ayurvedic texts. Recently, a case study of a pregnant woman with major depression successfully treated with music therapy using Indian Classical music has been published.^[11] In the study, concepts of Time Theory of *Raga* and effects of time periods on *Tridoshas* were integrated. The patient was suggested to listen to specific *ragas* at specific time-periods of a day after baseline evaluation of her *Tridoshas*. Selection of *ragas* for the treatment was based on specific time-periods of the *Doshas* which were imbalanced. However, besides this single case report, there is no scientific study in humans investigating relevance of Time Theory of *Raga* in clinical settings till date.

Garbha Sanskara is another Indian traditional practice which literally means “education in womb” and aims to influence the developing fetus positively. In *Ashtangahrudaya*, development of fetus, its relationship with past karmas, development of *Doshas*, and effects of chants and mantras on conception and fetal development have been described.^[12]

In Indian traditional perspective, low frequency chants are used as auditory stimulation to pregnant women from second trimester onwards. The pregnant women chant with the therapists. The practice is believed to manipulate the micro-environment in-utero during the prenatal period of pregnancy, which aims to provide health benefits to both the woman and the developing fetus.^[13] From modern music therapy perspective, effects of sounds on fetuses have been well recognized and exposure to prenatal music has shown to be associated with favorable neurobehavioral outcomes.^[14,15,16] A recent study^[17] has shown that prenatal exposure to music is associated with neural representations that last for several months after birth, a finding that agrees to the basic concept – “education in womb”.

Ancient Indian texts about Ayurveda and Yoga, have described concepts of human energy (or subtle) body, *Cakras* (energy wheels), and *Kundalini* (dormant energy). Many traditional healing systems such as Yoga therapy, reiki, qi-gong, meditation, acupuncture, etc are believed to work on human energy body. Seven major *Cakras* have been described, which regulate flow of energy in the energy body. Imbalances in the energy body or imbalances between *Cakras* are believed to produce diseased states. Various *Cakra* activating and *Cakra* balancing techniques are described in Indian texts, which aim to restore the balance in human energy body, and therefore to restore health.

Some scholars have considered different *Cakras* correlating to different *Marmas* in Ayurveda.^[18] In Indian music therapy context, seven

notes in Indian Classical music (“Sa”, “Re”, “Ga”, “Ma”, “Pa”, “Dha”, “Ni”) correspond to each of the seven major *Cakras*, respectively. Thus, *Cakras* can be influenced by appropriate use of musical notes. Based on this traditional concept, an exploratory study evaluating effects musical (vocal) technique of *Cakra* activation on body temperature has been published recently.^[19]

Recently, concepts of energy/subtle body, *cakras*, and *kundalini* have been explored by many researchers and interesting results have been observed.^[20-22] Attempts have also been made to cross-refer human energy system with meridians (described in traditional Chinese literature) and modern central nervous system.^[23,24] However, it must be realized that as far as these esoteric concepts are concerned, modern science has more questions than has satisfactory answers. To worsen the scenario for music therapists, little scientific work has been done integrating music therapy and *cakra* system/energy body. Hopefully, future research in areas of mind-body medicine and advanced physics would make the picture clearer.

Mantra chanting, another important Indian traditional healing practice, is also a music therapy practice. *Mantra* is defined as single or group of sacred sound/s, utterance/s, syllable/s, or word/s. From musicology perspective, *Mantras* are usually not melodious, but chanting them with correct tones, overtones, rhythm and tonic intervals is given immense importance to produce their desirable effects. Many of these *Mantras* are also part of meditation techniques.

Reciting *mantras* had been an essential part of ancient Indian traditional life and numerous *mantras*, meant to be chanted for different purposes, are described in *Vedas*. In *Charaka Samhita*, use of Vedic chants has been described for management of various diseases in *Daivavyapashrayacikitsa*.

In a recent study, *Om* chanting has shown to produce deactivation of several areas in brain such as orbitofrontal cortex, anterior cingulate gyri, parahippocampal gyri, thalami, hippocampi, and right amygdala.^[25] It is already known that these areas play an important role in regulation of emotions, memory, and survival instincts and in Indian traditions, “*Om*” is considered a cosmic sound with harmonizing effects. However, to understand the regulating effects of *Om* chanting on human brain, scientific evaluation of musical attributes of *Om* chanting such as tonality, pitch, notes, rhythm, frequency, etc is necessary. A recent randomized controlled trial also suggested positive effects of mantra chanting during latent stage of labor on labor pain.^[26]

CONCLUSION

Music Therapy is in infancy in India. There are only a few qualified and trained music therapists in the country at present. Hence it is a huge task to integrate Indian music therapy traditions into clinical practice of music therapy. This, however, is very much desirable as music therapy is strongly influenced by culture and traditions and India is rich in cultures and traditions. Many of the contemporary researchers have validated and supported ancient Indian traditions, hence it also appears highly reasonable to explore, evaluate, understand, apply, and integrate concepts of Indian music therapy traditions into music therapy practice.

ACKNOWLEDGEMENTS

We thank Dr. Deepthy T Varier, Ayurvedic Physician, Bangalore for her valuable inputs in preparing this manuscript.

REFERENCES

1. Basner M, Brink M, Bristow A, de Kluizenaar Y, Finegold L, Hong J, Janssen SA, et al. ICBEN review of research on the biological effects of noise 2011-2014. *Noise Health* 2015; 17(75): 57-82.
2. Kamioka H, Tsutani K, Yamada M, Park H, Okuizumi H, Tsuruoka K, et al. Effectiveness of music therapy: a summary of systematic reviews based on randomized controlled trials of music interventions. *Patient Preference and Adherence* 2014; 8: 727-54.
3. Sanivarapu SL. India's rich musical heritage has a lot to offer to modern psychiatry. *Indian Journal of Psychiatry* 2015; 57(2): 210-3.
4. Deshmukh AD, Sarvaiya AA, Seethalakshmi R, Nayak AS. Effect of Indian classical music on quality of sleep in depressed patients: a randomized controlled trial. *Nordic Journal of Music Therapy* 2009; 18(1): 70-8.
5. Kumar TS, Muthuraman M, Krishnakumar R. Effect of the Raga AnandaBhairavi in Post Operative Pain Relief Management. *Indian Journal of Surgery* 2014; 76(5): 363-70.
6. Mathur A, Vijayakumar SH, Chakrabarti B, Singh NC. Emotional responses to Hindustani *raga* music: the role of musical structure. *Frontiers in Psychology* 2015; 6: 513.
7. Koduri GK, Indurkha B. A Behavioral Study of Emotions in South Indian Classical Music and its Implications in Music Recommendation Systems. *SAPMIA'10 Proceedings of the 2010 ACM workshop on social, adaptive and personalized multimedia interaction and access* 2010; 55-60.

8. Juslin PN, Liljestrom S, Vastfjall D, Lundqvist LO. How does music evokes emotions? Exploring underlying mechanisms. In: Juslin PN, Sloboda JA (eds.) Handbook of music and emotion: Theory, research, applications. 2010; Oxford: Oxford University Press. 605-42.
9. Shilpa S, Venkatesha Murthy CG. Understanding personality from Ayurvedic perspective for psychological assessment: A case. Ayu 2011; 32(1): 12-19.
10. Westbrook P. Ayurveda, Samkhya, and the time theory of performance in Hindustani Classical music. Journal of Indian Philosophy and Religion 1998. Available from <http://www.sacredscience.com/archive/Westbrook1.htm> [accessed 14.02.2018].
11. Sundar S, Durai P, Parmar PN. Indian classical music as receptive music therapy improves *tridoshic* balance and major depression in a pregnant woman. International Journal of Ayurveda and Pharma Research 2016; 4(9): 8-11.
12. Garbhavakranthi Sareeram. In: Sritaraduttpant. Ashtanghrudayam. Varanasi: Chaukhambha Publications. 2010; 197.
13. Sundar S. Integrating cultural music therapy approaches with pregnant women in antenatal wards in a south Indian hospital. Available from iammchina.org/wp-content/uploads/2015/10/ABSTRACT-Sumathy-Sundar.pdf [accessed 14.02.2018]
14. Gerhardt KJ, Abrams RM. Fetal exposures to sound and vibroacoustic stimulation. Journal of Perinatology 2000; 20(8Pt2): S21-30.
15. Arya R, Chansoria M, Konanki R, Tiwari DK. Maternal Music Exposure during Pregnancy Influences Neonatal Behaviour: An Open-Label Randomized Controlled Trial. International Journal of Pediatrics 2012: 901812.
16. Shoemark H. Frameworks for using music as a therapeutic agent for hospitalised newborn infants. In: Rickard N, McFerran K. (eds.). Lifelong engagement in music: Benefits for mental health and well-being. New York: Nova Science Press. 2012; 1-20.
17. Partanen E, Kujala T, Tervaniemi M, Huotilainen M. Prenatal Music Exposure Induces Long-Term Neural Effects. PLoS ONE 2013; 8(10): e78946.
18. Atreya. The Importance of Prana in Ayurvedic Massage. In: Secretes of Ayurvedic Massage, 1st Edition. Wisconsin: Lotus Press, 2000. Pp. 20.
19. Sundar S, Parmar P. Effect of a single musical *cakra* activation manoeuvre on bodytemperature: An exploratory study. Ancient Sci Life 2016; 36:3-5.
20. McMurray S. Chakra talk: Exploring human energy systems. Holistic Nursing Practice 2005 Mar/Apr; 19(2): 94.
21. Rubik B. Scientific analysis of the human aura. Measuring Energy Fields State of the Science. Fair Lawn, NJ, Backbone (2004): 157-170.
22. Prakash S, Chowdhury AR, Gupta A. Monitoring the Human Health by Measuring the Biofield" Aura": An Overview. International Journal of Applied Engineering Research 2015; 10(35): 27654-8.
23. Greenwood M. Acupuncture And The Chakras. Medical Acupuncture. 2006; 17(3): 27-32.
24. Loizzo JJ. The subtle body: an interceptive map of central nervous system function and meditative mind-brain-body integration. Annals of the New York Academy of Sciences 2016: 1-18.
25. 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. International Journal of Yoga 2011; 4: 3-6.
26. Ramesh B, Sundar S, Jayapreetha R, Samal S, Ghose S. Effects of Culture-Based Chants on Labour Pain During the Latent Stage of Labour in Primigravidae Mothers: A Randomized Controlled Trial. SBV Journal of Basic, Clinical and Applied Health Science 2018; 2(1): 16-19.

Cite this article as:

Sundar Sumathy, Parmar Parin N. Music Therapy Clinical Practice and Research Initiatives in India: Bridge Between the Experiences of Traditional Music Healing Practices and its Scientific Validations. International Journal of Ayurveda and Pharma Research. 2018;6(2):51-54.

Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**

Dr Sumathy Sundar

Flat No. A3H, BBCL Ashraya, No.118,
Pillaiyar Koil Street, Okkiampakkam,
Thoraipakkam, Chennai 600096

Contact: 8754424770

Email: sumusundhar@yahoo.com

Disclaimer: IJAPR is solely owned by Mahadev Publications - A non-profit publications, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJAPR cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of IJAPR editor or editorial board members.