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

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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. Brhaddesi, a 6th century a landmark work in Indian musicology by Sri Matanga Muni, and Sangita-ratnakara, 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

Musically, 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.\[6,5\] 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, evalutative 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 cingultegyri, parahippocampalgri, 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.

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