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Case Study

INDIAN CLASSICAL MUSIC AS RECEPTIVE MUSIC THERAPY IMPROVES *TRIDOSHIC* BALANCE AND MAJOR DEPRESSION IN A PREGNANT WOMAN

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ABSTRACT

It is known that music therapy is effective in various psychiatric disorders, but not much research has been done to assess effect of Indian classical music on psychiatric disorders. We report a 27-year-old pregnant female suffering from major depression for 3 years who was treated with receptive music therapy using Indian classical music. The selection of *Raga* (a specific melodic structure and pattern used in Indian classical music which has to be followed strictly) for her music therapy was based on her *Tridoshic* analysis as per Ayurveda and on Time Theory of *Ragas*. She was treated with 20 sessions of receptive music therapy; frequency of the sessions being 3 sessions per week. She was evaluated using Carroll Rating Scale for Depression and *Tridosha* evaluation before starting music therapy, after 10 sessions, and after 20 sessions of music therapy. At end of 20 sessions of music therapy, improvement was seen in all symptoms of depression and Carroll Rating Scale for Depression showed progressive improvement (pre-treatment score: 16, after 10 sessions: 11, after 20 sessions: 5). Her *Tridosha* evaluation also showed progressive changes towards improved balance between the *Doshas* (pre-treatment: *Vata* - 7, *Pitta* - 16, *Kapha* - 3; after 10 sessions: *Vata* - 9, *Pitta* - 14, *Kapha* - 6; after 20 sessions: *Vata* - 12, *Pitta* - 14, *Kapha* - 10). Further scientific studies are required to evaluate the concepts of Time Theory of *Raga*s, effect of Indian classical music on body physiology and psychology in both healthy and diseases states, and effect of music therapy on the *Tridoshas*.

KEYWORDS: Complimentary Therapies, Depressive Disorders, Music Therapy, Time Theory of Ragas, Ayurveda.

INTRODUCTION

As per modern medicine, major depression is a psychiatric disorder characterized by presence of combination of symptoms like depressed mood, loss of interest or pleasure in most activities, sleep disturbances (insomnia or excessive sleep), loss of or excess of appetite, irritability, agitation, easy fatigability, guilt, suicidal thoughts or attempts, etc.

Therapeutic effects of music on various psychiatric disorders are known[1]. Music therapy offers a harmless and cost-effective therapeutic option to improve symptoms of various psychiatric disorders and to enhance quality of life. Results of different clinical trials suggest that music therapy improves mood in clinical depression and is acceptable in depressed patients[2]. Different techniques of music therapy such as receptive music therapy, group music therapy, singing, instrument playing, song writing, etc have been explored in management of depressive disorders. However, as music therapy techniques and protocols used in different trials vary, it has been difficult to conclude about type, method, and duration of music therapy in treatment of depression.

Listening to music has been shown to produce multiple effects on brain physiology, involving different areas of brain and neural networks[3]. Music therapy improves mood by modulating various neurobiological activities in brain in depressed persons. Anti-depressive effects of music therapy are believed to be mediated by influence of music on central neural serotonergic transmission, on hippocampal brain-derived neurotrophic factor (BDNF) levels, and other unidentified mechanisms[3]. As affective response to music is determined by cultural factors[4], it seems reasonable to choose Indian Classical music for therapeutic purpose for patients with Indian musical background.

In Indian Classical music, numerous *Ragas* are described. It is believed that different musical notes have their own energies and therefore have therapeutic effects. The *Raga* for an individual patient is selected on basis of constitution of that particular patient, as assessed by Ayurveda.

Time Theory of *Ragas* is a unique concept in Indian Classical music especially the Hindustani music that assigns a specific time period of the day (or night) to a specific *Raga*. As per the theory, it is desirable to sing or listen to a specific *Raga* during a specific time to produce maximum results of the *Raga*. The connection of the time with a *Raga* is based on melodic characteristics of the *Raga* and cyclic changes in human body and mind that occur throughout the day.[5-7] A recent study supported the Time Theory of *Raga* on physiological parameters on selected plants[8]; however, there is no scientific study evaluating importance of Time Theory of *Raga* in human beings.

Ayurveda is an ancient traditional medicine system of India. As per Ayurveda, 3 *Doshas* (humors) –

Vata, *Pitta*, and *Kapha*, govern human physiology[9]. Health is characterized by a balance between the three *Doshas* and an illness is caused by a lack of balance among them. When a balance among them is restored, a person regains the lost health. The *Tridoshic* analysis of a person can be analyzed by his/her bodily characteristics and mental attitudes[10].

We describe a case of a pregnant woman with major depression who was treated with receptive music therapy using Indian Classical music in accordance to the time theory of *Ragas*, the selection of *Ragas* being based on her *Tridoshic* analysis at time of presentation.

CASE REPORT

A 27-year-old pregnant female came to us with history of psychiatrist diagnosed major depression for last 3 years. She had taken multiple pharmacological treatments as prescribed by her psychiatrist during this period with periods of improvement and deterioration in between. She was regularly experiencing symptoms like sleep disturbances, agitation, depressed mood, reduced appetite, episodes of crying, suicidal thoughts, lack of confidence and irritability. Her physical examination was normal and blood investigations were normal as evaluated by her psychiatrist. She had multiple stressors in her life, including a divorce and difficult married life after remarriage. She opted for music therapy because she was in her second trimester of pregnancy and she did not want to take any oral medication during pregnancy to avoid any possible harmful effect on the fetus.

After her thorough clinical and psychological evaluation, we decided to treat her with receptive music therapy using Indian classical music and performed her *Tridoshic* evaluation using a standard questionnaire. After written informed consent, we selected and suggested specific *Ragas* for her; based on her constitution. We planned for her 20 music therapy sessions (3 sessions per week) of listening to music (specific *Raga*); each session lasting for 30 minutes. The *Ragas* were selected in accordance to the Time Theory of *Ragas* matching the time during which the music therapy sessions were delivered. Pre-recorded commercial recordings of Hindustani classical instrumental *Ragas* that were used for the patient included *Raga* Madhuvanti, *Raga Charukesi*, *Raga ahiri*, and *Raga Bairagi Bhairava*. The music therapy sessions were delivered at her home in a comfortable room; the selected music was administered to her ears through head phones. The *Ragas* played were pre recorded commercial recordings of Hindustani classical instrumental music predominantly sitar and flute.

Her *Tridoshic* analysis and scoring of Carroll Rating Scale[11] for depression were performed before starting the treatment, at middle of treatment (after completion of 10 sessions), and at the end of treatment (after completion of 20 sessions). Video documentation of her behavioural responses was also done throughout the duration of music therapy.

Our patient showed progressive improvement during music therapy sessions. Her periodic *Tridoshic* analysis and Carroll Rating Scale for Depression scores at baseline, at end of 10 sessions, and at end of 20 sessions are shown in Table 1.

Table 1.*Tridoshic* **analysis and Carroll Rating Scale scores at baseline, at end of 10 sessions, and at end of 20 sessions**

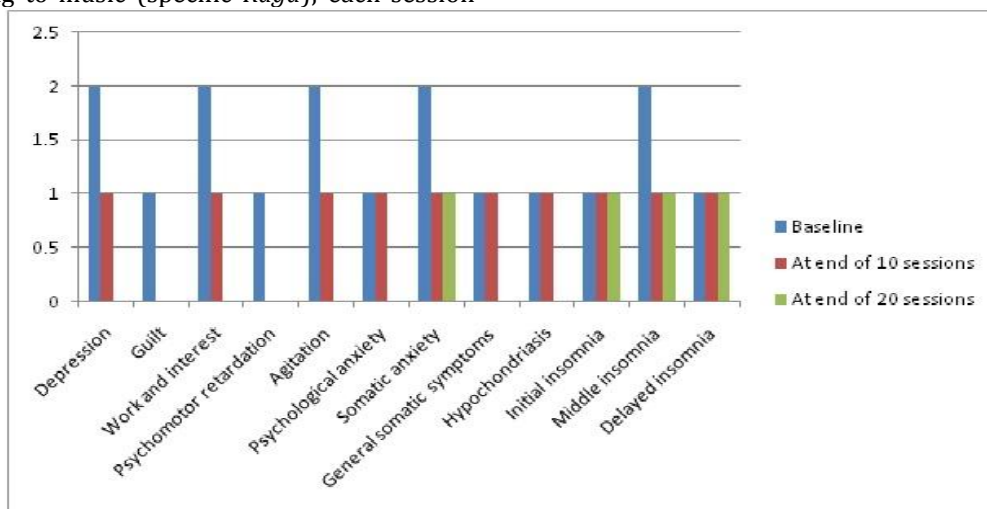|	*Vata*	*Pitta*	*Kapha*	**Carroll Rating Scale for Depression**
Baseline	7	16	3	16
At end of 10 sessions	9	14	6	11
At end of 20 sessions	12	14	10	5

Figure 1: Parameters of Carroll Rating Scale for Depression at baseline, at end of 10 sessions, and at end of 20 sessions

DISCUSSION

Music therapy is known to be effective in various depressive disorders including major depression, seasonal affective disorders, depression in elderly, depression with neurological disorders (stroke, dementia), seasonal affective disorder, etc[1,12-14]. Various forms of music therapy like receptive music therapy, improvisation, group therapy, singing, song writing, instrument playing, etc have been used for treating depression. Therapeutic effects of

music and music therapy are believed to be due to multiple psychological mechanisms[1,15,16]. Of course, a very important advantage with music therapy is a safety.

As per Ayurveda, *Dosha* is defined as "Dooshayantiitidoshah" (those which vitiate the other substances after getting themselves vitiated). Although *Tridoshas – Kapha*, *Pitta*, and *Vata* – give rise to a person's specific, individual *Prakriti* (constitution) by birth, they are dynamic in nature and are affected by *Ahaara* (diet) and *Vihaara* (lifestyle) of a person[17]. *Doshas* are not only physical in nature, they are also psycho-spiritual[18]and are affected by and similarly affect mind and emotions. Psychological attributes to balanced *Kaphadosha* are emotional stability, caring nature, security, forgiveness, calmness, contemplacence, and tendency to nurture; while its imbalance can cause narrow-mindedness, stubbornness, neglect, laziness, inertia, and over-attachment. Psychological attributes to balanced *Pitta dosha* are intelligence, adaptability, and alertness, but its imbalance can cause irritability, arrogance, self-centeredness, and violence. Psychological attributes to balanced *Vatadosha* are low tolerance to pain and noise, austerity, discipline, and introspection; when imbalanced, it can cause indecisiveness, fearfulness, addiction, insomnia, paranoia, and restlessness[19, 20].

In music therapy, selection of music should conform to patient's musical background and patient preference is one of the most important factors affecting the choice of therapeutic music[21]. Hence, we used Indian classical music for our patient as it was appropriate for her musical background and music preferences. In Indian classical music, especially the Hindustani music, every *Raga* is assigned a specific time during which it is considered to most effective. Similarly, in Ayurveda, it is known that there is a specific time for dominance for each *Dosha*, i.e., 6 am to 10 am and 6 pm to 10 pm are the time periods for *Kapha* dominance, 10 am to 2 pm and 10 pm to 2 am are the time periods for *Pitta* dominance, and 2 am to 6 am and 2 pm to 6 pm are the time periods for *Vata* dominance.

Four *Ragas* were selected for our patient: *Raga Madhuvanti*, *Raga Charukesi*, *Raga Ahiri* and *Raga Bairagi Bhairava*. The time periods assigned for them in Indian classical music are the 1st*prahara* of night (6 pm to 9 pm), the 2nd*prahara* of the day (9 am to 12 noon), the 2nd*prahara* of day (9am to 12 noon), the 1st*prahara* of night (6 pm to 9 pm), respectively.[22] Thus, two of the *Ragas* were best performed/listened to during time periods of *Pitta* dominance and two of the *Ragas* were best performed/listened during the *Kapha* dominance. The patient was suggested to listen to *Ragas Madhuvanti* and/or *Bairagi Bhairava* between7pm to 9 pm (i.e., during period of *Kapha* dominance) and *Raga Charukesi* and/or *Ahiri* between 10 am to 12 noon (i.e., during period of *Pitta* dominance).

The patient's *Tridoshic* analysis at time of presentation showed dominance of *Pitta* which was congruent with her symptoms of agitation, irritability, insomnia and suicidal thoughts (suicidal ideation is a form of violence towards self). Her symptoms of crying episodes and appetite disturbances were suggested of imbalanced

Kapha dosha as she had lost normal emotional stability and tendency to nurture herself. Hence we selected *Ragas* which are best listened to during time periods of *Pitta* or *Kapha* dominance to balance these two *Doshas*. We did not select a *Raga* which would be best performed during period of *Vata* dominance for three logical reasons: In her pre-treatment *Tridoshic* analysis, *Vata* seemed to be the least imbalanced *Dosha* (the middle value as compared to those of *Pitta* and *Kaphadoshas*), although we accept that it is not possible to know exact deviation of each *Dosha* without knowing her *Prakriti*. Secondly, the psychological symptoms also suggested dominantly *Pitta* and *Kapha* imbalance as discussed above. Thirdly, we did not want to make the music therapy regimen more complicated by adding more *Ragas*.

The patient showed improvement in clinical symptoms as well as in Caroll Rating Scale for Depression scores. The periodic *Tridoshic* analysis also showed significant changes during the treatment period. Considering the fact that the patient's health was regained at end of music therapy, we believe that music therapy has significantly affected her *Tridoshas* towards balance, which is also reflected in her final *Tridoshic* analysis.

We could not find any scientific study or case report that used Indian classical music based on *Tridoshic* analysis of a patient/s, although effects of Indian classical music on *Tridoshas* have been mentioned in ancient texts such as *Sangeetaratnakara*. We also could not find any study evaluating effects of receptive music therapy on *Tridoshas*. Hence it is difficult for us to compare our findings with other studies. However, several researchers have used Indian classical music for treatment of psychiatric disorders. In a study done by Deshmukh AD, et al, music therapy using Indian classical music has improved sleep in depressed patients[23]. Listening to *Raga* Desi Todi played on flute has been shown to improve some of physiological and psychological parameters in university students[24].

Limitations of our scientific work are same as those of a case report. As no similar research has been done in past, it is difficult to generalize our results for other patients with depressive disorders. Role of Indian classical music integrating Time Theory of *Ragas* and principles of Ayurveda as music therapy should be explored further to understand effects of different *Ragas* on normal and abnormal body physiology and to understand effects of different *Ragas* during different time periods.

CONCLUSION

We report a 27-year-old pregnant female with depression who improved with 20 sessions of receptive music therapy using Indian classical music. During music therapy, *Tridoshic* analysis of the patient showed progressive improving balance among the *Doshas* and Carroll Rating Scale for Depression fell from pre-treatment 16 to 5 at the end of 20 sessions. It seems that music therapy using Indian classical music integrating Time Theory of *Ragas* and principles of Ayurveda can offer a safe form of treatment for individuals with depressive

disorders, although it is too early to make a generalized statement in absence of adequate scientific evidence.

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