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Raga todi intervention on state anxiety level in female young adults during COVID-19

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ABSTRACT

Raga todi, an Indian classical music raga is emerging as a therapeutic approach in mental health and well being. This study aims to assess the relationship of raga todi and state anxiety at the time of novel coronavirus spread across the globe. 30 young female adults of age 20–28 years were randomly assigned to experimental group and control group of 15 participants each to which a pre and post test of State Anxiety test of STAI-A was administered. Results stated that state anxiety is negatively correlated to the listening of raga todi. Thus, listening to raga todi could be useful in reducing the state anxiety level provoked by a stressful life event like the lethal coronavirus pandemic.

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1. Introduction

Corona virus is the new Severe Acute Respiratory Syndrome of 2003 [31]. It had its first outbreak in Wuhan of China where a new RNA of SARS illness was found. Hence it is named as SARS-CoV-2 [12]. It has symptoms of fever, cough, breathlessness, fatigue, sore throat, mucus formation, muscle pain, diarrhea, anosmia and ageusia [26]. It is transmitted from one person to another through respiratory droplets from sneezing or coughing and the symptoms are visible after 7–14 days of transmission [14]. On 11th March, WHO had declared it a pandemic after the spread of the virus to 193 countries around the globe [28] (Fig. 1).

Since then a lot of stress related concern developed among the population of the world. People experienced anxiety and panic due to the rise in the number of cases and also depression due to lockdown in many countries, unemployment and rising economic tension around the globe [20]. People also showed defective coping mechanism raising the need of mental health support. To provide the requirement these population, the WHO published a guide to support their mental health needs [29].

Evidences claim that music helps in rapid recovery of symptoms of COVID-19 along with boosting immunity and helping through-

out the quarantine period [19]. Studies also support the use of music therapy in reducing anxiety, stress, depression while increasing mindfulness and well being [24,8,6,9,17,16].

Music as a therapeutic approach can be dated back to the time of Hippocrates, Plato, Pythagoras and Aristotle. Music was used to eliminate pain, anxiety and sufferings from various disease and at pregnancy [9,30,23]. Although there are many studies on music therapy, very few studies are found on Indian classical music ragas as a therapy [19,23]. Raga therapy is a new form of music therapy [1]. Raga Chikitsa describes about the use of various ragas as a cure to different ailments [25]. Raga therapy is used by either listening to or performing or learning a particular raga [3]. The timings of these ragas also effects the level of tridosha of the human body as the time of ragas are divided into 3 phases each depicting each of the tridosha [1].

Raga todi got its name from todi thaat. It is also popularly known as “Miyan Ki Todi” as it was created by Miya Tansen. It gives a grave sense and is preferably sung or played in the late morning period i.e 7–10 am [13]. Listening or performing to this raga at this time help balance the level of kapha dosha in human-beings [23].

Out of the few literatures on raga therapy, studies on raga todi as an intervention have shown many positive outcomes. Evidence supports positive effect of raga todi on blood pressure and cardiovascular diseases [5,2,22]. It is also found to reduce stress, anxiety, depression and enhanced coping strategy [4,10], reduce hyperten-

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Estimated Marginal Means of Posttest

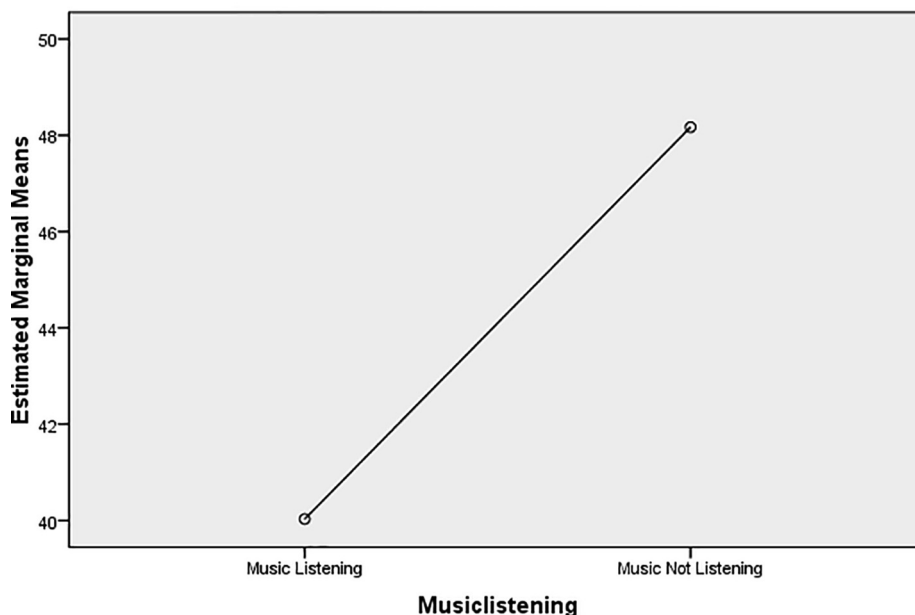


Fig. 1.

sion [27,18], increased positivity [10] and regulation of Vatadosha [15].

2. Methodology

Aim: To assess the effectiveness of raga todi on state anxiety in female young adults during COVID-19.

Objectives: To assess if pre recorded instrumental music on raga todi have any effect on state anxiety in young female adults.

Hypothesis: There will be significant difference in state anxiety level before and after listening to instrumental music in raga todi among female young adults.

Independent variable: Listening to Raga Todi Instrumental music.

Dependent variable: Level of state anxiety.

Design: Quasi-experimental research design with pre and post test method. CONSORT reporting guidelines of music based therapy was followed during the experimental procedure.

Sample:

1. 30 Female young adults of age range 20–28 years.
2. Participants located in various parts of India.
3. Purposive cum random sampling method was used.

Tools used: State anxiety test questionnaire of State and Trait Anxiety Inventory for Adults developed by Charles D. Spielberger in 2010 was used to assess the state anxiety. The test retest reliability of the state anxiety questionnaire of female young adults is 0.31 in 104 days. The alpha coefficient of state anxiety had a median of 0.93. The correlation of the state anxiety scale with the trait anxiety scale was 0.65. This test could be administered on working adults, college students, high school students and military recruits.

Statistical analysis: Paired *t*-test was used for significant difference between the groups and Pearson’s correlation was used for the significant difference between the variables.

Intervention Plan: A quasi experimental study was done on 30 healthy female young adults who were randomly divided into

experimental group of 15 participants listening to instrumental music on Sitar on raga todi by Pt. Budhaditya for 7 consecutive days for 15 min every morning at 10o’clock which suits the timing of the raga and the rest 15 participants were classified into control group with no intervention sitting quietly for 15 min every morning at 10o’clock for 7 consecutive days. The state anxiety test questionnaire of STAI for Adults by Spielberger was administered to each of the participant before administering the music intervention and soon after 7 days of completion of the music intervention the state anxiety test questionnaire of STAI for adults was re-administered to test the level of state anxiety on each of the 30 participants.

Reporting Criteria:

1. Intervention theory: raga todi promotes sense of compassion, patience and joy [23].
2. Person selecting music: selected by the administrator.
3. Music: raga todi on sitar by Pt. Budhaditya
4. Music delivery method: audio only
5. Music materials: sitar(instrumental music)
6. Intervention strategies: online intervention session on zoom video meeting at morning at 10 am.
7. Delivery schedule: 15 min of music listening for 7 consecutive days at 10 am.
8. Interventionist qualification: M.A in Clinical Psychology and M.Mus in Bhatkhande Hindustani Music (Vocal).
9. Treatment fidelity: dairy maintenance.
10. Setting: calm and quiet place with less disturbance and closing of eyes focusing on the music.
11. Unit of delivery: group intervention through online video meeting.

Result Table

Table 1 depicts the mean, standard deviation (sd) and standard error of the mean (SEM) of the pre test and the post test. Here the mean of state anxiety levels of the 30 participants before raga todi intervention is 48.07, their sd is 12.230 and their SEM is 2.233. Similarly, the mean, sd and SEM of the state anxiety level of the

Table 1
Sample statistics of the dependent variable.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PreTest	48.07	30	12.230	2.233
	PostTest	44.70	30	10.416	1.902

Table 2
Paired t-test.

Pair 1	PreTest – PostTest	Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
		3.367	8.660	1.581	0.133	6.600	2.129	29	0.05

Table 3
Pearson's Correlation.

		RagaTodi	Difference
Correlations RagaTodi	Pearson Correlation	1	-0.575**
	Sig. (2-tailed)		0.001
	N	30	30
Difference	Pearson Correlation	-0.575**	1
	Sig. (2-tailed)	0.001	
	N	30	30

** Correlation is significant at the 0.01 level (2-tailed).

30 participants after raga toti intervention are 44.70, 10.416 and 1.902 respectively.

Table 2 depicts the paired sample t-test of the state anxiety levels before and after raga toti intervention, where the combined mean is 3.367, sd is 8.660, SEM is 1.581. Their lower range limit is 0.133 and upper range limit 6.600, and the paired t value of state anxiety scores before and after listening to raga toti is 2.129 at 0.05 level of significance and their degrees of freedom is 29.

Table 3 depicts the Pearson's correlation between the state anxiety level score of raga toti intervention group and the controlled group, which is found to be -0.575 at 0.01 level of significance, which means that listening to raga toti reduced the level of state anxiety.

4. Discussion

The alternative hypothesis stating “there would be significant difference in the level of state anxiety in female young adults listening to raga toti every morning at 10 am for 7 consecutive days” is accepted. The correlation found between listening to instrumental raga toti and the difference between pre and post test of state anxiety is -0.575 which is negatively correlated. This means that listening to instrumental raga toti during a pandemic situation leads to reduced level of state anxiety.

The pandemic have lead people to develop various mental health problems thus leading to development of various stress and anxiety issues and also depression because of the unusual way of living and working along with economic crisis, job loss and confinement within their residence [8]. India is a developing country with 70% people relying on daily wage earnings. Although for some people working from home and being with family has considered this lockdown as a blessing, but many have lost their job and stuck in other cities away from home disturbed their bal-

anced state of mind. Also the circulation of fake news through various social media also created a havoc and people also showed hoarding behaviors prior to the lockdown [7,11].

With a sudden pressure in the health system for fighting against this novel virus and increasing number of deaths, the health sector is also dealing with the emotional crisis at different levels through telecommunication using techniques ranging from CBT to use of chanting, nada yoga, art and music which are comparatively new branches of therapeutic approach [19,21].

5. Conclusion

As raga toti is known for its seriousness in tone and slow progression, it was used to 15 female young adults randomly selected from various cities of India out of a total of 30 female young adults to listen to it for 7 consecutive days at morning 10am to see the difference in the level of state anxiety before and after listening to instrumental raga toti. It was found that listening to instrumental raga toti on sitar every morning for 15 min leads to a reduction in the level of state anxiety evoked due the novel threat of coronavirus pandemic. Hence it is suggested to use raga toti as a therapeutic approach by the mental health professionals to deal with various stress and anxiety related issues during this novel threat as it is the stress and anxiety deteriorating the conditions of people fighting against this deadly virus.

Limitations: There are many limitations to the study. Firstly, only state anxiety test was used without testing trait anxiety prior to assigning participants to the groups. Secondly, therapy was administered only for a week. Thirdly, therapy included passive music listening. Therefore, the participants were not exposed to any kind of music creating or learning activity. Fourthly, only female participants were included in the study. Lastly, both working and student young adults were considered for the study. No classifications based on occupation were made. Also working participants were all from corporate sector and none of them were working in government sector.

Future recommendations: Use of Indian classical music as a therapeutic approach is comparatively new and very less is been experimented and raga toti is one of them. As it is a new branch of music therapy, its relation with more variables could be experimented to find its value and use in mental health and well being.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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