Defence Life Science Journal, Vol. 7, No. 1, January 2022, pp. 11-16, DOI : 10.14429/dlsj.7.17056

Raga Therapy: An Effective Treatment for Stress Management

Jyoti Luxmi Tripathi[#,*], Seema Singh[#] and Waheeda Khan[$]

[#]*AMITY University, Noida - 201 313, India*
[$]*SGT University, Gurugram - 122 505, India*
[*]*E-mail: jyotitrpth@gmail.com*

ABSTRACT

Delayed encounters with stress are identified with poor individual well-being and related to significant monetary expenses for the general public. Accordingly, the advancement of cost-effective stress prevention or stress management tactics has turned into a vital attempt at recent research endeavors. Music has been appeared to influence physiological, cognitive, and emotional stress-related procedures advantageously. Subsequently, the utilisation of tuning in to music as a financial, non-intrusive, and profoundly acknowledged mediation apparatus has gotten uncommon enthusiasm for the administration of stress and stress-related medical problems. "Raga is the grouping of chosen notes (swaras) that loan suitable 'temperament' or feeling in a specific blend. "Raga therapy means healing through the raga. It's a yoga framework with the help of resonant sounds. Ragatherapy implies curing through the raga. It is the information on the most proficient method to utilise raga for curing [1]". Symphonies of raga ensure a calming influence on the mind and body. Researchers have found the role of raga therapy in treating stress. In the present research, raga therapy was administered to 74 subjects suffering from stress as an intervention plan. The ISMA questionnaire was administered to them before and after the intervention. Different sequences of ragas were directed to them for 30 min. A significant effect of raga therapy established on stress management.

Keywords: Raga; Raga therapy; Stress management

1. INTRODUCTION

Life would be sincere if we could fulfill all our requirements. In all actuality, be that as it may, numerous obstructions, both individual and natural, disrupt everything. "Stress is a psychological condition which is a result of encountered or perceived difficulties to our physical or emotional well-being and exceeds one's coping mechanisms and abilities[2]. All circumstances that necessitate modification can be viewed as possibly stressful. According to Hans Selye, stress could be defined as "the challenges and strains experienced by living beings as they combat to adjust to and acclimate to changing natural conditions"[3-4]. His work gave the foundation to contemporary research on stress.

2. STRESS

Stress is characterised as a physiological reaction to an outside jolt that triggers the "fight-or-flight" response. A broadly acknowledged meaning of stress is "a condition or feeling experienced when one sees that requests surpass the individual and social assets the individual can prepare"[5]. It implies stress is encountered on the off chance on the belief that there is no sufficient energy, assets, or information to deal with a circumstance. To put it simple, stress is encountered with a "feeling of going crazy." It conveys individuals' deals with stress unexpectedly. One will handle stress better if one is optimistic about their capacity to have control over the circumstances. If one feels that they have the support to handle unexpected situations, they will handle stressful situations decently. Everybody responds to stress unexpectedly. Stress impacts the capacity to carry out occupations adequately, influencing work with other individuals. It can significantly affect vocations and also general prosperity and connections. Long haul stress can likewise cause conditions, for example, burnout, cardiovascular disease, stroke, depression, hypertension, and a debilitated invulnerable framework.

Two natural responses make up the stress reaction: the "fight or flight" reaction and the General Adaptation Syndrome (GAS). Both of these responses can occur in the meantime. Walter Cannon recognised the "fight or flight" reaction as right on time as in 1932[6]. It's an essential, here-and-now survival reaction, activated when one encounters danger or sees something as a risk. The brain, at that point, discharges stress hormones that set up the body to either "fly" from the danger or "fight" it. It stimulates us, yet it likewise makes us sensitive, anxious, and touchy. In several circumstances, some common signs and symptoms of the fight or flight reaction include recurrent pains, cold or clammy hands and feet, regular stomachache, vomiting, anxiety outbreaks, excessive sleeping or sleeplessness, trouble in concentrating, obsessive or compulsive conduct, social extraction or segregation, persistent feelings of being stunned or burdened. The issue with the fight

Received : 13 May 2021, Revised : 01 December 2021
Accepted : 06 December 2021, Online published : 21 January 2022

or flight reaction is it manages hazardous occasions. It can be encountered in ordinary circumstances as well– for instance, in need to work to short due dates, talking openly, or running into a struggle with others. In these sorts of circumstances, a quiet, objective, controlled, and socially delicate approach is regularly more suitable.

General Adaptation Syndrome (GAS), which Hans Selye distinguished in 1950, is a reaction to chronic introduction to stress[7]. Selye found that one adapts to stress in three particular stages:

(a) The *alarm* stage, which response to the stressor.
(b) The *resistance* stage, where they adjust to and adapt to the stressor. The body can't keep up protection uncertainly, so the physical and enthusiastic assets are continuously exhausted.
(c) The *exhaustion* stage, where, in the long run, one is "exhausted" and can't work regularly.

In experiencing a circumstance, two (often unconscious) judgments can be made. First, choosing whether the situation is threatening could be a danger to the social standing, qualities, time, or notoriety, and to survival. It would then be able to trigger the fight or flight reaction and the alarm stage of GAS. The subsequent judgment is to judge whether there are assets to meet the apparent risk. These assets can incorporate time, information, passionate capacities, vitality, quality, and significantly more. How focused one feels at that point relies on how far wild one can sense and how well they can meet the risk with the accessible assets.

3. STRESS MANAGEMENT

Stress management alludes to the range of strategies and psychotherapies that control an individual's stress levels, especially constant stress, generally with the ultimate objective of upgrading reliable working. Numerous stress management procedures are accessible, some for use by well-being experts and others for self-improvement, enabling a person to diminish their stress levels, give constructive thoughts of mechanisms over one's life and spread overall prosperity.

4. RAGA

Raga groups chosen notes (swaras) that loan suitable 'mood' or emotion in a cautious blend. An entire emotional spectrum and its subtleties could be arrested and communicated within assured cadences and melodies. Engaging in proper ragas can function as a medication. Ragas are effective on various illnesses. Ragas like Darbari Kanhada, Kamaj, and Pooriya, helps in releasing mental tension and reduce the intensity of pain felt by the subjects. The prescribed ragas for hypertension are Ahir bhairav, Pooriya, and Todi[8-9]. To regulate anger and bring low the ferocity inside, Carnatic ragas Punnagavarali, Sahana, etc., are pretty convenient.

Raga collects chosen notes (swaras) that permit legitimate 'temperament' or feeling in a particular blend. Contingent upon their tendency, a raga could actuate or strengthen delight or distress, brutality or peace, and this quality shapes the reason for melodic application. Consequently, an entire scope of feelings and their delicacies could be caught and conveyed inside specific cadences and tunes. Administering proper raga can function as medicine[10]. It is a strong perception that Ragas have a noticeable effect on specific disabilities[9].

The earliest Hindus depended on musical art for its therapeutic job: reciting and matching engaged with Veda mantras in recognition to praying tribute to God has been utilised from days of yore as a remedy for a few disharmonies in the person and his current environment. The Indian incredible writers of traditional music who were inquisitively the counterparts of the 'Trinity of Western classical music, Bach, Beethoven, and Mozart, were very receptive to the acoustic energies, called the 'Musical Trinity.' Fables have spread far and wide, suggesting that Saint Thyagaraja resurrected a dead individual with their Bilahari arrangement Naa Jiva Dhaara. Navagrihakriti of Muthuswamy Dikshitar is accepted to fix abdomen pain. Shyama Sastry's synthesis Duru Sugu utilises music to petition God toward great well-being. Existence classifications show compassion to explicit bright energies, whether it is acoustic, magnetic, or electro-magnetic. As musical effects could be effortlessly checked upon feelings and subsequently as a top priority, it very well may be utilised as a device to control the patients' physiological, psychological, and surprisingly social actions. As per Swara Sastra, an antiquated Indian text, 72 significant nerves in the body are controlled by 72 parent ragas (melakarta ragas). It is accepted that if an individual sings with proper commitment, sticking to the raga Lakshana and sruti shuddhi (standards & pitch virtue), raga could positively influence that specific nerve[11].

5. RAGA CHIKITSA: THE INDIAN MUSIC THERAPY

Musical art is the preeminent and significant art. Since the earliest starting point, the art of music filled in as a fortune of an individual's way of life, humanism, civilisation, and different provisions of life. Music filled in as a medium to spread strict regulations, inspire the desire for an opportunity, and show significant and insidious things throughout everyday life. It was a piece of each development of human movement and was utilised as medication to treat illnesses of individuals. In some way, musical vibrations' intensity associates with all things and all life forms in the universe. There are 72 Nadis (astral nerves) in human anatomy, and these relentless vibrations are in a particular cadenced paradigm. Interruption in their cadenced beat is the main reason for illness. The melodic notes reestablish their usual rhythm, thereby achieving great well-being. Since the Tantra era, Nada Yoga has completely recognised the effect of melody on human anatomy and psyche and set up as a regular occurrence the vibrations radiating from sounds to inspire an individual's degree of mindfulness[11.]

Music has regular use as a therapeutic specialist. It is effective as a yoga framework, which through different sounds and notes, follow up on the human body and mind, helping in arousing it and creating unique capacities. Concerning Indian traditional music, there have been numerous helpful advantages of such a type of music. Performers have been successfully using Omkar treatment and Ragas for stress alleviation. Various Ragas are moreover seen to be uncommonly convincing in supervising or restoring ailments. In such a way, a mix of

scrupulous notes or Ragas is being utilised to follow up on a specific chakra. It furthermore helps in calming nervousness, making unwinding and actuating snoozing. The human body is overwhelmed by Kaph, Pitta, and Vata, the three doshas. These components work in the cyclic request of rising and falling amid the twenty-four-hour time frame. Likewise, the responses of these mechanisms contrast with the seasons. Thus, performing or tuning in to a raga at the apportioned right moment can influence people's well-being. Indian experts perceived that ragas are not simple amusements products, but the vibrations in their reverberation could resonate with individuals' state of mind and well-being. Ragas could function as a corresponding medication by stimulating the states of mind and controlling the brain wave blueprints[8-9].

Just characterised, Raga Chikitsa signifies "recuperating using raga." Raga Chikitsa describes it as "the learning of how to utilise raga for the motivations behind mending. Raga Chikitsa's key highlights are ragas' order given their rudimentary organisation (ether, air, fire, water, earth) and the best possible components utilisation to adjust the idea of the irregularity. Ragas firmly identify with various dayparts consonance with nature transitions and improve human personality's specific feelings, thoughts, or opinions. Music is the most reliable tranquiliser in current times of nervousness, stress, and hypertension.

6. RAGA THERAPY AND STRESS MANAGEMENT

Music can influence the body and brain from various perspectives, which is why a developing field known as music therapy. Nonetheless, music can be utilised in day-to-day existence and accomplish several stress relief gains all alone. The foremost incredible advantage of music to relieve stress is that it tends to be used while directing ordinary exercises, so it doesn't remove time from the bustling timetable. Music gives a great background to life to expand satisfaction in usual activities and reduce stress from life[12].

Indian classical music is effective in minimizing the psychological misery during a gastroscopic inspection. It has been suggested music could be used for additional medical conditions, which are likely to create unwarranted psychological stress and anxiety[13]. Music strikes our neural mechanisms, and seat music treatment unequivocally is effective in the domain of science. The methodology portrays a non-obtrusive strategy for applying Indian Classical music for diminishing stress[14]. Music positively impacts a few physiological factors identified with nervousness, stress reaction, and pain[15]. Self-reports of preferable music and viability in stress reduction show favorable music reports in lessening job stress among air traffic regulators[16]. The impacts of soothing and stimulative music on stress decrease rely upon choice of music. There is a strong impact of favorite music when attempting to lessen stress in an inpatient[17].

Numerous researches on the role of music in minimizing stress are available in the western context. But very few pieces of study are available in the Indian context. Also, there is a need to discuss the efficacy of the number of sessions in intervention. The present study attempts to examine the effectiveness of raga therapy in reducing stress in the Indian sample and discuss the efficacy of the number of intervention sessions.

7. OBJECTIVE OF STUDY

To study the effect of raga therapy in the treatment of stress. Further, to explore the gender and differences in the treatment of stress.

8. HYPOTHESES

- A significant effect of raga therapy will be found in the treatment of stress.
- A significant difference will be found between males and females in the treatment of stress.

9. METHODOLOGY

9.1 Sample

The sample of the study consisted of a total of 74 students. Out of these, 41 males and 33 were females. The two inclusion criteria used for selecting the respondents for the present study were in the age range of 15-20 years. All the respondents ranged from moderate (20-30) to high (above 30) stress levels, as shown in Table 1.

Table 1. Showing individual characteristics (N=74)

Characteristic	Groups		Total
Age Range (15-20 years)	**Male**	**Female**	
Stress level (Moderate to High)	41	33	74

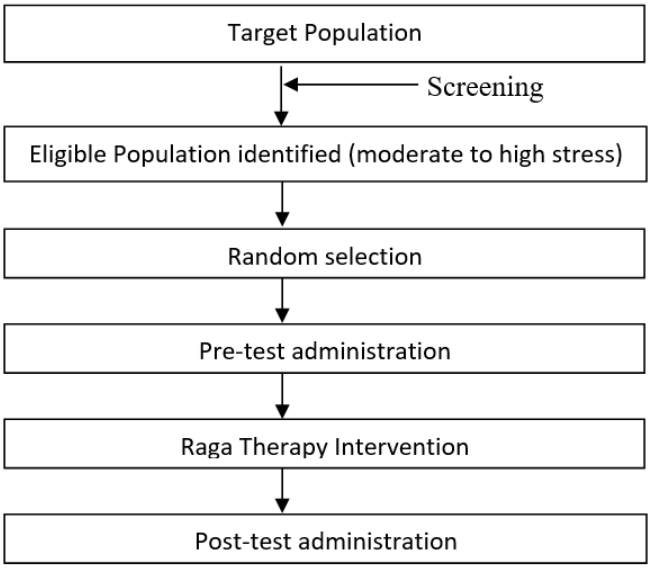

Figure 1. Simple random sampling design for the administration of Raga therapy intervention.

9.2 Design of the study

A simple random sampling design was adopted to give the intervention to the respondents, as shown in Fig. 1.

9.3 Tools

9.3.1 ISMA Questionnaire

The International Stress Management Association (ISMA), "a registered charity and the lead professional body

for the workplace and personal Stress management, well-being, and performance." The questionnaire consists of 25 items.

10. PROCEDURE

All participants were given an information letter and a voluntary consent form before providing the questionnaire. A cover letter explaining the purpose of the study and participants' confidentiality was assured. Participation was voluntary and anonymous to ensure accurate responses of participants. All the participants had the right to discontinue at any time. ISMA questionnaire was administered to the respondents before the intervention. Different sequences of Raga therapy were administered for the duration of 30 min as an intervention plan. The ISMA questionnaire was administered after the intervention.

11. DATA ANALYSIS

Paired t-test was done to examine the effect of raga therapy in treating stress and to study the gender differences in the treatment of stress—the statistical Package for Social Science (SPSS) 20 version was used to analyse the data.

12. RESULTS

Table 2 indicated mean and S.D. values of pre-post intervention stress score and analysis of variables through t-test. It showed a significant difference between pre and post-scores of stress (t=2.68, P=.01). The mean score of stress was high before the raga therapy intervention (Mean=14.89). However, it has been reduced after the intervention (13.51).

In Table 3, further analysis shows a significant gender difference in pre-intervention scores (t=2.05, P=.05). There was no significant gender difference in post-intervention scores (t=0.80), indicating the raga therapy intervention was equally effective to both genders.

In Table 4, it is evident a significant difference was found in the number of sessions (t=5.31, P=.001), indicating more sessions were found to be more effective than a single session of raga therapy intervention.

Table 2. Showing the descriptive and inferential statistics of Variables under study (N=74)

Sample	Mean	S.D.	t-score	df	P
Stress score (Pre-intervention)	14.89	3.51	2.68	73	Sig**
Stress score (Post prevention)	13.51	4.16			

***.01 level*

Table 3. Showing gender differences in the scores of stress

Sample		Mean	S.D.	t-score	df	P
Pre-intervention scores	Male	14.14	3.26	2.05	72	Sig*
	Female	15.81	3.64			
Post-intervention scores	Male	13.14	3.30	0.80	72	Insig
	Female	13.96	5.04			

**.05 level*

Table 4. Showing differences in the number of sessions- Mean, SD, and t-test scores

Sample	Mean	S.D.	t-score	df	P
Stress score (Single session)	12.80	4.20	5.31	74	Sig***
Stress Score (Double session)	7.68	3.35			

**0.001 level*

13. DISCUSSION

The current study sought to study the effect of raga therapy in reducing stress and finding out any gender differences. The study's findings demonstrated raga therapy intervention reduced the level of stress[8-9.] This is corroborated by further research that music therapy is beneficial in controlling hypertension and soothing turbulent minds[18].The present study results are consistent with findings of previous research that describes applying Indian Classical music for reducing stress as a noninvasive method[19]. Psycho-education and relaxation-based mediations alleviated strain and depression and improved relaxation power and understanding of stress management[20].

A gender difference is found in the experience of stress (Table 3). Scores of males and females on the ISMA in the pre-intervention were significant, indicating the difference in the scores of the men and women in the experience of stress is not because of any chance factor, hence, proving the second hypothesis. The women were found to be experiencing higher stress as compared to men. The findings are in support of another research[21]. However, no significant gender differences were found in post-intervention scores indicating the intervention was equally effective in both genders. Any difference if found is due to some chance factor. A similar result states that overall stress levels are analogous for men and women[22]. Another research also shows no gender differences in the effect of stress[23].

Interestingly, in 25 samples of this study, the stress level increased after the first intervention session. The samples were interviewed to know about the reason, and they revealed difficulties being in a new environment with new people as the reason for the same. A similar study was done where it was suggested that single administration is a bit short encounter and could have generated negative factors such as anxiety, nervousness, and novelty[21]. Therefore, the intervention was again administered to the samples whose stress level was increased after the first administration. After the second administration of the intervention, their stress level was drastically reduced, indicating the efficacy of more sessions for better intervention effects. A t-test was done between the group that received the intervention for one time only and the group that received two intervention sessions to know the efficacy of the number of sessions on the level of stress. The results showed a significant difference between the two groups indicating more number sessions were more effective than single administration (Table 4). This finding is consistent with previous studies[24].

This study provides empirical evidence as some Researchers have investigated that Music stimulation can counteract negative cognitions such as feelings of helplessness and hopelessness and the undesired stress that many patients experience in clinics or hospitals[25]. Music acts as a distractor by focusing the patient's attention away from negative stimuli to something pleasant and encouraging, thus reducing anxiety and stress[26]. This stress reduction can lead to lowering blood pressure[27] (Watkins, 1997). The finding that raga therapy reduces the level of stress is consistent with previous studies.

14. CONCLUSION

Stress can influence one's well-being. It is imperative to focus on managing minor and important stress occasions to know when to seek assistance. A few people may adapt to stress more successfully or recover from stressful circumstances more rapidly than others. Music can influence the body and psyche in numerous health-benefiting ways, which is why music therapy is a developing field. However, one can utilise this in everyday living and accomplish numerous stress alleviation advantages. The foremost immense advantage of music as a stress-buster is that it is utilised while one directs their general activities to ensure that it doesn't hinder their daily routines. Music gives a superb setting for our life with the aim that one can discover expanded satisfaction from what they're doing and lessens worry from one's day.

15. IMPLICATION, LIMITATION AND FUTURE DIRECTION

These results will facilitate understanding the efficacy of raga therapy in reducing stress in the Indian context. The majority of medications and psychotherapies are available to address the problem of stress. But medications have their side effects, and due to less availability of health professionals in clinical psychology, many people cannot access the therapeutic services regularly. Raga therapy can act as a buffer in this scenario. It has a therapeutic effect, is cost-effective, and can be used by the patient himself with the therapist's suggestion. It can be administered in a group of people, thereby reducing the burden on health professionals also.

Few limitations have also been seen in the present study since the research used a small sample and few variables, because of which the result cannot be generalised. Larger sample size in future research can have more implications. A further limitation is the research used a self-reporting questionnaire. Self-reported information can sometimes be unreliable, as it may be distorted by the absence of participants to report on themselves, forgetfulness, prejudice, and social desirability.

To further explain the effectiveness of raga therapy in reducing stress, more variables are needed. On the other hand, the current research provides a framework for exploratory purposes. Future research should include a more significant number of participants to generalise the findings.

REFERENCES

1. Osmer, B. Raga chikitsa and raga ragini vidya, 2016. https://swaraabhimanee.files.wordpress.com/2016/11/raga-ragani-vidya.pdf. (Accessed on 01 May 2021).
2. Arieh Y. Shalev. Posttraumatic stress disorder and stress-related disorders, *Psychiatr. Clin. North Am.,* 2009, **32**(3), 687–704. doi: 10.1016/j.psc.2009.06.001
3. Selye, H. The Stress of Life, 1956. New York: McGraw-Hill Book Co.
4. Selye H., Stress in Health and Disease, 1976. Butterworth's, Inc. Boston, MA.
5. Lazarus, R.S. & Folkman, S. Stress, Appraisal, and Coping, 1984. New York: Springer.
6. Cannon, W., Wisdom of the Body*,* 1932. United States: W.W. Norton & Company. ISBN: 03933002055.
7. Hans Selye, Stress and the general adaptation syndrome. *Br. Med. J.,* 1950, **1**(4667), 1383-1392. doi: 10.1136/bmj.1.4667.1383.
8. Sairam, T.V. Medicinal Music, 2004a. Chennai: Nada Centre for Music Therapy
9. Sairam T.V. Raga Therapy, 2004b. Chennai: Nada Centre for Music Therapy.
10. Bagchi Kalyan, Music, mind, and mental health*,* 2003. New Delhi, India.
11. Balaji Deekshitulu P.V. Stress reduction through Listening Indian Classical Music, *Innovare J. Health Sci.,* 2014, **2**(2), 4-8.
12. Kennedy, H.; Reed, K. & Wamboldt, M.Z. Staff perceptions of complementary and alternative therapy integration into a child and adolescent psychiatry program; *The Arts in Psychotherapy*, 2014, **41**(1), 21–26. doi: 10.1016/j.aip.2013.10.007.
13. Kotwal, R.; Rinchhen, C.Z. & Ringe, V.V. Stress reduction through listening to Indian Classical Music during Gastroscopy; *Diagn. Ther. Endosc*., 1998, **4**(4), 191–197. doi: 10.1155/DTE.4.191
14. Chakraborty, J. Stress management using Indian classical music; conference proceedings of the 1st International Conference, 15, 2006, Nada Centre for Music Therapy, Chennai, India.
15. Rodriguez, A.H. Music therapy as an adjuvant therapeutic tool in medical practice: an evidence-based summary. *OA Evidence-Based Med.*, 2013, **1**(1), 2. doi: 10.17511/ijmrr.2016.i09.32.
16. Chouhan, S. & Kumar, S. Comparative study between effectiveness of dance movement therapy and progressive relaxation therapy with music for stress management in college students, *Indian J. Physiotherapy Occup. Ther.*, 2011, **5**(2), 172-175.
17. Jun, Jiang; Linshu, Zhou; Daphne, Rickson & Cunmei, Jiang. The effects of sedative and stimulative music on stress reduction depend on music preference, *The Arts in Psychotherapy*, 2013, **40**(2), 201–205. doi: 10.1016/j.aip.2013.02.002.
18. Sahuliyar, A.S. Rinpas prescribes raga therapy, 2014-City lawyer-singer proves to connect between music and mental health.
19. Chakraborty, J. Stress management using Indian classical music; *In* Conference proceedings of the 1st International Conference*,* 2006. 15. Nada Centre for Music Therapy,

Chennai, India.
20. Lubna, Bte IS; Klainin-Yobas, P.; Samantha, T. & Premarani, K. Efficacy of Psycho-education and relaxation interventions on stress-related variables in people with mental disorders: A literature review. *Archives of Psychiatric Nursing,* 2013. doi: 10.1016/j.apnu.2013.11.004.
21. Yinglan, He. The impact of music relaxation on affect and relaxation of stressed female college students, A Thesis presented to the faculty of the College of Fine Arts of Ohio University*,* 2018.
22. Speilberger, C.D. & Reheiser, E.C. The job stress survey: Measuring gender differences in occupational stress. *J. Soc. Behav. Pers.,* 1994, **9**(2), 199-218.
23. Hurst, T.E. & Hurst, M.M., Gender differences in mediation of severe occupational stress among correctional officers. *Am. J. Crim. Justice*, 1997, **22**(1), 121–137. doi: 10.1007/BF02887343.
24. Leubner, D. & Hinterberger, T. Reviewing the effectiveness of music interventions in treating depression. *Front Psychology*, 2017, **8**, 1109. doi: 10.3389/fpsyg.2017.01109
25. Bernatzky, G.; Presch, M.; Anderson, M. & Panksepp, J. Emotional foundations of music as a non-pharmacological pain management tool in modern medicine. *Neurosci. Biobehav. 1. Rev.,* 2011, **35**, 1989-99. doi: 10.1016/j.neubiorev.2011.06.005.
26. Nilsson, U.; Rawal, N. & Unosson, M. A comparison of intra-operative or postoperative exposure to music: A controlled trial of the effects on postoperative pain. *Anaesthesia*, 2003, **58**(7), 699-703. doi: 10.1046/j.1365-2044.2003.03189_4.x.
27. Watkins, G.R. Music therapy: Proposed physiological mechanisms and clinical implications. *Clin. Nurse Spec.,* 1997, **11**(2), 43-50. doi: 10.1097/00002800-199703000-00003.

CONTRIBUTORS

Ms Jyoti Luxmi Tripathi is a Research Scholar in Amity Institute of Psychology and Allied Sciences, AMITY University, Noida. Her research area is raga therapy, depression, stress, and anxiety.
Her contribution to the current study is the introduction, literature review, data collection, scoring, and statistical analysis of data, results, and discussion.

Dr Seema Singh is Assistant Professor in Amity Institute of Psychology and Allied Sciences, AMITY University, NOIDA, UP.
Her contribution to the current study is guiding the research study.

Dr Waheeda Khan is a Professor & Dean, Faculty of Behavioral Sciences, SGT University, Gurugram.
She contributed in guiding of the research work.