

Original Research Article

Yoga versus classical dance therapy to reduce stress in women working from home

Sneha S. Sadawarte*, Priya N. Sahasrabuddhe

Department of Physiotherapy, Smt. Kashibai Navale College of Physiotherapy, Narhe, Pune, Maharashtra, India

Received: 08 September 2022

Revised: 23 November 2022

Accepted: 30 November 2022

***Correspondence:**

Sneha S. Sadawarte,

E-mail: snehasadawarte@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: COVID-19 pandemic led to rise of work from home job pattern. Although, now the situation is better still the hybrid pattern of work continues. This situation has led to rise in stress levels in women working from home. Early intervention to reduce the stress will help to overcome ill effects of stress like headache, sleep disturbances, mental health issues, hypertension etc. This study aims to understand which intervention works the best to reduce stress in women working from home.

Methods: Yoga as an intervention which had sustained posture and breathing control techniques while classical dance therapy-Bharatnatyam had structured basic dance movements and portraying of nine emotions. Pre and post intervention stress values were assessed through an outcome measure-the perceived stress scale-10. Online intervention for thrice a week for four weeks was incorporated.

Results: The results interpreted that post four week of intervention through online mode yoga therapy gives statistically and clinically significant decrease in stress levels while classical dance therapy gives clinically significant result but fails to give statistically significant result.

Conclusions: Women working from home mostly had moderate stress on perceived stress scale 10. Yoga therapy reduced the stress post four weeks in women working from home. The reduction in stress was statistically significant. Classical dance therapy reduced the stress post four weeks in women working from home. But, the reduction in stress was not statistically significant. Yoga is better than classical dance to reduce stress in women working from home.

Keywords: Yoga, Classical dance, Stress, Women

INTRODUCTION

The Year 2019 brought new concept of work from home.¹The reason for this job pattern was the Covid-19 Pandemic.¹ This job pattern secured safety of individuals along with their jobs. Thus, this led to many researches about the produce from this population. Professor Sunny Lee who is an American Psychologist mentioned, "Although working from home has turned out to increase productivity for some workers, it does also come with

downsides. Researches have proved that few members burned out as they had to juggle in caring for children and family and working from home.¹ Also, some of them reported to have increased stress and anxiety levels.¹ Work from home is most likely to increase and might be a new part of job patterns. Thus, Year 2019 has started a new era of "work from home". Women especially engage more in household activities than men.¹ Thus dual tasks impose more burden on them and as they struggle to manage work and non- work boundaries, they get drained out leading to stress and anxiety issues. Stress can be defined as any type

of change that causes physical, emotional and psychological strain. In today's world where we have a lot of competition, innovation and change execution we cannot avoid stress, tension and anxiety. Long term stress may manifest in the form of many ailments like headache, insomnia, hypertension etc. Along with the physical ailments mental health related problems also might increase. A certain measure is necessary to assess the stress levels in individuals.

The perceived stress scale 10 developed in 1983 is a classic stress assessment instrument. The questions in the scale ask about your feelings and thoughts in the last month. Yoga stimulates vagal afferents which increases activity of parasympathetic nervous system. This releases neurotransmitter acetylcholine which boosts the mood and reduces stress.² Yoga which includes of formulated breathing exercises, specific stress reducing yoga poses and a good cool down stimulates the transmitters thereby elevating the mood. Classical dance releases endorphins which help to feel one happy enhance pleasure and reduce pain. Endorphins are natural pain killers. Thus, helps to reduce the stress.

The synchronization of music and steps together creates a beneficial effect and thus activates endorphins that help one to remain stress free. Movement performed sets oneself free and also gives a chance of expression of emotions through dance. All this is considered to have good effect in reducing stress.³ The time where all activities are carried out through online mode, intervention should be also tried through online mode. Hence based on situation where most of the work is done online or through hybrid mode, the assessment and intervention for this study was done through online mode.

METHODS

Study design, location and duration

Current study was an interventional study conducted at Smt, Kashibai Navale College of Physiotherapy, Narhe, Pune, Maharashtra, from 6 December 2021 to 6 June 2022 (6 months).

Sample size and sampling method

Sample size was calculated to be 76 (calculated using non centrality parameter formula and two-sided power formula Software used is minitab). Convenience sampling was used as sampling method.

Inclusion criteria

Inclusion criteria for current study were; women working from home for six months with minimum five days a week job and six hours a day work, age group: 20-50 years and women scoring a minimum 14 out of 40 on perceived stress scale 10.

Exclusion criteria

Exclusion criteria for current study were; women who had a recent physical injury or any recent surgery, women who were already diagnosed with depression, anxiety or any other psychological disorder, pregnant and early post-partum women and women already following aerobic exercise or meditation or any other intervention to reduce stress.

Procedure

Consent form filling was done by the females who would fit in the study. Pre intervention PSS-10 score was recorded. Women were randomly allocated in two groups using computerized randomization.

Session was held 45 minutes each, thrice a week for four weeks. Post intervention PSS-10 score was recorded. Data analysis was done and conclusion was drawn.

Yoga protocol

The below mentioned protocol of 45 minutes for each session was followed for thrice a week for four weeks.

Table 1: Yoga protocol.

Protocol	
Breathing and anulom-vilom	Subjects were asked to sit and concentrate on breathing
	Anulom-vilom was taught and five repetitions were performed.
	Normal breathing and concentration on breaths was followed.
This was done for first 10 minutes	
Asanas in sitting or long sitting	The four poses namely, child's pose, bridge pose, easy pose and cat pose were taught.
	Total time-10 minutes
	Each asana was done without holding the breath.
Asanas in standing position	The four poses namely, mountain pose, warrior pose, downward dog pose and triangle pose were performed.
	10 minutes for these asanas.
Cool down and relax	The session concluded with corpse pose and relaxation.
	Breathing was maintained at normal pace
	15 minutes for total relaxation.

Classical dance (Bharatnatyam) protocol

The below mentioned protocol of 45 minutes for each session was followed for thrice a week for four weeks.

RESULTS

Dance group

The cross tabulation of low, moderate and high stress for dance group with before and after intervention is depicted in (Table 3). The $p < 0.00$ of Pearson Chi-Square=23.20 confirms the association of intervention and stress level. The p value of Chi-Square=1.90 at 1 DF is 0.168 which is more than 0.05. The Mood’s median test does not provide any evidence at 95% confidence that one median is different from another i.e., Stress of pre-intervention and post intervention of dance group is same, the overall median was observed to be 19.

Table 2: Classical dance protocol.

Warm up	Basic stretches for upper limb and lower limb were performed.
	Spot marching was conducted.
	Time allocated was 10 minutes.
Basic Steps	The following steps were inculcated in the session: Tatta Adavu (banging feet on floor), Natta Adavu (banging the heel and then feet), Meta Adavu (Banging the toes and then feet) and Kudit adavu (Jumping).
	Along with steps Nauras (nine emotions) were taught to express.
	Time allotted was 25 minutes.
Cool Down	Stretches for upper limb and lower limb were performed.
	Deep breathing was done.
	Session concluded with Lying down.
	Time allotted was 10 minutes.

Table 3: Cross tabulation of stress levels of dance group before and after intervention.

Parameter	Pre intervention	Post intervention	All
Low	0	16	16
Mid	33	22	55
High	5	0	5
All	38	38	76

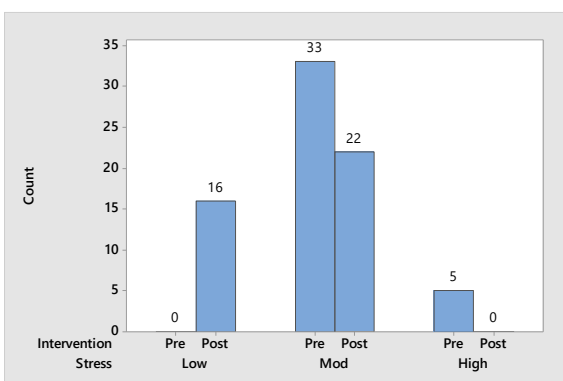


Figure 1: Stress levels of dance group before and after intervention.

Yoga group

The cross tabulation of low, mod, and high stress for yoga group with before and after intervention is depicted in (Table 4). The $p < 0.00$ of Pearson Chi-Square=24.227. This confirms association of intervention and category of stress. The p value of Chi-Square=11.85 at 1 DF is 0.001 which is less than 0.05. The Mood’s median test provide evidence at 95% confidence that pre intervention median is different from post intervention median. i.e., Stress of pre intervention and post intervention of Yoga group is significantly different. Stress level is statistically reduced post intervention, the overall median was observed to be 17.

Table 4: Cross tabulation of stress levels of yoga group before and after intervention.

Parameter	Pre intervention	Post intervention	All
Low	0	18	18
Mid	31	18	49
High	7	2	9
All	38	38	76

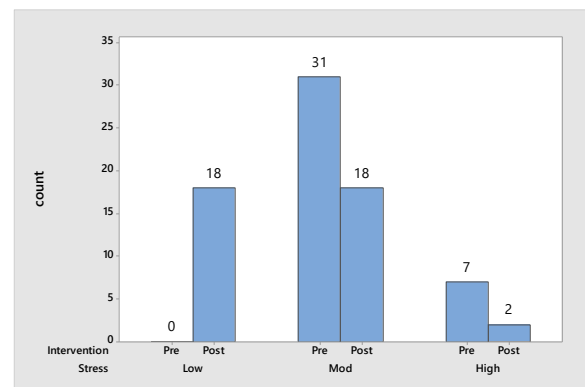


Figure 2: Stress levels of yoga group before and after intervention.

Table 5: Median test on dance group.

Dance	Median	Q3-Q1
Post	20	9.25
Pre	17	10

Table 6: Median test on yoga group.

Yoga	Median	Q3-Q1
Post	14	7.3
Pre	20	9.3

DISCUSSION

Work from home job pattern is the product of COVID-19 Pandemic.¹ The work pattern although might change to Hybrid type in near future but the component of online work will always be present. This has led to increase in stress levels in women working from home. Statistically it

is proved that women working from home face much more stress than the male population. Stress can be defined as any type of change that causes physical, psychological and emotional strain. Long term stress may manifest in the form of many ailments like headache, insomnia, hypertension etc. Stress can lead to suicidal thoughts in extreme cases. Hence, early intervention to reduce stress which can be practiced easily is necessary for wellbeing of the women working from home. Complementary medicine refers to a category of treatments and interventions that have not been raised in modern medicine.

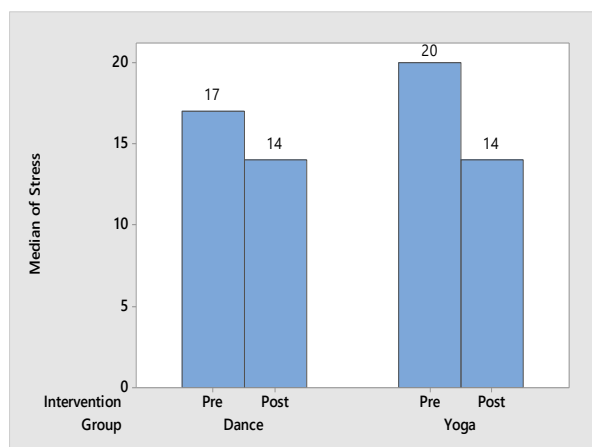


Figure 3: Comparison of yoga versus classical dance therapy to reduce stress in women working from home.

Yoga is a Sanskrit word meaning unity of mind and body, which has been used in Eastern societies since 5000 years ago and has recently received much attention from Western countries. In recent times, several medical and scientific studies on Yoga proved it to be very useful in treatment of many physical and mental ailments. Yoga stimulates vagal afferents which increases activity of Parasympathetic nervous system. This releases neurotransmitter acetylcholine which boosts the mood and reduces stress. Yoga which includes of formulated breathing exercises, Specific stress reducing Yoga poses and a good cool down stimulates the transmitters thereby elevating the mood. Concentration on breathing pattern is one of the key features in practicing Yoga postures. In other studies, including Tayyebi et al among haemodialysis patients, Rahnama et al among multiple sclerosis patients, Javnbakht et al among women living in Mashhad and Gong among pregnant women, the significant positive effects of yoga in reducing stress, anxiety, and depression have been confirmed. In the study of Streeter et al it was found that greater improvement in mood and greater decreases in anxiety during 12 week of yoga intervention compared to walking group. Oken et al did not observe any significant effect of yoga on improvement in mood in patients with MS, the limitation of this study is the small number of intervention sessions (one session per week). Dalgas et al. proved that the nature of yoga is controlling the mind and central nervous

system and unlike other sports, it has a moderating effect on the nervous system, the hormonal emissions, physiological factors, and regulation of nerve impulses; therefore, it can be effective in improving depression and mental disorders. Yoga has an effective role in reducing stress, anxiety, and depression that can be considered as complementary medicine and reduce the medical cost per treatment by reducing the use of drugs. Bharatanatyam is one of the most sublime of the Indian classical dances. It emerged in Tanjore of Tamil Nadu. Bharatanatyam encompasses all the traditional aspects of classical dance: the mudras (hand positions), abhinaya (facial expressions), and padams (narrative dances). In Bharatanatyam dance form the dancers make considerable use of hand-and-eye movements to express different emotions. It is an amalgamation of emotion, music, rhythm and expression.³ Bharatanatyam is mudra oriented and gives importance to padarthaabhinaya, each word interpreted through mudras. In navarasa parts (nine sentiments) the dancers express their inner feelings and it helps to release their emotions.³ This practice can be well used for emotional wellbeing and psycho-therapy. This dance form strengthens the hamstring muscles including semitendinosus, semimembranosus, bicepsfemorisetc.³ The standing position which is assumed in Bharatnatyam dance form the “Araimandi”, helps one in strengthening the core muscles as well. Classical dance releases endorphins which help to feel one happy enhance pleasure and reduce pain. Endorphins are natural pain killers. Thus, helps to reduce the stress. The synchronization of music and steps together creates a beneficial effect and thus activates endorphins that help one to remain stress free. Movement performed sets oneself free and also gives a chance of expression of emotions through dance. Thus, these factors might help to reduce stress. The American dance therapy association (ADTA), founded in 1966 by 76 charter members, is the psychotherapeutic use of movement as a process that furthers the emotional, cognitive, social, and physical integration of the individual.⁴ It was developed in the 1940s, 1950s, and 1960s under the continued influence of psychodynamic psychotherapy.⁵ As dance is mainly dealing with physical movements, it has an immense role in health science as well as from the therapeutic point of view.⁶ Other cultural aspects like drama also have such type of effect on human health, but the exercise like dance needs much confidence, body control, regular practice and proper movements.⁶ Any types of negligence or improper body movements may cause the dancer to be injured or it can even become fatal to the dancer.⁶ But by modulation in movements it can make glorious future to the dancers as well as dance itself.⁶ The breathing time and muscular control are very important in these regards.

The age bar, accidental trauma, pregnancy, psychology, health hazard have direct influence on the therapeutic value of dance. Dance therapy can prevent a person form some health hazards and may also help to avoid unwanted problems.⁶ The study analysis for Yoga group shows that 45.16% of the moderate stress candidates changed their

category to low stress after four weeks of intervention while 54.83% remained under moderate stress. 85.7% changed their category from high stress to low stress after four weeks of intervention of Yoga. While 14% Yoga candidates remained in high stress category itself. While classical dance therapy shows that 42.42% of the moderate stress candidates changed their category to low stress after four weeks of intervention. While 57.5 % women in classical dance therapy did not change the category which means remained under moderate stress. Women who were under high stress all changed to moderate stress post four weeks of classical dance therapy. After a four week of intervention of Yoga therapy to 38 females, the stress levels shown a statistically significant reduction. Women could easily take out 45 minutes thrice a week for Yoga session. The Anulom-vilom and the Yoga poses with appropriate breathing control could have helped to attain a good result. The sustained poses could have helped the women to reduce the stress. In first two to three days of intervention they understood the pattern of protocol and could easily follow from second week. Women mostly might have built the interest in Yoga as the poses selected were easy and were helping them to cool down. Adherence to the intervention was excellent.

The parasympathetic activity might have increased as a result of increased stimulus to the vagal afferents. The breathing control could have enhanced the effect of Yoga postures and thereby helping women in reducing the stress. A good amount of time given especially to the corpse pose (Savasana) could have added to a better effect on reduction of stress. Women could have thought as this is an age-old tradition, we are actually benefitted by it and hence could have had more faith and adherence in Yoga Sessions as compared to classical dance therapy. After four weeks of intervention of classical dance therapy to 38 females, the stress levels did not show statistically significant reduction. Although it was clinically significant. The therapy for 45 minutes thrice a week was followed. Classical Dance therapy could have released endorphins which could have helped one to feel happy and enhance pleasure and reduce pain. Endorphins are natural pain killers. Thus, could have helped to reduce the stress. The synchronization of music and steps together could have created a beneficial effect and thus activated endorphins that help one to remain stress free. Movement performed sets oneself free and also gives a chance of expression of emotions through dance. Thus, all these factors might be the reason for reducing stress. And this might have been the reason for clinically significant result. But as it was something that women had not ever done the total duration if sessions might have been little less for clinically significant result.

Bharatnatyam does not have sustained postures, there is movement and thus women may have concentrated more on steps rather than breathing control. This multitasking might have added for not getting a statistically significant result. The intervention of Yoga therapy can be used by

women working from to reduce stress. The protocol if followed strictly will surely give results. The classical dance therapy does demonstrate clinically significant result. For achieving a statistically significant result post four weeks of Classical dance therapy, the therapy session might incorporate some other form of music. The music which is familiar to the women could be used as it might add a sense of comfort to them. The number of steps can be reduced and repetitions of the same step can be done as this will help to make protocol easy.

Limitations

Limitation of current study was that the study could not analyze the long-term effects of Yoga therapy and classical dance therapy on stress in women working from home.

CONCLUSION

Women working from home mostly had moderate stress on perceived stress scale 10. Yoga therapy reduced the stress post four weeks in women working from home. The reduction in stress was statistically and clinically significant. Classical dance therapy reduced the stress post four weeks in women working from home. But, the reduction in stress was not statistically significant. Thus, Yoga therapy is better than Classical Dance therapy to reduce stress in women working from home.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Kniffin KM, Narayanan J, Anseel F, Antonakis J, Ashford SP, Bakker AB, et al. COVID-19 and the workplace: Implications, issues, and insights for future research and action. *Am Psychol*. 2021;76(1):63-77.
2. Shohani M, Badfar G, Nasirkandy MP, Kaikhavani S, Rahmati S, Modmeli Y, et al. The Effect of yoga on stress, anxiety and depression in women. *Psychol*. 2018;2:1-3.
3. Chatterjee A. The therapeutic value of indian classical, folk and innovative dance forms. *Rupkatha J*. 2013;2:76-81.
4. Chodorow J. *Dance therapy and depth psychology: the moving imagination*. London: Routledge; 1991.
5. Schmais AN. Dance therapy in perspective. In: Mason KC, eds. *Dance therapy: focus on dance*. Washington DC: American Alliance for Health, Physical Education, and Recreation; 1980:7-12.
6. Pratt RR. Art, dance, and music therapy. *Phys Med Rehabil Clin N Am*. 2004;15(4):827-41.
7. Lee EH. Review of the psychometric evidence of the perceived stress scale. *Asian Nurs Res*. 2012;6(4):121-7.

8. Cruz RF. Perspectives on the profession of dance/movement therapy: past, present, and future. Available at: <https://dtaa.org.au/therapy/wingsofsupport/>. Accessed on 20 November 2021.
9. American dance therapy association. Available at: <https://www.adta.org/about>. Accessed on 20 November 2021.
10. Barnes PM, Powell-Griner E, McFann K, Nahin RL. Complementary and alternative medicine use among adults: United States, 2002. *Adv Data*. 2004;(343):1-19.

Cite this article as: Sadawarte SS, Sahasrabudhe PN. Yoga versus classical dance therapy to reduce stress in women working from home. *Int J Community Med Public Health* 2023;10:188-93.