ISSN: 2322 - 0902 (P)
ISSN: 2322 - 0910 (O)

International Journal of Ayurveda and Pharma Research

Review Article

PREVENTIVE AND PROMOTIVE ASPECT OF MUSIC THERAPY IN MANAGEMENT OF JOB STRESS WITH SPECIAL REFERENCE TO NURSING PROFESSION

Bansal Charu[1]*, Umesh Shukla[2], Saleha Zainab[3]

*[1]Professor, [3]Lecturer, Dept. of Swasthavritta, Pt. KLS Govt. Ayurveda College & Institution, Bhopal M.P.

[2]Principal and Head of Dept. of Panchakarma, Pt. KLS Govt. Ayurveda College & Institution, Bhopal M.P.

ABSTRACT

World Health Organization stated that growing stress at workplace is epidemic now. A certain amount of stress and anxiety is normal at work place, but persistent, excessive, and irrational anxiety due to job stress causes various physical and psychological impairment. Nursing profession is a caring profession but it is identified as one of the most stressful job profession which affects not only physical and mental health of the nurses but also interfere in their job efficiency. Indian classical music is based on ragas. Ragas have power to alleviates and cures various ailments by inducing electromagnetic change in the body. Various studies indicating that Ragas improve psychological function of the body and simultaneously relaxing body and mind by enhancing alpha waves of the brain. The present write up is an effort to discuss the opportunities of Music Therapy for its preventive and health promotive dimensions specially to enhance quality of life of professionals and to overcome them from anxiety and depression develop due to job stress.

KEYWORDS: Music Therapy, Raga Therapy, Preventive aspect of music therapy, Management of Job Stress, Management of Nursing Profession Stress.

INTRODUCTION

Growing stress at workplace is the reality of modern day jobs. United Nation in 1992 declared that job stress is the disease of 20th century and later, World Health Organization stated it as epidemic. World Health Organization, said workplace stress is "the response; people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope" caused by poor work organisation i.e. poor designing of jobs and work systems, and the way to manage them. The poor work design means lack of control over work processes, poor management, unsatisfactory working conditions, and lack of support from colleagues and supervisors.

The International Organization of Labour, estimated that job stress can determined about 1% - 3.5% of national gross production. Result of various survey indicated that about 30% of labours of developed countries facing job stress disorder.[1] Job stress is an interaction between job environment and characteristics of employee, the extra job requirements and following pressures which make the person disable in doing his tasks means it's a kind of negative emotion and physical responses develop due to unmatched ability of person to their job requirements and resources.[2] Job stress is one of the important factor for the development of psychological disorders in employee. A certain amount of stress and anxiety is normal at work place. But, persistent, excessive, and irrational anxiety that interferes with everyday functioning is often an indication of an anxiety disorder.

Distress and stress-related behavioural health problems among nurses are worldwide public health issue today. Number of studies reporting a significant stress among Indian nurses. [3] The high level of occupational stress and burnout among nurses cause insomnia, anxiety, depression, number of chronic diseases and decrease in their quality of life. If health providers are not well then quality and quantity of the care provided by them also declines.

Need to Find Out Preventive and Promotive Aspects to Deal with Job Stress

Nursing profession is a caring profession because of the principal mission of nurturing and caring for people they provide around-the-clock services to patients in hospitals also provide long-term care facilities, as well as community services. But due to the increased use of technology, continues

rises in health care costs and turbulence within the work environment high levels of occupational stress is recognized in health care workers as well as in Nursing profession.[4] Work stress in nursing was first assessed by Menzies and identified four sources i.e. patient care, decision making, taking responsibility, and change which causes anxiety among nurses.[5] Increased Job stress in nursing profession cause various hazardous impacts on physical and mental health in nurses like tiredness, harsh behaviour, anxiety, depression, increase of blood pressure, lack of self-confidence, lack of job satisfaction, decrease in efficiency, isolation from patients, absence and decrease of their qualification.[6] In short job stress seriously impairs the provision of quality care and the efficacy of health services delivery.[7]

Impact of Chronic Stress on Health

Occupational stress has been cited as a significant health problem. Around 300 million people globally suffer from workplace related depression and 260 million suffer from anxiety disorders. Some live with both conditions. Depression is a cause and consequences of many health conditions. Globally, because of work stress millions of people are suffering from depression, which is one of the leading causes of disability, with many of these people also suffering from symptoms of anxiety. A recent WHO-led study estimates that depression and anxiety disorders cost the global economy US$ 1 trillion each year in lost productivity.

Chronic diseases (cardiovascular diseases, mental health disorders, diabetes, and cancer) are the leading public health problems of India.[8] Mental disorders, especially depression share common determinants with NCDs. Poor mental health can be a precursor or a consequence of NCDs. There is a significant association between depression and incidence of type 2 diabetes. Emerging evidence from South Asia has shown that psychosocial factors like depression and stress at work or home have a significant association with acute myocardial infarction (odds ratio 2.62).[9] Risk of ischemic stroke is increased among individuals suffering from depression and 31% of stroke survivors are likely to have depression at any time-point up to 5 years after stroke (systematic review)[10] and 6.03 times more likely in those suffering from other disease conditions. [11]

Scope of Music Therapy in the Prevention of Job Stress

Music could be the medicine of the future as number of scientific researches shows the significant positive effect of various ragas on body. Dated back the *Nada yoga* had been fully recognized the impact of music on body and mind. The energy of sound exploits by *Nada Yoga* to raise spiritual power and make balance between body mind and spirit hence nada yoga practice the music, vocal toning and *Mantras* (verbal or silent repetition of sacred sound formulas). Indian classical music is based on ragas. Ragas have power to alleviates and cures various ailments by inducing electromagnetic change in the body. Studies indicating that Ragas improve psychological function of the body and simultaneously relaxing body and mind by enhancing alpha waves of the brain and by doing favourable hormonal changes in the body.

Review Researches

Music has been shown to be effective in a number of psychiatric conditions, including improving the quality of sleep. Several studies documented effects of music therapy on reduction of stress, anxiety, depression and blood pressure.

Mounika Akkera et al was conducted study on 40 clinically diagnosed mentally depressed patients, between the age group of 15- 45 years those were not on medication. These patients were given music therapy for 45-60 minutes each day for a period of 15 days. Patients were analyzed based on the Goldberg questionnaire before and after the therapy. Clinically diagnosed severe depressive patients were excluded from the study. After music therapy on the Goldberg Depression Questionnaire scoring a profound decrease in the levels of depression in patients were recorded with extremely significance level ($P < 0.0001$).[12]

Deshmukh, Abhijeet et al was carried out a pilot study Effect of Indian classical music on quality of sleep in depressed patients with fifty diagnosed Major Depressive Disorder on DSM-IV were randomly allocated into two groups. One group was advised music therapy with selected raagas, while the other group was treated with hypnotic medications for a month. The changes in depressive symptoms and sleep quality were measured on MADRS and PSQI. Both PSQI and MADRS scores improved with music therapy and persisted beyond the treatment period in comparison to medicine group.[13]

Madhusudhan U et al in study effects of Raga therapy in the management of stress among children with type D personality selected total ten male participants within the age group of 9-13 years, with type-d personality were recruited in the study. 'OM' followed by Raga Bhairavi intervention was given once a day for 12 weeks and post intervention values were collected after 12 weeks. ISMA questionnaire and DASS 42 was used to assess the stress levels. A significant difference was recorded between the

stress scores of subjects before and after the intervention of Raga therapy.[14]

Gururaj B Kulkarni et al in the study effect of long term music therapy on hypertensive patients selected twenty chronic hypertensive patients (10 male and 10 female) aged between 50-60 years. Then all the patients listened to selected Indian Classical Music (Raga) for one hour every day for six months (30 weeks). Results indicate that at the end of six months the exposure to long term raga therapy significantly ($P<0.05$) reduces both systolic and diastolic blood pressure among chronic hypertensive patients. Though decrease in blood pressure were observed by the end of one month itself but the significant decreases in systolic and diastolic blood pressure values were observed only after four months (16 weeks) initiation of music therapy with similar effect in both male and female patients. The result suggests that listening specific music for longer duration is required to affect physiological changes and may have greater impact in reduction of blood pressure values among chronic hypertensive patients. [15]

Kripa Angeline was conducted study to find the effect of music therapy on blood pressure in primary educators. Primary educators were selected by Purposive sampling technique from different schools in Puducherry. The music therapy (20-30 minutes with raga ahibhairav) was continued in the consecutive days in the morning session with five session of music therapy. Then the blood pressure was assessed during the post- test which clearly reveals the effectiveness of Ahibhairav Raga in reducing the blood pressure.[16]

Balaji Deekshitulu P.V, (2015) study the role of mantras in mental health and found that mantras have beneficial effects on the health of the body as well as positive results in mental and physical levels.[17]

Gupta Uma, Gupta B.S, (2015) evaluate the psychophysiological reactions to music in male coronary patients and healthy controls and the results showed that the instrumental music lead to significant increase in the alpha EEG frequency and a significant decrease in the scores on depression, state and trait anxiety, and the four components of anxiety; the systolic and diastolic blood pressure and heart rate, however, remained unaffected. [18]

Study conducted by Kumar Kar Sandeep et al. (2015) found dramatic effect of Indian Classical Music (Raga Therapy) on cortisol levels during Cardiopulmonary bypass effectively reduced the intra operative stress (as revealed by reduced levels of cortisol) and also reduced the analgesic requirement drugs (Fentanyl, Propofol and Vecuronium) during Cardiopulmonary bypass. [19]

Probable Mode of Action of Music (Raga) Therapy

Indian classical music is based on ragas. Because of the specific arrangement of notes in a particular raga each raga have specific articulation, pitch, tone thus it alleviates and cures various ailments by making electromagnetic change in the body. Number of studies indicating that music evoke and modulate emotions as well as moods because it releases dopamine onto the nucleus accumbens (area believed to facilitate reward perception and addiction). It was also observed that pleasant music stimulated the inferior frontal gyrus and Rolandic operculum which reflect working memory.[20] Music also associated with activity changes in brain structures known to modulate heart activity, such as the hypothalamus, amygdala, insular cortex, and orbitofrontal cortex.[21] This impact of music on emotions and heart activity are due to several pathways transmitting information into the cardiac nerve plexus, such as autonomic and endocrine pathways and blood pressure.

Stress and anxiety cause emotional arousal which causes an excessive sympathetic ANS activity. Peng SM et al (2009) found that music can modify the autonomic nervous system activity and increased the parasympathetic nervous system activity specially the sedative music induces both high relaxation and low tension subjectively in young adults. [22] Thus in comparison to rest listening to pleasant music provokes parasympathetic activity.[23] Pothoulaki M et al. (2008) found music can significantly reduce anxiety and high pain intensity in Patients Undergoing Haemodialysis Treatment.[24]

DISCUSSION

Occupational stress in nurses is significant for a number of reasons. There is evidence that work-related stress decreases the quality of nursing care and increases the chances of making errors. Secondly prolonged stress can lead to poorer health in the nurses themselves and can not only trigger the development of physical disorders of the musculoskeletal and cardiovascular system but also increase the susceptibility to psychiatric illnesses such as depressive and anxiety disorders in nurses [25] and cause increased burnout, absenteeism in nursing staff. But, nurses are the largest workforce in the health-care sector, and an unhealthy work environment is one of the important factors contributing to worldwide nursing shortage. As Music therapy is an upcoming field in health care because of its adequate physical and mental health potential. Thus, to maintain the complete health and good Quality of life of nursing staff a minimum

interventional therapy like music therapy with Indian classical music (Raga) could be established as useful adjunct.

CONCLUSION

Presently various conventional pharmaceutical preparations are used to treat stress, anxiety insomnia, fatigue, depression, hypertension but simultaneously most of them have side effects to. And as Music Therapy shows their significant health impact on Physical and Mental health hence, there is need to a paradigm shift from the present dominant and often exclusive use of chemotherapy to Music therapy specially to enhance quality of life of professionals and to overcome them from anxiety and depression develop due to job stress. Hence, it is a need to establish Music Therapy with Indian classical music which is based on ragas as future medicine which is safe cost effective and have high acceptance in society to combat job stress and its associated co-morbidities like insomnia, Generalized Anxiety Disorder, Depression in health professionals and also in any other stressful occupations.

REFERENCES

1. Aghilinejad M, Mohammadi S, Afkari M, Abbaszade Dizaji R. Surveying the association between occupational stress and mental health, personality and life stressful events in Tehran police officers. Pejouhesh 2007; 31(4): 355-60.
2. Clegg A. Occupational stress in nursing: a review of the literature. J Nurs Manag. 2001; 9(2): 101-6.
3. Shiv Prasad AH. Work related stress of nurses. J Psychiatr Nurs. 2013; 2:53-8.
4. Xianyu Y, Lambert VA. Investigation of the relationships among workplace stressors, ways of coping, and the mental health of Chinese head nurses. Nurs Health Sci. 2006; 8:147-55.
5. Menzies IE. Nurses under stress. Internatl Nurs Rev.1960; 7: 9-16.
6. McGrath A, Reid N, Boore J. Occupational stress in nursing. Int J Nurs Stud. 2003; 40(5): 555-65.
7. Farrington A. Stress and nursing. Br J Nurs.1995; 4:574-8.
8. Patel V, Chatterji S, Chisholm D, Ebrahim S, Gopalakrishna G, Mathers C, et al. Chronic diseases and injuries in India. Lancet. 2011; 377:413-28.
9. Joshi P, Islam S, Pais P, Reddy S, Dorairaj P, Kazmi K, et al. Risk factors for early myocardial infarction in South Asians compared with individuals in other countries. JAMA. 2007; 297:286-94.
10. O'Donnell MJ, Xavier D, Liu L, Zhang H, Chin SL, Rao-Melacini P, et al. Risk factors for ischaemic and intracerebral haemorrhagic stroke in 22 countries (the INTERSTROKE study): a case-control study. Lancet. 2010; 376:112–23.
11. Yang Y-L, Liu L, Wang Y, Wu H, Yang X-S, Wang J-N, et al. The prevalence of depression and anxiety among Chinese adults with cancer: a systematic review and meta-analysis. BMC Cancer. 2013; 13:393.
12. Mounika Akkera, Srilatha Bashetti, Aparna V Bhongir. Indian music therapy: could it be helpful in the management of mental depression. Int J Med Res Health Sci. 2014; 3(2):354-357.
13. Deshmukh, Abhijeet & Sarvaiya, Avani & Ramanathan, Seethalakshmi & Nayak, Ajita. Effect of Indian classical music on quality of sleep in depressed patients: A randomized controlled trial. Nordic Journal of Music Therapy.2009;18:70-78.
14. Madhusudhan U, Kumar Sai Sailesh, Jabir P K. Beneficial effects of Raga therapy in the management of stress among children with type D personality. Indian Jour of Clinical Anatomy and Physiology. 2018;5(3):347-349.
15. Gururaj B Kulkarni**,** Dhanaraj Chittapur. Effects of long term Indian Classical Raga Therapy in reduction of Blood Pressure among chronic hypertensive patients. APIK Journal of Internal Medicine. 2017; 5(3): 10-14.
16. Kripa Angeline. Impact of Ahibhairav Raga on Hypertension among Primary Educators in Selected Schools at Puducherry. IJCSAR. 2018; 2:105.
17. Balaji Deekshitulu P.V. Role of mantras in mental health. International J of Humanities and Social Sci Studies. 2015may;6(1):34-39.
18. Gupta Uma, Gupta B.S. Psychophysiological reactions to music in male coronary patients and healthy controls. Physiology of music.2015 sep;43:736-755.
19. Kumar Kar Sandeep, et al. Effect of Indian Classical Music (*Raga* Therapy) on Fentanyl, Vecuronium, Propofol Requirements and Cortisol levels in Cardiopulmonary Bypass. J of Anesth Crit Care Open Access.2015; 2(2)00047.
20. Koelsch S. Towards a neural basis of music-evoked emotions. Trends Cogn Sci. 2010; 14(3):131–137.
21. KoelschS, kourasS. Functional centrality of amygdala, striatum and hypothalamus in a 'small-world' network underlying joy: an fMRI study with music. Hum Brain Mapp 2014; 35:3485–3498.

22. Peng SM, Koo M, Yu ZR. Effects of music and essential oil inhalation on cardiac autonomic balance in healthy individuals. Journal of alternative and complementary medicine (New York). 2009;15(1):53–7.
23. Orini M, Bailon R, Enk R, Koelsch S, Mainardi L, Laguna P. A method for continuously assessing the autonomic response to music-induced emotions through HRV analysis. Medical & biological engineering & computing. 2010;48(5):423–33.
24. Pothoulaki M, et al. An Investigation of the Effects of Music on Anxiety and Pain Perception in Patients Undergoing Haemodialysis Treatment. J Health Psychol. 20080 ctober; 13(7): 912-920.
25. Milutinović D, Golubović B, Brkić N, Prokeš B. Professional stress and health among critical care nurses in Serbia. Arh Hig Rada Toksikol 2012; 63:171-80.

Cite this article as:
Bansal Charu, Umesh Shukla, Saleha Zainab. Preventive and Promotive Aspect of Music Therapy in Management of Job Stress with special reference to Nursing Profession. International Journal of Ayurveda and Pharma Research. 2020;8(2):50-54.
Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**
Prof. (Dr.) Charu Bansal
Professor,
Dept. of Swasthavritta,
Pt. KLS Govt. Ayurveda College & Institution, Bhopal M.P.
Email: bansalcharu73@rediffmail.com
Mobile: 09425017573