



EFFECT OF MUSIC THERAPY ON HAMILTON ANXIETY SCORE IN PRE-HYPERTENSIVE WOMEN IN THE THIRD TRIMESTER OF PREGNANCY

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ABSTRACT The experience of high levels of stress and anxiety during pregnancy is common for women. Prenatal anxiety will frequently lead to prenatal and postpartum depression. So present study was shown the effect of music therapy on Hamilton Anxiety Score in pregnant women. One Hundred women in the third trimester of pregnancy with pre-hypertension were included in the study. They were divided into study and control group; each consisting of 50 subjects. Subjects included in the study group were asked to come daily or at least six times a week for continuous three months duration for music therapy. Data were collected before and after music therapy sessions. In Study group significantly lower mean value of Hamilton Anxiety score was found after three months of Music therapy and comparison in Control group was found statistically non significant effect on Hamilton Anxiety Score after three months. So we can say that music therapy is beneficial therapy for anxiety.

KEYWORDS :

INTRODUCTION

Anxiety disorders are a frequent occurrence in pregnancy. While some worries and anxiety are experienced by a major number of pregnant women, a full-blown anxiety disorder involves risk to both mother and fetus and increases the risk of postpartum depression. The physical and emotional strain of pregnancy in a woman can unearth otherwise latent or manageable tendencies to succumb to stress and anxiety. The experience of high levels of stress and anxiety during pregnancy is common for women. When left untreated, these can lead to depression and psychosis¹, put the physical health of the mother at risk by suppressing the immune system, put the health of the pregnancy at risk or at high risk, can negatively affect fetal development¹⁻³. Prenatal stress and anxiety do trigger premature delivery, health implications for infants are even more critical.

Prenatal anxiety will frequently lead to prenatal and postpartum depression. Women with prenatal depression suffer weaker immune function and higher levels of the stress hormone, cortisol³. Health and duration of pregnancy are also negatively affected by raised levels of stress hormones⁴.

Effects of music and music therapy on stress and anxiety levels have been evaluated using self report assessments, standardized state anxiety assessment tools, and saliva strips measuring cortisol levels. Comparisons of the effect of live and recorded music on stress and anxiety have also been examined⁵⁻⁷. In a review of the literature, Harvard Neuroscientists have reported music interventions to positively affect experiences of stress and anxiety. The review compared the differences in effect between music listening and music therapy administered by a certified music therapist. They have stated that their findings suggest music therapy was the only music based intervention observed to positively shift physiologic measures of stress and anxiety⁸.

AIMS AND OBJECTIVES

To assess the effect of music hansdhwani raga on HAMA score in pre-hypertensive pregnant women in the third trimester of pregnancy.

MATERIAL AND METHODS

This study was conducted in the Department of Physiology, S.P. Medical College, Bikaner. The study was conducted for three months and data were collected before and after music therapy sessions.

One Hundred women in the third trimester of pregnancy with pre-hypertension were included in the study. They were divided into study and control group; each consisting of 50 subjects. Randomization was done by using sequential method; so that subjects with alternate registration numbers formed each group. Informed written consent was obtained from all the subjects.

Inclusion criteria: Pre-hypertensive pregnant women (Third

trimester of pregnancy)

Exclusion criteria

1. Women with history of hypertension before or during pregnancy.
2. Women taking antihypertensive medications or any other medications affecting BP.
3. Women having other medical conditions or pregnancy-related complications

The study group received three sessions of receptive music therapy with relaxing music; the 1st session at 8:30 am on the 1st day of music therapy, the 2nd session at 3:00 pm on the same day and the last (3rd) session at 8:30 am on the next day. Duration of each session was 15 minutes. The relaxing music that was used for our study consisted of 4 soundtracks of instrumental music played over piano, guitar and flute.

The music was without lyrics and non-rhythmic. Hamilton Anxiety Rating Score (HAMA) was measured before start of investigator.

The control group did not received music therapy. Their precession HAM-A Score was measured at 8:30 am on the 1st day, 3:00 pm on the same day and at 8:30 am on the next day.

Hamilton anxiety rating scale (HAM-A) - Used to assess the anxiety levels based on scores obtained from 14 different criteria. Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0-56. Where <17 indicates mild severity, 18-24 mild to moderate severity, and 25-30 moderate to severe.

Persons were listening to different musical concerts which are having soothing action on our minds and hearts example "Bansuri Vadhana by Pandit Hari Prasad Chourasia", Shehnai by Bismillah Khan", "Tabla by Ustad Zakir Hussain", "Pandit Bhimsen Joshi vocal", Santoor by Shiv Sharma. Light instrumental music was also added.

Collection and classification of data

Values of various study parameters in respect of samples subjects were suitably recorded and classified to prepare master chart for different categories of subjects as per objectives of plan of study. For statistical comparison of data, appropriate statistical model were applied using SPSS version 17 software for statistics.

RESULT

Groups	Recordings	Mean ± SD	t	P
Study Group	Base line	23.54 ± 4.09	6.198	<0.001
	After three months	19.04 ± 3.43		
Control Group	Base line	21.62 ± 4.91	1.769	0.0832 NS
	After three months	21.56 ± 4.90		

Table-1 showing the mean value of HAMA score of both Study Group

and Control Group.

The mean HAMA score of Study Group at baseline was 23.544.09 and after music therapy it was 19.043.43, significantly lower mean value of HAMA was found after three months of Music therapy.

The mean HAMA score of Control Group at baseline was 21.62 ±4.91 and after music therapy it was 21.56 ± 4.90, there was no significant changes in HAMA of control group after three months without music therapy.

DISCUSSION

Our findings are similar to Sundar et al⁹ who found highly significant difference in Hamilton anxiety score after music therapy intervention ($p < 0.0001$). So we can say that music therapy program is effective in relieving anxiety in the practitioners.

Patients of pre-hypertension undergoing music therapy practices showed significant decrease in the Hamilton anxiety score at the end of three months. It has been proved that cyclical breathing techniques in music therapy quiets those cortical areas of the brain that are involved in executive functions like anticipation, planning and worry which is suggestive of anti anxiety effect of this relaxation technique⁹.

Insomnia and anxiety: Insomnia is one of the first symptoms to respond to daily music therapy practices. RAGA music therapy reduces obsessive worry, and induces a state of physical and mental calmness conducive to sleep¹⁰.

Blood lactate is a biochemical measure of stress. Regular practices of music therapy have been found to decrease the level of serum lactate in the participants. The significant fall in lactate levels after practicing music therapy for the first time, suggests that it induces a state of relaxation¹¹.

Prolactin also called as 'well being hormone' is reported to increase while cortisol 'stress hormone' decreases with music therapy indicates the stress relieving, relaxant, bonding and anxiolytic effect of this yogic breathing process^{12,13}.

RAGA music therapy meditation relieves stress, anxiety, depression, pre-hypertension. Meditation has direct effect on hypothalamus, it reduces anxiety and stress which further helps in reducing fat deposition thus it is beneficial in reducing B P of hypertensive patients¹⁴.

SUMMARY AND CONCLUSION

This study was undertaken to evaluate the "Effect of Music on Hamilton Anxiety Score in Pre-Hypertensive Women in the Third Trimester of Pregnancy". Hundred patients of pre-hypertension in the age group 19-35 years were selected in which 50 participated as control group (group 1) and 50 as study group (group 2). Those patients enrolled in the study group were gone through supervised Music therapy. We asked the patients to come for at least five times a week for 3 months duration.

Baseline parameter of Hamilton anxiety score (HAM-A) were measured for both the study and control groups. After three months on completion of intervention it was repeated. After three months of music therapy intervention the significantly lower mean value of Hamilton anxiety score (HAM-A) was found in study group. So we can say that music therapy is an adjunctive therapy for anxiety.

REFERENCES

1. Field T, Diego M, Hernandez-Rief M. Prenatal depression effects and interventions: A review. *Infant Behavior and Development* 2010; 33: 409-418.
2. Field T, Diego M, Hernandez-Rief M, Schanberg S, Kuhn C, Yando R., et al. Pregnancy anxiety and comorbid depression and anger: effects on the fetus and neonate. *Depression and Anxiety* 2003; 17:140-151.
3. Pearlstein T. Perinatal depression: treatment options and dilemmas. *Journal of Psychiatric and Neuroscience* 2008; 33(4):302-319.
4. Janke JR. The effect of relaxation therapy on preterm labor outcomes. *JOGNN* 1999; 255-263.
5. Chang MY, Chen CH, Huang KF. Effects of music therapy on psychological health of women during pregnancy. *Journal of Clinical Nursing* 2008; 17:2580-2586.
6. Wiand N. Relaxation levels achieved by Lamaze trained pregnant women listening to music and ocean sound tapes. *Journal of Perinatal Education* 1997; 6(4):1-8.
7. Yang MR, Lingjiang LM, Zhu HM, Alexander IM, Liu SP, Zhou WM. Music Therapy to relieve anxiety in pregnant women on bedrest: A randomized controlled trial. *MCN* 2009; 34(5):316-323.
8. Lin STM, Lin PM, Lai CYR, Su YZR, Yeh YCM. Mental health implications of music: Insight from neuroscientific and clinical studies. *Harvard Review Psychology* 2011; 19(1):34-43.

9. Sundar S, Ramesh B, Anandraj R. Effect of relaxing music on blood pressure and heart rate in hospitalized pre-hypertensive women in the third trimester of pregnancy: A randomized control study. *Asian J Pharmaceutical and Clinical Research* 2015; 8(5): 179-181.
10. Brown RP, Gerbarg PL. Sudarshan Kriya yogic breathing in the treatment of stress, anxiety, and depression: Part I-neurophysiologic model. *J Altern Complement Med*. 2005;11: 189-201.
11. Sharma H, Sen S, Singh A. Sudarshan Kriya practitioners exhibit better antioxidant status and lower blood lactate levels. *Biol Psychol*. 2003; 63: 281-91.
12. Vedamurthachar A, Bijoor A R, Agte V, Reddy S, Lakshmi B. Short term effect of Sudarshan Kriya yoga on lipid and hormone profile of type 2 diabetic patients. *Research Journal of Chemical Science*. 2011; 1(9) : 83-86.
13. http://www.aolresearch.org/published_research.html
14. Sharma VK, Das S, Mondal S, Goswami U. Effect of music therapy on autonomic functions in healthy subjects and patients of major depression. *Biomedicine*. 2008;28: 139-141.