



Research article

A Community Survey on Effect of Step Aerobic Exercises and Music Therapy on Mental Health in Menopausal WomenShruti Deshpande¹, Chaitanya A. Kulkarni¹, Om C. Wadhokar¹, Waqar M. Naqvi^{2*}, Pratik Phansopkar¹, Sakshi P. Arora¹

1. Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical sciences, Wardha, Maharashtra, India
2. MGM School of Physiotherapy Aurangabad, a constituent unit of MGMIHS, Navi Mumbai, Maharashtra, India

ABSTRACT

To evaluate the effect of Step aerobic exercises and music therapy on mental health in menopausal women. Menopausal women of selected areas of Belagavi city were screened in a door to door survey using Menopause Quality Of Life (MENQOL) questionnaire. 69 menopausal women who fulfilled the inclusion criteria were divided randomly into 3 groups Group A was administrated Music therapy, for Group B Step Aerobic Exercises was given and Group C was administrated combination of Music therapy and step aerobic exercises. All three groups showed significant changes from pre and post intervention. The p-value for Group A versus Group B between pre-test and post-test was 0.001*. For Group A versus Group C was 0.001* and for Group B versus Group C between pre-test and post-test was 0.906 which was not significant. Step aerobics, music therapy and a combination of both were equally effective in improving the mental health status of post-menopausal women. Any one or combination of them can be used to help improve quality of life in these women.

Keywords: Fungi, fatty acids, pH, PUFA, temperature

Received - 14/06/2021, Reviewed - 27/07/2021, Revised/ Accepted- 12/08/2021

Correspondence: Waqar M. Naqvi* ✉ waqar@mgmsop.edu.in

Professor and HOD, Department of Community Health Physiotherapy, MGM School of Physiotherapy Aurangabad, a constituent unit of MGMIHS, Navi Mumbai, Maharashtra, India.

INTRODUCTION

The end of the menstrual cycle, which occurs after twelve months of gap from the last menstrual bleeding is termed as menopause [1]. The average age of women attaining menopause is 46.2 years in India which is less than in other countries at 51 years [2]. It is divided into 3 stages namely, pre menopause occurring before menopause, pre menopause referring to the on-going period of menopause experienced by most women in late forties and post menopause where a woman has attained cessation of menses [3]. All three stages have various physiological changes mainly hormonal which affect all women. Most common symptoms manifesting during these phases, which are often neglected or overlooked are, mental health symptoms, like mood disturbances, behavioural changes, depression, anxiety, etc. WHO defines mental health as “a state of wellbeing in which an individual realizes his or her own potential, can work productively and fruitfully and is able to make a contribution to her or his community Mental illness consists of a wide range of conditions or disorders that affect mood, thinking and behavior. A mental health concern becomes a

mental illness when ongoing signs and symptoms cause frequent stress and affect the ability to function effectively in day to day life. The incidence of mental illness in menopausal women is 90.1 % in India with symptoms such as depression, anxiety, difficulty in sleeping, tiredness and poor memory being more common [4].

The management of the mental symptoms during menopause is conventionally with antidepressants, anti-anxiety drugs which may have side effects, Testosterone patch therapy is administrated for sexual illness where as yoga and relaxation therapy are given for physical symptoms in menopausal women [5].

Quality of life is an individual's perception of their position in life in the context of the culture and values system in which they live and in relation to their goals, expectations, standards and concerns. Assessment of quality of life is usually done using MENQOL, SF-36, WHO QOL- BREF, Greene climacteric scale, Utian Quality of life scale, Menopause rating scale, Women's health questionnaire, MENCAV, Cervantes. Among these MNQOL is a standard tool for the quality of life assessment as it evaluates all the abnormal symptoms of

menopause, such as physical changes, psychological changes, etc [6].

Music has been shown positive effects on Stress induced cortisol relies. Few laboratory studies findings have shown that, music suppresses the stress related increase in cortisol levels. Some studies have also shown that music therapy can decrease sympathetic activity [7]. Symptoms such as, depression, stress would decrease neurotropic expression and neurogenesis in the brain, and exercises would reverse these effects. Depression and other mental illnesses might result from a disturbance in neuronal plasticity, exercises enhances the neurogenesis in adult human [8].

The step aerobic exercises are the low intensity structured aerobic exercises given for the menopausal women which has duration of 60 minutes, which includes 15 minutes warm up exercises that is simple steps on stepper and stretching exercises, 30 minutes of low intensity stepping aerobic exercises will be given those are march in place, simple steps, step 7 and 8, forward steps, backward steps, mambo steps, step and squat. At the of the single session 15 minutes stretching exercises will be given [9].

Indications for music therapy towards body, mind, spirit, energy, emotions, and environment and in total persons health state in terms of holistic approach to promote healing and wellbeing. It is a therapeutic modality which gives effects on human physiological and psychological systems with its melodious sounds; it is a type of relaxation technique used in therapeutic setups [10].

Clinical evidences shows that, mental illness reduces the quality of life in menopausal women. There is lack of evidence relating to the effect of step aerobic exercises and music therapy on mental health in menopausal women. No literature is available to the best of our knowledge, regarding comparison of step aerobic exercises and music therapy on mental health in menopausal women.

METHODOLOGY

The data was taken from selected areas of Belagavi city. 69 women were first screened for inclusion criteria. Women with the age group of 45 to 60 years, under the pre, peri and post-menopausal stages were included. Women having fresh injuries, fracture, or trauma and undergoing medical management for mental illness and post hysterectomy trauma were excluded.

Procedure

Permission to carry out the study was obtained from the institutional ethical committee. A door to door screening was done to identify women in the age group of 45 to 60 years residing in Belagavi city manifesting mental health symptoms using Menopausal specific quality of life (MENQOL) questionnaire [11]. The Group A was administered music therapy (20 to 150 hertz) using music system. 3 sessions per week, for 2 weeks on alternate days. Group B was given step aerobic exercises, 3 sessions per week for 2 weeks on alternate days, included 15 minutes of warm up exercises, 30 minutes of low intensity stepping aerobic exercises such as march in place, simple

steps, forward steps, backward steps, mambo steps, step and squat and 15 minutes of cool down exercise such as Stretching exercises, Group C was administered a combination of both, step aerobic exercises and Music therapy for 60 minutes per session for 3 alternate sessions per week for 2 weeks. At the end of 2 week intervention, MENQOL questionnaire was administered again and data was analysed.

RESULTS

The mean age for Group A was 50.3043, in Group B it was 50.5217, Group C it was 49.9130. So the total mean age comparing all three groups was 50.2464. (Table 1) The mean BMI for Group A was 26.5491, in Group B the mean BMI was 27.7561 and in Group C the mean BMI was 26.7265.

Table 1. Distribution of Age in all three groups

GROUPS	MEAN-AGE	SD-AGE
GROUP A	50.3043	2.75408
GROUP B	50.5217	3.30110
GROUP C	49.9130	3.07354
TOTAL	50.2464	3.01665
F-value	0.235	
P-value	0.791	

Table 2. Distribution of BMI in all three groups

GROUPS	MEAN - BMI	SD - BMI
GROUP A	26.5491	2.97624
GROUP B	27.7561	2.92130
GROUP C	26.7265	3.18753
TOTAL	27.0106	3.03336
F-value	1.064	
P-value	0.351	

Table 3. Within group Comparison of three study groups with respect to MENQOL

GROUPS	PRETEST		POSTTEST		DIFFERENCE	
	MEAN	SD	MEAN	SD	MEAN	SD
Group A	23.57	4.35	16.00	2.57	7.56	2.93
Group B	32.42	3.25	28.74	3.34	3.68	2.05
Group C	31.56	5.95	28.17	4.98	3.38	2.12
F-value	25.294		83.832		21.656	
P-value	0.001*		0.001*		0.001*	
Pair wise comparison of groups by ANOVA Tukeys multiple post hoc procedures						
Group A Vs Group B	p = 0.001*		p = 0.001*		p = 0.001*	
Group A Vs Group C	p = 0.001*		p = 0.001*		p = 0.001*	
Group B Vs Group C	p = 0.805		p = 0.868		p = 0.906	

The total mean BMI comparing all three groups was 27.0106. (Table 2) The mean MENQOL score pre-test for Group A was 23.57 and post-test was 16.00, mean difference was 7.56. For Group B pre-test score was 32.42, post-test the mean score was 28.74, mean difference was 3.68. For Group C pre-test score was 31.56, post-test mean score was 28.17, mean difference was 3.38 (Table 3). According to the ANOVA Tukeys Multiple Post Hoc test, The mean difference is significant in case of Difference test values between group A and group B, group A and group C but not significant between group B and group C (Table 4).

Table 4. Between group comparison of three groups (Between group analysis)

Variable	Groups	Mean	SD	t-value	pvalue
Pre Score	Group A	23.57	4.35	7.808	0.001*
	Group B	32.42	3.25		
	Group A	23.57	4.35	5.196	0.001*
	Group C	31.56	5.95		
	Group B	32.42	3.25	0.610	0.545
	Group C	31.56	5.95		
Post Score	Group A	16.00	2.57	14.437	0.001*
	Group B	28.74	3.34		
	Group A	16.00	2.57	10.409	0.001*
	Group C	28.17	4.98		
	Group B	28.74	3.34	0.450	0.655
	Group C	28.17	4.98		
Difference Score	Group A	7.56	2.93	5.197	0.001*
	Group B	3.68	2.05		
	Group A	7.56	2.93	5.538	0.001*
	Group C	3.38	2.12		
	Group B	3.68	2.05	0.487	0.629
	Group C	3.38	2.12		

DISCUSSION

A women's life undergoes different stages in life and menopause is one of them there are many factors affecting the timing and course of this change in women's life. The present study was done to see the effects of step aerobic exercises and music therapy on menopausal women's mental health with age group of 45 to 55 years. For group A music therapy was administered using a music system and headphones. For group B Step aerobic exercises was administered which included 15 minutes of warm up exercises, 30 min of stepper exercises and 15 min cool down exercises and For group C the combination of both music therapy and step aerobic exercises were administered. Results from a meta-analysis demonstrated that menopause before age 50 was associated with a 25% increased risk of cardiovascular disease^[11]. In present study the results showed that the average age of menopause was 50.24 which is gives a positive sign for reduced risk for cardio vascular diseases. A study quoted that, There was an upward flow in the improving lifestyle and socioeconomic status of the women worldwide. Weight and associated higher BMI is also associated with the higher age at menopause. The body fat distribution of the women interferes with the natural reproductive hormone production and hence also the menopause. To add number of years of having a free body with a full 30 days in a month a well-controlled diet, weight and hence BMI is required. In present study results found that the mean BMI in all three groups was 27.01 which comes in pre obesity class. A study was conducted in Puducherry, five hundred women who were in the age group of 40 to 65years age in rural areas of Puducherry were screened for The socio-demographic information and menstrual status, menstrual period and experience of the symptoms using MENQOL questionnaire, the data was taken from each subjects^[12]. The women were divided in to 3 groups that is menstrual transition, early menopause, late menopause. The results

concluded that the menopausal symptoms had a negative effects on the quality of life of the menopausal women^[13]. In present study we found the significant change in pre and post scores of MENQOL the mean difference in MENQOL score from pre-test to post test was 7.56 and for group B 3.68 and for Group B 3.38 which showed that music therapy is more effective that step aerobic exercises or combination of both. Similarly in a study, 50 pre- menopausal women, meeting inclusion criteria of having stress were given music therapy consists of flute instrumental music for 15 days and results found that there was significant change in the stress levels of the menopausal women^[14]. We also observed that music therapy is more effective on the mental status of the menopausal women than step aerobic exercises or combination of both music therapy and step aerobic exercises. The possible reason could be, because of the mental stress the women preferred music therapy more effective than step aerobic exercises as these exercises might exhausted them during the menopausal stage.

CONCLUSION

The music therapy and step aerobic exercise or combination of both are significantly effective on mental status and quality of life of a menopausal woman but music therapy is more effective than step aerobic exercises or combination of both.

REFERENCE

1. Izetbegovic S, Stojkanovic G, Ribic N, Mehmedbasic E, 2013. "Features of postmenopausal uterine haemorrhage". Medical archives. 67(6), 431.
2. Ahuja M, 2016. "Age of menopause and determinants of menopause age: A PAN India survey by IMS". J Midlife Health. 7(3), 126-131.
3. Anoop Rangey, 2019. "A Study to Assess the Effectiveness of Music Therapy in Reducing Stress among Family Members of Schizophrenia Patient in Selected Hospitals at Jaipur". IOSR Journal of Nursing and Health Science (IOSR-JNHS). 8(3), 19-22.
4. Journ Sand-Jecklin K, Emerson H, 2010. "The impact of a live therapeutic music intervention on patients' experience of pain, anxiety, and muscle tension". Holistic nursing practice. 24(1), 7-15.
5. Trivedi JK, Sareen H, Dhyani M, 2016. "Rapid urbanization-Its impact on mental health: A South Asia al of mid-life health". Indian journal of psychiatry. 7(3), 126.
6. Kumar A, 2008. "Mental health services in rural India: challenges and prospects. n perspective". Indian journal of psychiatry. 50(3), 161.
7. Desai NG, Tiwari SC, Nambi S, Shah B, Singh RA, Kumar D, Trivedi JK, Palaniappan V, Tripathi A, Pali C, Pal N, 2004. "Urban mental health services in India: how complete or incomplete?". Indian Journal of Psychiatry. 46(3), 195.

8. Jenabi E, Shobeiri F, Hazavehei SM, Roshanaei G, 2015. "Assessment of questionnaire measuring quality of life in menopausal women: a systematic review". *Oman medical journal*. 30(3), 151.
9. Lewis JE, Hilditch JR, Wong CJ, 2005. "Further psychometric property development of the Menopause-Specific Quality of Life questionnaire and development of a modified version, MENQOL-Intervention questionnaire". *Maturitas*. 50 (3), 209-21.
10. Najafnia Y, Bararpour E, Amirinejhad B, Nakhaei H, 2013. "Effects of 8-week step aerobic exercise on women's physiological characteristics, body fat percentage, and quality of life". *International Journal of Sport Studies*. 3(12), 1335-41.
11. Sand-Jecklin K, Emerson H, 2010. "The impact of a live therapeutic music intervention on patients' experience of pain, anxiety, and muscle tension". *Holistic nursing practice*. 24(1), 7-15.
12. Punkanen M, Ala-Ruona E, 2012. "Contemporary vibroacoustic therapy: Perspectives on clinical practice, research, and training". *Music and Medicine*. 4(3), 128-35.
13. Doğan MV, Şenturan L, 2012. "The effect of music therapy on the level of anxiety in the patients undergoing coronary angiography". *Open Journal of Nursing*. 2(03), 165.
14. Poomalar GK, Arounassalame B, 2013. "The quality of life during and after menopause among rural women". *Journal of clinical and diagnostic research: JCDR*. 7(1), 135.

How to cite this article

Shruti D, Chaitanya A. K, Om C. W, Waqar M. N, Pratik P, Sakshi P. A, 2021. "A Community Survey on Effect of Step Aerobic Exercises and Music Therapy on Mental Health in Menopausal Women". *Jour. of Med. P'ceutical & Allied. Sci.* V 10 - I 3, 1306 P-3300-3303. doi: 10.22270/jmpas.V10I4.1306