

Influence of Exercise Interventions on Anxiety and Stress of Menopausal Disorder Women

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Abstract

The objective of this paper was intended to find out the influence of exercise intervention on anxiety and stress of menopausal disorder women. The investigator determined the menopausal disorder by administering Menopausal Assessment Scale (MAS) of 120 women identified with menopausal disorders, 45 women were randomly selected for the study and were divided into three groups. Group I was given 6 weeks aerobic exercises Group II was given yogic practices. Group III served as control group. Anxiety and Stress of the selected subjects were measured using standard questionnaires prior to and after the experimental treatments. Obtained scores were subjected to statistical treatment using ANCOVA. The results proved that anxiety and stress of menopausal disorder women had been significantly reduced due to yogic practices and aerobic exercises as determined through post experimental mean comparisons (F: 15.50, F: 35.32). The post hoc results proved that comparing with control group yogic practices and aerobic exercises significantly reduced anxiety and stress. Comparisons whether yogic practice or aerobic exercises was better in reducing anxiety and stress of the menopausal disorder women and the findings proved that yogic practices was significantly better than aerobic exercises in reducing anxiety and stress. Since both the exercise interventions, namely, yogic practices and aerobic exercises were found to be beneficial for managing menopausal disorders and it was suggested that those who can do yogic practices can opt for adopting the life style of doing yogic practices so that better results could be achieved.

KEYWORDS: Menopausal Disorders, Anxiety, Stress, Aerobic Exercises, Yogic Practices

Introduction

A pan-India survey conducted in 2009, by the Bangalore-based Institute for Social and Economic Change (ISEC) has brought to light an alarming fact about Indian women. A typical Indian woman fares abysmally with regards to her menopausal health. The study tested samples from 1,00,000 women in the age band of 15-50 years, across 26 states. The findings of the ISEC survey highlight that on an average nearly 4 percent of Indian women are already menopausal between the ages of 29-34 years. It goes up to 8 percent in the case of women between 35 and 39 years. This is shocking because normal menopause starts between the ages of 45 and 55, with a mean age of around 51 years worldwide. Early menopause also puts women at a higher risk of being affected with osteoporosis, heart diseases, diabetes, hypertension and breast cancer.

The risk of acute myocardial infarction and other cardiovascular diseases rises sharply after menopause, but the risk can be reduced by managing risk factors. Osteoporosis is a decrease in bone mineral density. Weight-bearing exercises are essential in preventing osteoporosis. These exercises cause weight to be placed on the bones, especially the hips, legs and spine. The weight placed on the bone helps slow deterioration of the bone. Experts agree that walking is the best form of exercise for post-menopausal women. Weight gain, especially around the abdomen, is common in post-menopausal women. While this may be caused by genetics and hormones, lack of exercise and overeating are often contributing factors. Adhering to a fitness program can make a big difference in the overall health and well-being of post-menopausal women, as well as help trim the waistline. The researchers had hoped to prove that exercise could be a less risky alternative to hormone replacement therapy for women suffering from hot flashes. **(Pérez-López FR, et.al. (2009).** The study found that more exercise led to lowered levels of perceived stress. "The level of anxiety, stress and depression were significantly lower among physically active, postmenopausal women compared to postmenopausal women in the lowest" level of physical activity.

Though frequent workouts haven't been proven as a means of reducing menopausal symptoms, they *can* ease the transition by helping to relieve stress and enhance your overall quality of life.**(Healthline.com)** Aerobic activity that makes use of the large muscle groups while keeping up the heart rate is a good thing. The options for cardio are limitless: walking, jogging, biking, and swimming all count. The Centres for Disease Control and Prevention (CDC) recommends that beginners start with 10 minutes of light activity, slowly boosting exercise intensity as it becomes easier. Further, practicing relaxation techniques, deep breathing, yoga, or meditation supported and restorative yoga poses may offer relief. Not only can they help alleviate symptoms like hot flashes, irritability, and fatigue, but these poses can also calm the nerves by centering the mind.

Kretzschmar J, et.al. (2013) investigated the effects of a mild-intensity aerobic exercise training program on markers of mortality risk in both premenopausal and postmenopausal African-American women and found Mild-intensity aerobic exercise training succeeds in improving some markers of cardiovascular disease and mortality in postmenopausal women. Higher levels of exercise intensity or perhaps additional interventions may need to be considered to further decrease mortality risk in this population. **Javadivala Z, et.al. (2013)** assessed the relationship between physical activity and the intensity and duration of menopausal symptoms; and investigated the relationship between physical activity and the four domains of health-related quality of life (HRQOL) and assessed the relationship between physical activity and chronic diseases. They found that regular physical activity would be effective in decreasing menopausal symptoms as well as improving healthy aging and also physical activity promotion as a part of healthy life style promotion programs needs to be improved in communities where women are physically inactive. In addition, women need to be informed about importance of physical activity on their life which it leads to feel healthy aging and pre and post- menopausal stages. **Lee JA, et.al. (2012)** analyzed the effects of yoga exercise on serum adiponectin and metabolic syndrome factors in obese postmenopausal Korean women. And indicated that indicate that yoga exercise improves

adiponectin level, serum lipids, and metabolic syndrome risk factors in obese postmenopausal women. Consequently, yoga exercise will be effective in preventing cardiovascular disease caused by obesity in obese postmenopausal Korean women. **Afonso RF, et.al. (2012)** evaluated the effect of yoga practice on the physical and mental health and climacteric symptoms of postmenopausal women with a diagnosis of insomnia and found that the reduction in insomnia severity in the yoga group was significantly higher than that in the control and passive-stretching groups and concluded a specific sequence of yoga might be effective in reducing insomnia and menopausal symptoms as well as improving quality of life in postmenopausal women with insomnia. **Vaze N, and Joshi S. (2010)** explored new options for the management of menopausal symptoms and found Integrated approach of Yoga therapy can improve hot flushes and night sweats. There is increasing evidence suggesting that even the short-term practice of Yoga can decrease both psychological and physiological risk factors for cardiovascular disease (CVD). Studies conclude that our age old therapy, Yoga, is fairly effective in managing menopausal symptoms. **Wani SQ, et.al. (2012)** analyzed the demographic features, reproductive history and stage at disease presentation among the female breast cancer patients and concluded that in comparison to the rest of Indian scenario, more awareness related to breast cancer among post-menopausal and the rural females is needed. The role of premenopausal status, which represent 10% (n = 14) patients needs to be established in relation to breast cancer. **Aggarwal N, et.al. (2011)** determined the prevalence of osteoporosis, and in turn increase the awareness, education, prevention, and treatment of osteoporosis and suggested the need for large community-based studies so that high-risk population can be picked up and early interventions and other life style changes can be instituted if there is delay in implementing national or international health strategies to tackle this increasing global health problem.

The theoretical foundations based on previous researches were that menopausal disorders can be effectively managed through suitable exercise intervention. Researchers were proved that physical activities in the form of aerobic exercises were experimented for this purpose. Researches were also conducted to find out the effect of yogic practices for menopausal disorders. It was found that there was further scope for research to find out the comparative effect of aerobic exercises and yogic practices. Hence, this study was devoted to find out the influence of exercise interventions on anxiety and stress of menopausal disorder women.

METHODOLOGY

To achieve the purpose of the study, the investigator determined the menopausal disorder by administering Menopausal Assessment Scale (MAS) developed by Hilary **Jones (2000)**. Of the 120 women identified with menopausal disorders, 45 women were randomly selected for the study and were divided into three groups. Group I was given 6 weeks aerobic exercises consisting of walking, brisk walking and jogging for 40 minutes; Group II was given 6 weeks yogic practices consisting of asana, meditation and deep breathing exercises. Group III served as control group, which did not participate in any special programme or training during the experimental period. Psychological levels in Anxiety and Stress of the selected subjects were measured using standard questionnaires prior to and after the experimental treatments. The filled up questionnaires were

converted into standard scores using the relevant keys. Obtained scores were subjected to statistical treatment using ANCOVA.

RESULTS

The obtained data were subjected to statistical treatment using ANCOVA and the results are presented in Table I.

Tab 1: Influence of Exercise Interventions (Yogic Practices and Aerobic Exercises) on Anxiety and Stress among Menopausal Disorder Women

ANXIETY (Scores In Numbers)								
	YOGIC PRACTICES	AEROBIC EXERCISES	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	25.47	26.13	24.73	Between	14.71	2	7.36	0.67
				Within	462.40	42	11.01	
Post Test Mean	18.67	23.13	24.40	Between	272.13	2	136.07	15.50*
				Within	368.67	42	8.78	
Adjusted Post Test Mean	18.65	22.67	24.87	Between	297.32	2	148.66	37.18*
				Within	163.95	41	4.00	
Mean Diff	6.80	3.00	0.33					
STRESS (Scores in Numbers)								
Pre Test Mean	28.13	27.07	27.33	Between	9.24	2	4.62	1.94
				Within	100.00	42	2.38	
Post Test Mean	21.47	23.27	26.47	Between	192.40	2	96.20	35.32*
				Within	114.40	42	2.72	
Adjusted Post Test Mean	21.27	23.41	26.52	Between	201.96	2	100.98	39.62*
				Within	104.50	41	2.55	
Mean Diff	6.67	3.80	0.87					

Table F-ratio at 0.05 level of confidence for 2 and 42 (df) =4.07, 2 and 41 (df) =4.08.

*Significant

Since significant results were obtained, the results were further subjected to post hoc analysis using Scheffe's Confidence Interval test and results were presented in Table II.

Tab II: Multiple Comparisons of Paired Adjusted Means on the Influence of Exercise Interventions on Anxiety and Stress among Menopausal Disorder women

VARIABLES	MEANS				Required C I
	Yogic Practices Group	Aerobic Exercises Group	Control Group	Mean Difference	
ANXIETY	18.65	22.67		4.02*	1.89
	18.65		24.87	6.22*	1.89
		22.67	24.87	2.20*	1.89
STRESS	21.27	23.41		2.14	1.51
	21.27		26.52	5.25	1.51
		23.41	26.52	3.12	1.51

* Significant

DISCUSSIONS

Aggarwal N, et.al. (2011) suggested the need for large community-based studies so that high-risk population can be picked up and early interventions and other life style changes can be instituted if there is delay in implementing national or international health strategies to tackle this increasing global health problem. The results of this study proved that anxiety and stress of menopausal disorder women had been significantly reduced due to yogic practices and aerobic exercises as determined through post experimental mean comparisons (F: 15.50, F: 35.32). The post hoc results proved that comparing with control group yogic practices and aerobic exercises significantly reduced anxiety and stress which were in agreement with the findings of **Vaze N,** and **Joshi S. (2010)** and **Kretschmar J, et.al. (2013)**. This study further compared which of the experimental intervention, whether yogic practice or aerobic exercises was better in reducing anxiety and stress of the menopausal disorder women and the findings proved that yogic practices was significantly better than aerobic exercises in reducing anxiety and stress.

CONCLUSIONS

Both the exercise interventions, namely, yogic practices and aerobic exercises were found to be beneficial for managing menopausal disorders and it was suggested that those who can do yogic practices can opt for adopting the life style of doing yogic practices so that better results could be achieved.

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