



## Efficacy of Yoga and Meditation on Depression, Anxiety and Stress level of Post-menopausal Women

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### Abstract

A large number of factors were associated with experiencing menopausal and psychosocial problems and which had negative effects on the quality of life among Indian women. Depression, anxiety and stress should be considered as important risk factors for osteoporosis among post-menopausal women. Anxiety and depressive disorders constitute a substantial proportion of the global burden of disease and are projected to form the second most common cause of disability by 2020 (Murray et.al 1996). The present research makes an attempt to ascertain the efficacy of yoga exercises and meditation on the depression, anxiety and stress level of post-menopausal women. The sample of 30 post-menopausal women was selected between age ranges of 45 to 55 years purposefully. Further, total sample was divided randomly into two categories i.e. experimental group (15) and control group (15). The present research takes into consideration the psychological test Anxiety, Depression and Stress Scale developed by Bhatnagar, P. et al.(2011). The positive impact of yoga exercises and meditation has been reported on the level of depression, anxiety and stress among post-menopausal women in the experimental group.

**Keywords:** *Yoga, Meditation, Post-menopause, Depression, Anxiety, Stress*

### **Introduction:**

Menopause is a normal part of women life, just like puberty. It is the time of last menstrual period. Menopause is a normal condition that all women experience as they age. The term “menopause” is normally used to describe any of the changes woman experiences either just before or after she stops menstruating, marking the end of her reproductive period. Every woman experiences her midlife years differently. The changes that occur during this period, including changes in sexual well-being, are typically caused by a mix of both menopause and ageing as well as by typical midlife stresses and demands. Menopause is defined as the permanent cessation of ovarian function and is thereby the end of a woman’s reproductive phase (Sherman, 2005). Menopause begins around the age of 50 years and is characterized by at least 12

months of amenorrhea. While it is an inevitable part of every woman's life, about 3 out of every 4 women experience complaints during menopause (Sherman, 2005 and Appling et al. 2007). Menopause produces very complex changes during this stage of life which include other changes such as psychological and social changes.

Meditation, in the Sanskrit it is called as 'Dhyana' is a stilling of the chatter of the mind and is recognized as a major component of Eastern religions, where it has been practised for possibly well over 6,000 years. Meditation is a practice that facilitates in bringing the balance to body, mind, and spirit. It brings about mental calmness and physical relaxation and it also works to suspend the stream of thoughts that constantly occupy the mind. The several advantages of meditation are and scientifically validated. It is one of the best stress busters and is now used by medical professionals for that purpose, with many healthcare facilities providing classes for patients. Some of the physical advantages include stress and anxiety reduction, which helps to maintain a state of harmony with the surrounding environment, slower heart rate, better concentration, normal blood pressure, lowering cholesterol. Those who meditate report higher levels of self-esteem. Some experts have compared it to a 'reset button' for of the body.

Yoga and meditation are considered to be an alternative and complementary therapy in managing the menopausal problems of women. Both yoga and meditation approached to holistic health is a powerful tool for helping the women experiences the passage into menopause as a positive event, together physically and spiritually. Yoga is an enjoyable alternative exercise that increases the quality of life and trims down menopausal symptoms. Women those regularly practice yoga and find that they were able to enjoy menopause and experience the freedom, liberation and energy that it brings.

Menopause increases stress level among females. Menopause is a substantial life event and causes women to reflect on past, think about future, and possibly even come to terms with some issues of their own mortality. Postmenopausal women have increased risk of metabolic syndrome, including insulin resistance, hypertension and cardiovascular diseases The pathology may be a direct result of ovarian failure or an indirect result of central fat distribution with estrogen deficiency and higher stress levels (Yang et al. 2008, Carr, 2003 & Liu et al. 2003)

### **Operational Definitions:**

**Yoga:** It is a planned intervention which is taught and demonstrated by the expert to the menopausal women in the study group which consists of selected yoga asanas, pranayama and meditation. Selected yoga Asanas It includes Tadasana, Ardhakati

chakrasana, Badrasana, Paschimottasana, Bhujangasana, Ardha Salabhasana, Ardha halasana, Shavasana which are practised 5 times for 30-40 mints.

**Meditation:** It is one of the several types of meditation in which menopausal women are asked to chant Om during meditation for 10-15 times. It is believed to contain cosmic energy that helps to relieve an individual's suffering. It also helps to enhance memory function, better interpersonal relationships, more restful sleep and significant stress and anxiety reduction. The meditation is done for 10-12 mints.

**Menopausal women:** It refers to the women who had a cessation of menstruation since 1 year, who are in the early postmenopausal period within 5 years of the final menstrual period (classification by NAMS, 2001) and with the age group of 45-55 years.

**Anxiety:** Anxiety is a psychological and physiological state characterized by cognitive, somatic, emotional and behavioural components. These components combine to create an unpleasant feeling that is typically associated with uneasiness, fear or worry.

**Depression:** In the present study, the term "Depression" refers to symptoms of depression such as hopelessness and irritability.

**Stress:** Stress is a normal physical response to events that make you feel threatened or upset your balance in some way. When you sense danger—whether it's real or imagined—the body's defences kick into high gear in a rapid, automatic process known as the "fight-or-flight-or-freeze" reaction, or the *stress response*.

#### **Statement of Problem:**

The focal objective of the present study has been to compare the pre and post-test scores of anxiety, depression and stress among postmenopausal women. The exact problem of the present research is "*Efficacy of Yoga and Meditation on Depression, Anxiety and Stress level of Post-menopausal Women*"

#### **Objectives:**

1. To assess and compare the pre-test level of anxiety, stress and depression among menopausal women between study and control group.
2. To assess and compare the post-test level of anxiety, stress and depression among menopausal women between study and control group.

#### **Hypotheses:**

1. ( $H_0$ ) There will be no significant difference in the pre-test level of anxiety, stress and depression among menopausal women between experimental and control group.

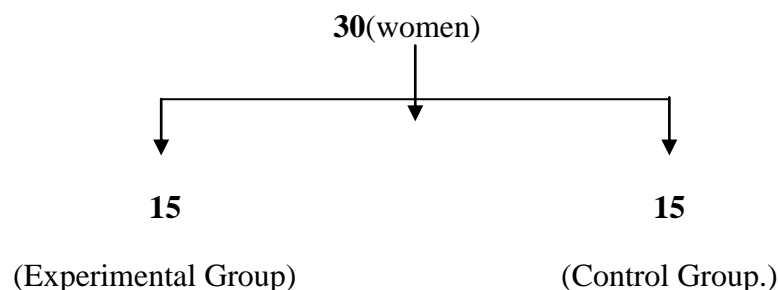
2. ( $H_{a1}$ ) There will be a significant difference in the post-test level of anxiety, stress and depression among menopausal women between experimental and control group.
3. ( $H_{a2}$ ) There will be a significant difference in the pre-test and post-test level of anxiety, stress and depression among menopausal women in the experimental group.

### Research Design:

For the present research pre and post-experimental design with the control group was used. The intervention of yoga and meditation was produced as an independent variable, whereas the level of anxiety, stress and depression were dependent variables. A control strategy was adopted in the present investigation.

### Sample:

Simple random sampling technique was instituted for the present study. The sample of 100 post-menopausal women was screened for anxiety stress and depression with the help of standardized scale. Finally, 30 post-menopausal women were selected between age ranges of 45 to 55 years those having higher anxiety, stress and depression. Further, these 30 women were divided randomly into two categories i.e. experimental group (15) and control group (15). The categorization and details of sample selection is as under:-



### Inclusion criteria

- Women those had cessation of menstruation for 1 year
- Women who were in the age group of 45 – 55 years
- Women those were presenting with hot flush and 4 or more menopausal symptoms like sweating, palpitations, difficulty in sleep, irritability, anxiety and depression etc which were assessed by Symptom Assessment Scale.
- Women those were willing to participate in the study

### **Exclusion criteria**

- Women those had gynaecological problems like fibroid uterus, Endometriosis and prolapsed uterus were not included
- Women those on medical treatments for relieving the symptoms of menopause were not included.
- Women those had medical disorders like osteoporosis and cardiac diseases were not included
- . Women those who were practising exercises and yoga every day were not included.
- Women those attained premature menopause and surgical menopause were not included

### **Tools:**

The investigator after screening a number of available tests finally selected the following tool to collect the data:

**Anxiety, Depression and Stress Scale:-** This scale was developed by Bhatnagar, P. et al.(2011) and published by National Psychological Corporation. This scale consists 48 items divided into Three Sub Scale –

- I. Anxiety,
- II. Depression and
- III. Stress.

This scale was administered to 1177 Adult. This scale consists satisfactory validity and reliability.

### **Procedure:**

The study took place over a period of 12weeks. The investigator along with expert of yoga and meditation had worked with these 30 postmenopausal (age group 45 to 55 years). They were placed randomly into two groups. The first group was an experimental group in which 45 minutes per day occasionally interrupted by 5 minutes break group yoga and meditation sessions were conducted for 12 weeks. Before starting the treatment both the groups, pre-assessment was conducted to evaluate the level of anxiety, depression and stress. During the intervention period follow up process was also done by the investigator regarding proper intervention procedure in the experimental group. In the second group, which was the control group, the intervention was not produced. After the completion of 12 weeks, participants in both the control as well as the experimental group were administered assessment through the tools used for the pre-assessment process.

**Scoring:**

Scoring of the obtained data was done with help of respective manuals available for the tests in the present investigation. The data have been arranged in the respective tables according to the statistical test applied.

**Statistical Analysis:**

In the present research work to find out the significant mean difference between pre and post-test scores of anxiety, stress and depression of postmenopausal women. Statistical measures like paired and independent sample ‘t’ tests, Mean and SD were conducted.

**Results and Discussion:**

**Table:- 1 Showing Mean, SD and ‘t’ values between scores of pre-test control group and pre-test experimental group for Depression, Anxiety and Stress level of Post-menopausal Women.**

Measures	Groups	N	Mean	SD	‘t’ Value
<i>Anxiety</i>	Pre-test control group	15	11.60	5.40	0.40, NS
	Pre-test Experimental group	15	10.85	4.90	
<i>Depression</i>	Pre-test control group	15	10.45	6.21	0.26, NS
	Pre-test Experimental group	15	9.95	3.90	
<i>Stress</i>	Pre-test control group	15	9.97	4.50	0.45, NS
	Pre-test Experimental group	15	9.20	4.68	

A perusal of table 1.1 reported that the two groups under study i.e. pre-test control group and pre-test experimental group do not differ significantly on anxiety level of postmenopausal women ( $t'=.40, p>.05$ ). Mean score of pre-test control group and pre-test experimental group of postmenopausal women are 11.60 (SD=5.40) and 10.85 (SD=4.90) respectively. On the basis of insignificant mean difference, it can be said that both the groups have by and large similar anxiety level.

As seen from table 1.2 that insignificant mean difference was observed between both the groups of postmenopausal women like pre-test control group and pre-test experimental group on the level of depression ( $t'=.26, p>.05$ ). Mean score of postmenopausal women for pre-test control group and pre-test experimental group are 10.45 (SD=6.21) and 9.95 (SD=3.90) respectively. Thus, it can be concluded that both the groups have more or less similar level of depression. Similarly, the significant mean difference was not obtained between the groups like pre-test control group and

pre-test experimental group on the stress level of postmenopausal women ( $t'=.45$ ,  $p>.05$ ). Therefore,  $H_0$  is sustained, and one can well imagine postmenopausal women have a higher level of anxiety, depression and stress.

**Table:- 2 Showing Mean, SD and ‘t’ values between scores of the Post-test control group and Post-test experimental group for Depression, Anxiety and Stress level of Post-menopausal Women.**

Measures	Groups	N	Mean	SD	‘t’ Value
<i>Anxiety</i>	Post-test control group	15	10.81	4.7	2.95, $p<.01$
	Post-test Experimental group	15	6.20	3.80	
<i>Depression</i>	Post-test control group	15	9.65	4.91	3.24, $p<.01$
	Post-test Experimental group	15	4.97	2.67	
<i>Stress</i>	Post-test control group	15	8.85	4.95	2.47. $p<.05$
	Post-test Experimental group	15	5.21	2.85	

Furthermore, results summarized in Table 2.1 that mean values for anxiety level of postmenopausal women is to be found significant ( $t' = 2.95$ ,  $p<.01$ ). Mean scores for the Post-test control group are  $M=10.81$  ( $SD=4.7$ ) and for Post-test Experimental group  $M=6.20$  ( $SD=3.80$ ) respectively, this shows there is a significant mean difference, Post-test experimental group of postmenopausal women have lowered the anxiety level after the intervention.

Table no. 2.2 reported that mean score of the Post-test control group are higher ( $M=9.65$ ,  $SD=4.91$ ) than the Post-test experimental group of postmenopausal women ( $M=4.97$ ,  $SD=2.67$ ) on depression level. Significant ‘t’ value is to be found  $t' = 3.24$ , ( $p<.01$ ). Findings suggested that Post-test experimental group of postmenopausal women have reduced level of depression than the post-test control group. In the same way, table 2.3 highlighted significant mean differences ( $t' = 2.47$ ,  $p<.05$ ) among postmenopausal women of post-test control group and Post-test experimental group on stress level. Mean scores of both the group are  $M=8.85$ ,  $SD=4.95$  and  $M=5.21$ ,  $SD=2.95$  respectively.

On the basis of significant mean difference, one can well imagine that intervention of yoga and meditation has worked effectively on anxiety, depression and

stress level of postmenopausal women. Thus, alternative hypothesis ( $H_{a1}$ ) is strongly accepted.

**Table:- 3 Showing Mean, SD and ‘t’ values between scores of Pre-test and Post-test experimental group for Depression, Anxiety and Stress level of Post-menopausal Women.**

Measures	Groups	N	Mean	SD	‘t’ Value
<i>Anxiety</i>	Pre-test	15	10.85	4.90	2.90, $p < .01$
	Post-test	15	6.20	3.80	
<i>Depression</i>	Pre-test	15	9.95	3.90	4.08, $p < .01$
	Post-test	15	4.97	2.67	
<i>Stress</i>	Pre-test	15	9.95	4.50	3.44, $p < .01$
	Post-test	15	5.21	2.85	

It may be inferred from table 3.1 that scores of both the session i.e. pre and post-test have significant difference ( $t=2.90, p < .01$ ) on anxiety level of postmenopausal women. Mean score of pre-test and post-test are 10.85 (SD=4.90) and 6.20 (SD=3.80) respectively. Hence, it can be said that yoga and meditation play the significant role to decrease the anxiety level of postmenopausal women.

It is evident from Table 3.2 that significant difference is to be found between pre and post-test scores of depression among post-menopausal women in the experimental group. Mean score of pre-test and post-test are 9.95 (SD=3.90) and 4.97 (SD=2.67) respectively. ‘t’ ratio is reported significant ( $t=4.08, p < .01$ ). On the basis of this significant difference conclusively one can say that yoga and meditation have a significant impact on the level of depression.

Perusals of table 3.3 shows that the two sessions are under study i.e. scores of pretest session and post-test sessions differ significantly on the stress level of postmenopausal women ( $t=3.44, p < .01$ ). Mean scored in post-test (M=5.21, SD=2.95) and pre-test (M=9.95, SD=4.50) respectively. This significant mean difference indicated that daily practice of Yoga can be preliminarily recommended as an additional intervention for women who suffer from psychological complaints associated with menopause.

### **Conclusion:**

The results of the present study revealed that there was very high statistically significant difference found in anxiety, depression and stress level of postmenopausal women between study group and control group. The present study also concluded that yoga and meditation were an effective intervention in reducing the level of anxiety, depression and stress among postmenopausal women to a greater extent and it also improved the quality of life of postmenopausal women. Since many menopausal women request complementary therapies either instead of hormone replacement



therapy or in addition to it, yoga can be preliminarily recommended as an adjunct intervention for women who suffer from psychological complaints associated with menopause. However, more rigorous research is needed to underpin these results.

### **Implications:**

Yoga and meditation are an alternative or complimentary therapy in treating the physical and psychological symptoms of postmenopausal women. The medical professional in the community plays a vital role in disseminating evidence based complimentary therapy to help the postmenopausal women in alleviating their problems. Evidence-based practice can facilitate quality improvement of women's health. Health-care professionals should understand women's attitude towards menopause, in order to give optimal information and help them to create positive attitudes and healthy perceptions towards this period of life.

### **References:**

- Bhatanager, P.,Singh, M.,Pandey, M., Dandhya, Amitabh (2011) Manual for Anxiety, Depression and Stress Scale, National Psychological Corporation, Agra.
- Carr MC. (2003) The emergence of the metabolic syndrome with menopause. *J Clin Endocrinol Metab*;88: 2404-11.
- Fu CH, Yang CC, Lin CL, Kuo TB.(2008) Alteration of cardiovascular autonomic functions by vegetarian diets in postmenopausal women is related to LDL cholesterol levels. *Chin J Physiol*;51:100-5.
- H. MacLennan, (2009) "Evidence-based review of therapies at the menopause," *International Journal of Evidence-Based Healthcare*, vol. 7, no. 2, pp. 112–123.
- Liu CC, Kuo TB, Yang CC.(2003) Effects of estrogen on gender-related autonomic differences in humans. *Am J Physiol Heart Circ Physiol*;285:H2188-93.
- Murray C, Lopez A. Boston: Harvard School of Public Health, WHO and World Bank; 1996. *The Global Burden of Diseases: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries and Risk Factors in 1990 and Projected to 2020*.
- S. Appling, K. Paez, and J. Allen, (2007) "Ethnicity and vasomotor symptoms in postmenopausal women," *Journal of Women's Health*, vol. 16, no. 8, pp. 1130–1138.
- S. Sherman, (2005) "Defining the menopausal transition," *American Journal of Medicine*, vol. 118, supplement 12, 3–7.