



EFFICACY OF SIMPLIFIED KUNDALINI YOGA PRACTICES ON ESTRADIOL AND DEPRESSION AMONG MIDDLE-AGED MENOPAUSAL WOMEN

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ABSTRACT

To achieve the aim of the study, 120 middle-aged menopausal women from Chennai city between the ages of 40 and 50 were randomly selected, 40 of them were screened, and they were divided into two groups of 20 subjects each. Before the start of the training program, preliminary tests were carried out for the two groups on the selected dependent variables. The experimental group received Sky Yoga practices for 60 minutes for six days for a total of twelve weeks. The control group was allowed to go about their routine and normal lifestyle with no specific training. After twelve weeks, both groups were retested for the same selected dependent variable, Estradiol and Depression. Analysis of covariance (ANOVA) was used to find the significant difference between the experimental group and the control group. The significance test was set at a confidence level of 0.05

Key Words: Simplified Kundalini Yoga, Estradiol , Depression, Menopause.

INTRODUCTION

Menopause is a natural aging process during which a woman transitions from the reproductive to the non-reproductive years. Although menopause is a physiological process, it is associated with several conditions such as loss of bone mineral density, thinning and drying of the skin, and vasomotor episodes. In addition to psychological changes, menopause leads to so many health risks such as obesity, blood pressure and type 2 diabetes. Yoga as a way of life is the blessing of our ancestors to solve not only menopause but also all other diseases. Yogic life leads us gently and peacefully to well-being.

OBJECTIVES OF THE STUDY:

To find out if there is a significant difference in Sky Yoga practices in middle-aged women suffering from menopausal symptoms in terms of hormonal and psychological variables.

SIGNIFICANCE OF THE PROBLEM

Menopause is a very serious matter that should not be taken lightly. Menopause can affect women physically, mentally, and emotionally. Sky yoga practices play an important role in overcoming menopause problem in women.

HYPOTHESIS:

It is hypothesized that there would be significant differences in selected risk factors in menopausal women due to sky yoga practices than in the control group.

DELIMITATIONS:

1. The study was limited to menopausal women in the city of Chennai.
2. The age of the subjects was limited to 40 to 50 years.
3. The subjects were only menopausal women.
4. The independent variables would only be selected sky yoga practices.
5. The dependent variables estradiol and depression only.

LIMITATIONS:

1. The medically treated people were restricted.
2. The factors such as environment, climatic conditions and socio-economic status are not to be taken into account.
3. Certain factors such as lifestyle, body structure, personal habits and motivational factors are not intended to be considered for this study

METHODOLOGY

To achieve the aim of the study, 120 middle-aged women with menopausal symptoms from the city of Chennai, aged between 40 and 50 years, were randomly selected, 40 of them were screened and divided into two groups of 20 subjects each. Before the start of the training program, preliminary tests were carried out for the two groups on the selected dependent variables. The

experimental group was given six days of 60-minute sky yoga practices for a total of twelve weeks. The control group was allowed to go about their routine and normal lifestyle without any special training. After twelve weeks, both groups were retested for the same selected dependent variable, Estradiol and Depression Analysis of covariance (ANCOVA) was used to find the significant difference between the experimental group and the control group. The significance test was set at a confidence level of 0.05

RESULTS ON ESTRADIOL

Menopause is associated with a marked decrease in ovarian estrogen production. This results in low serum estradiol concentrations and vasomotor symptoms (hot flashes) in the majority of women. The Analysis of Co-variance (ANOVA) on sky yoga practices and Control Group was analysed and presented

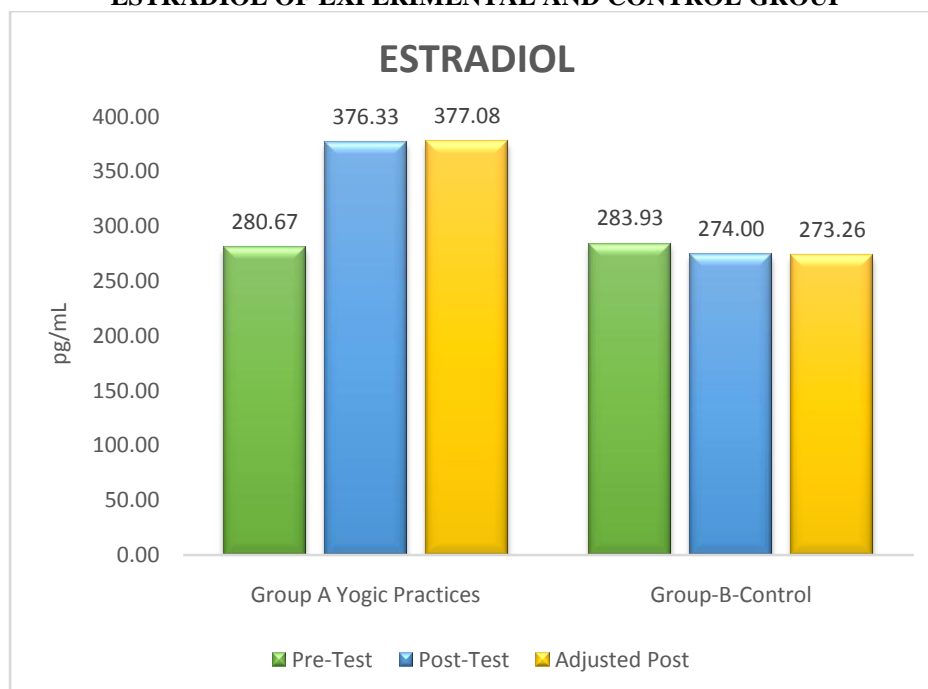
TABLE I
COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE ON ESTRADIOL OF EXPERIMENTAL AND CONTROL GROUP

Test	Simplified Kundalini Yoga Group	Control Group	Source of Variance	df	F Ratio
Pre test	280.67	283.93	between	1.00	0.06
			within	38.00	
Post test	376.33	274	between	1.00	26.02*
			within	38.00	
Adjusted Mean	377.08	273.26	between	1.00	37.24*
			within	37.00	
Mean Gain	95.67	-9.93			

* (The table value required for significance at 0.05 with df 1 and 38 and 1 and 37 are 4.20 and 4.21 respectively) The F value obtained with pretest results of 0.06 was less than the required F value of 26.02 to be significant at the 0.05 level. This proved that there was no significant difference between the pre- and post-test groups and the pre-test randomization was the same. Analysis of the results after the test proved that there was a significant difference between the groups as the F-value obtained of 37.24 was greater than the required F-value of 4.21. This proved that the differences between the subjects' post-test means were significant. The result is substantiated by **Vaze, Net.al** (2010) as given below.

“With increased life expectancy, today, women spend one-third of their life after menopause. Thus more attention is needed towards peri- and post-menopausal symptoms. Estrogen replacement therapy is the most effective treatment, however, it has its own limitations. The present need is to explore new options for the management of menopausal symptoms. Yogic life style is a way of living which aims to improve the body, mind and day to day life of individuals. The most commonly performed Yoga practices are postures (asana), controlled breathing (pranayama), and meditation (dhyana). Yoga has been utilized as a therapeutic tool to achieve positive health and control and cure diseases. The exact mechanism as to how Yoga helps in various disease states is not known. There could be neuro-hormonal pathways with a selective effect in each pathological situation. There have been multiple studies that have combined the many aspects of Yoga into a general Yoga session in order to investigate its effects on menopausal symptoms. 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”. Graphical presentation is given in Figure I

FIGURE I
BAR DIAGRAM ON MEAN AND ANALYSIS OF COVARIANCE ON
ESTRADIOL OF EXPERIMENTAL AND CONTROL GROUP



(The table value required for significance at 0.05 with df 1 and 38 and 1 and 37 are 4.20 and 4.21 respectively)

The results of the study on the selected bio chemical variables showed that group 1 has significant differences on Estradiol has increased, due to yogic practices. Hence, the

hypothesis was accepted at 0.05 level of confidence.

RESULTS ON DEPRESSION

When Estradiol level decreased, depression increase in Menopausal woman. The Data collected before and after yoga therapy were analysed in ANOVA on sky yoga practices and Control Group was analysed and presented

TABLE II
COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE OF DEPRESSION OF EXPERIMENTAL AND CONTROL GROUP

Test	Simplified Kundalini Yoga Group	Control Group	Source of Variance	df	F Ratio
Pre test	18.13	18.33	between	1.00	1.85
			within	38.00	
Post test	10.67	18.40	between	1.00	68.65*
			within	38.00	
Adjusted Mean	10.70	18.37	between	1.00	75.53*
			within	37.00	

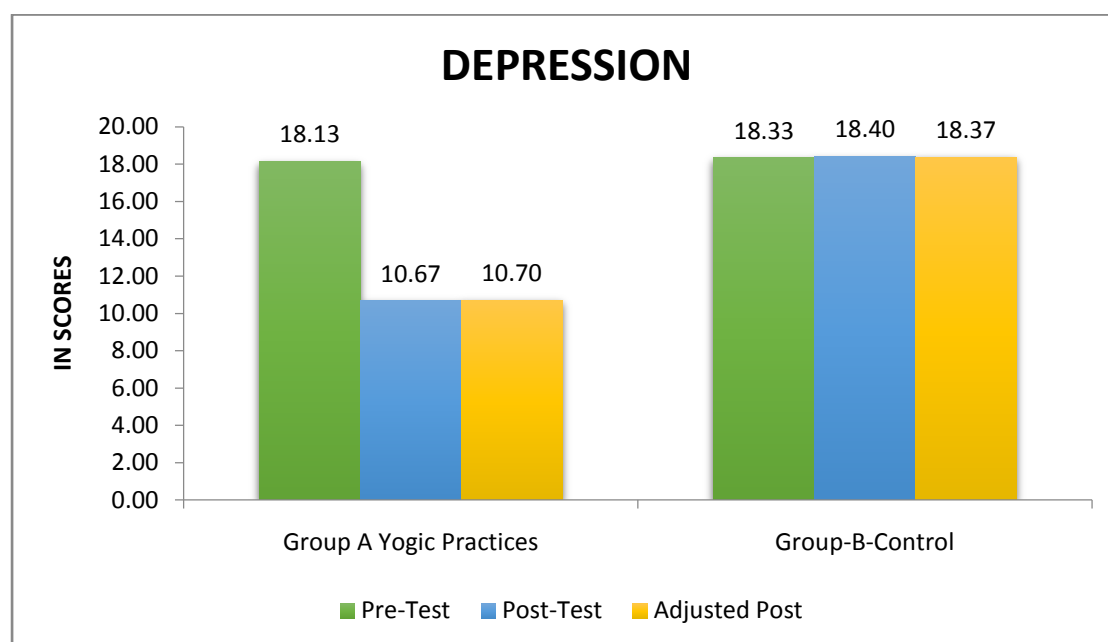
*(The table value required for significance at 0.05 with df 1 and 38 and 1 and 37 are 4.20 and 4.21 respectively)

The F value obtained with pretest results of 1.85 was less than the required F value of 68.65 to be significant at the 0.05 level. This proved that there was no significant difference between the pre- and post-test groups and the pre-test randomization was the same. Analysis of the results after the test proved that there was a significant difference between the groups as the F-value obtained of 75.53 was greater than the required F-value of 4.21. This proved that the differences between the subjects' post-test means were significant. The result is substantiated by **Susanti HD, (2022)**

“This randomized controlled trial investigated the effects of yoga on menopausal symptoms and sleep quality across menopause statuses. Participants were randomly assigned to either the intervention or control group (n = 104 each), and those in the intervention group practiced yoga for 20 weeks. The participants completed the following questionnaires: the Depression, Anxiety, and Stress Scale; Multidimensional Scale of Perceived Social Support; Menopause Rating Scale; and Pittsburgh Sleep Quality Index. The results revealed that yoga effectively decreased menopausal symptoms, with the strongest effects noted in postmenopausal women (mean ± standard deviation: 14.98 ± 7.10), followed by perimenopausal women (6.11 ± 2.07). Yoga significantly improved

sleep quality in postmenopausal and perimenopausal women after controlling for social support, depression, anxiety, stress, and menopausal symptoms ($p < 0.001$). However, yoga did not affect sleep quality in premenopausal women. Overall sleep quality significantly improved in postmenopausal and perimenopausal women. Our data indicate that yoga can help decrease menopausal symptoms, particularly in perimenopausal and postmenopausal women, and improve their health.”

FIGURE II
BAR DIAGRAM ON MEAN AND ANALYSIS OF COVARIANCE OF DEPRESSION OF EXPERIMENTAL AND CONTROL GROUP



Significant at 0.05 level of confidence. (The table value required for significance at 0.05 with df 1 and 38 and 1 and 37 are 4.20 and 4.21 respectively)

The results of the study on the selected showed that group 1 has significant differences on depression, due to yogic practices. Hence, the hypothesis was accepted at 0.05 level of confidence.

DISCUSSION ON HYPOTHESIS

It was hypothesized that there would be significant differences on selected hormonal and psychological variable between the sky group and control group among middle aged menopausal women. The results of analysis of ANCOVA proved that there were significant differences between the SKY Group and Control Group on the Estradiol (Improved) and Depression (reduced). Hence, the first research hypothesis was accepted at $p < 0.01$.

CONCLUSION:

With the above training, it is clearly proven that Simplified Kundalini Yoga practices improved Estradiol and reduced Depression in middle-aged menopausal women. Yogic therapy is vital to menopausal woman.

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