

## Effect of Sudarshan Kriya Yoga on BMI and WHR in Postmenopausal women of Bikaner City

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## Abstract

## Original Research Article

Sudarshan Kriya Yoga (SKY) is a special yogic package designed by Sri Sri Ravishankar, the founder of Art of Living foundation. In healthy individuals after 8 days of practicing SKY positive effect have been found on lipid profile. However to put yoga on a firm pedestal and popularize it among public, we planned to undertake a study of the effect of SKY on lipid profile in postmenopausal women. In our study 100 subjects of postmenopausal women between ages 45-55 years were studied. The subjects of postmenopause were randomly selected from Bikaner City. They were divided into study group and control group having 50 subjects each. Study group was asked to do 'Sudarshan Kriya Yoga' one hour daily or at least five times a week for continuous three months after proper training. Statistically significant benefit of SKY was obtained in Lipid profile in postmenopausal women. Sudarshan kriya yoga showed statistically significant decrease in the values of all the above parameters after 3 months of practice.

**Keywords:** Sudarshan kriya yoga, Menopause, Cardiovascular health.**Copyright © 2019:** This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

### INTRODUCTION

Menopausal transition is a very important phase in a woman's life and menopausal symptoms are encountered by 60–80% of women. In developed countries, because of increased awareness, women seek medical advice for these symptoms, but in developing countries a large number of women consider these symptoms as physiological and continue to suffer without seeking any medical advice. Even those who seek medical advice and are candidates for hormone therapy undergo much anxiety because of the need for periodic follow-up and the perceived associated risk (WHI 2008). For this reason there is great interest in the use of alternative options for menopausal symptoms. A large number of non-hormonal options have been studied so far [1]. Around 20% of patients suffer from severe menopausal symptoms, 60% suffer from mild symptoms and 20% may have no symptoms at all [2]. Since estrogen deficiency is the cause of menopausal symptoms, hormone replacement therapy (HRT) is the most effective treatment. However, HRT has been associated with an increased risk of breast cancer, uterine cancer, thromboembolic heart disease and stroke. Results from Women's Health Initiative (WHI) study and Heart Estrogen/ Progestin Replacement study demonstrated increased risk of cardiovascular system disease and breast malignancy among women

randomized to hormone therapy, although risks have been shown to be influenced by the type of HRT and the age at which it is commenced. More women are becoming aware of the serious side-effects and risks; hence, the use of HRT for menopausal symptoms has decreased [3]. Yoga is one such therapy/technique Sudarshan Kriya Yoga decreases blood pressure and has been found beneficial on cardiovascular and mental health [4, 5]. Sudarshan Kriya Yoga (SKY) is a special yogic package designed by Sri Sri Ravishankar, the founder of Art of Living foundation. SKY is based on rhythmic breathing exercise called Sudarshan Kriya (SK), Pranayam involving ujjayi breathing (breath touching the throat). Besides this it emphasizes importance of prayers, asanas, meditation, vegetative satvic (pure) diet and interactive discussions for attitude training based on 'Art of living knowledge points [6]'. Modern man is the victim of stress and stress related disorders which threaten to disrupt life totally [7]. For above beneficial effects of Sudarshan Kriya Yoga to put yoga on a firm scientific pedestal and popularize it among general public we planned to undertake a study of the effect of this stress relaxation-technique in postmenopausal women with specific aims and objective.

## MATERIAL AND METHODS

In my study 100 subjects of postmenopausal women between ages 45-55 years were studied. The subjects of postmenopause were randomly selected from Bikaner City. They were divided into study group and control group having 50 subjects each. Study group was asked to do Sudarshan Kriya Yoga for three months after proper training at The Art of Living Centre Rani Bazar, Bikaner. This study was conducted in the Department of Physiology, S.P. medical college, Bikaner with informed consent of the subjects.

**Type of Study** : Randomized Case-Control study.

**Method** : 100 subjects were divided into two groups.

**Group I** : 50 randomly selected subjects of postmenopausal women practicing Sudarshan Kriya Yoga constituted the study group.

**Group II** : 50 subjects of postmenopausal women do not practicing sudarshan kriya or any other health

practices were constitute the control group.

## EXCLUSION CRITERIA

Subjects suffering from coronary vascular disorders, diabetes mellitus, pulmonary tuberculosis, asthma, chronic bronchitis and no other co-morbid disease & non-cooperative subjects were excluded from the study.

## EQUIPMENT

- Weighing machine : Suvarna (Slimline)
- Sphygmomanometer: Pagoda
- Height measuring scale
- Measuring tape
- Hamilton Anxiety scale

## RESULTS

Statistically significant benefit of SKY was obtained in BMI in postmenopausal women.

**Table-1**

	Study Group		t	p
	Before Intervention	After Intervention		
BMI	23.427±2.512	21.970±1.924	3.256	0.002
WHR	0.798±0.099	0.806±0.095	0.412	0.681

The mean value of BMI in study group before yogic intervention is  $23.427 \pm 2.512 \text{ Kg/m}^2$  and  $21.970 \pm 1.924 \text{ Kg/m}^2$  after yogic intervention. The difference in the mean value of BMI is statistically significant ( $p < 0.05$ ).

The mean value of WHR in study group before yogic intervention is  $0.798 \pm 0.099$  and  $0.806 \pm 0.095$ . The difference in the mean value of WHR is statistically non-significant ( $p = 0.681 \text{ NS}$ ).

## DISCUSSION

The present study was conducted in the Department of Physiology SP Medical College, Bikaner. This study was undertaken to evaluate the "effect of Sudarshan Kriya Yoga on the cardiovascular parameters and co-morbid anxiety in the postmenopausal womens". 100 subjects in the age of 45 - 55 years were selected in which 50 participated as control group (Group 1) and 50 as study group (group 2). This was an Experimental study (Randomized case control study).

Baseline parameters like body mass index, waist hip ratio, systolic and diastolic blood pressure, pulse rate, lipid profile (TC, TG, HD, LDL, VLDL), HAM - A Hamilton anxiety score were measured for both the study and control groups. Out of these parameters Blood pressure and pulse rate were measured weekly.

After three months on completion of intervention all the parameters were measured.

### Effect of SKY on BMI and body fat

Body mass index: It is observed that there was a significant improvement in the ideal body weight of the yogic practioners[8].

In our study mean BMI prior to the intervention was  $23.427 \pm 2.512$  which has been decreased to  $21.970 \pm 1.924$  ( $p < 0.05$ ). We found significant reduction in BMI. Schmidt et al in his study also found that 3 months Sudarshan kriya yoga training reduces BMI significantly [9]. Like this our results are similar to these studies.

## CONCLUSION

So we can say that SKY is an adjunctive therapy. Lifestyle modification by SKY is useful management of postmenopausal symptoms and psychosomatic diseases along with promotion of health. There is significant improvement in BMI and body fat in post-menopausal women.

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