

Effect of Sudarshan Kriya Yoga on Lipid Profile in Postmenopausal Women of Bikaner City

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DOI: [10.36347/sjams.2019.v07i05.043](https://doi.org/10.36347/sjams.2019.v07i05.043)

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.

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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 (Slimeline)
- Sphygmomanometer: Pagoda
- Height measuring scale
- Measuring tape
- Hamilton Anxiety scale

RESULTS

Statistically significant benefit of SKY was obtained in Lipid profile in postmenopausal women.

Table-1: Show the demographic profile of both groups

| Parameters | Females | |
|------------|---------|-------|
| | Control | Study |
| Mean | 50.10 | 50.70 |
| SD | 3.36 | 3.75 |
| SE | 0.475 | 0.530 |
| t | 0.843 | |
| p | 0.401 | |

Table 1 show the demographic profile of both groups. Out of the total 100 subjects, 50 were in control group (Group 1) and 50 were in study group (Group 2). Within the control group the mean age of subjects

50.10±3.36 years and in group 2 was 50.70±3.75 years. There is statistically insignificant difference between the groups.

Table-2: Shows the Biochemical parameters (mean ± SD) in Study group

| | STUDY GROUP | | t | p |
|------|---------------------|--------------------|--------|-------|
| | Before Intervention | After Intervention | | |
| TC | 190.94±2.698 | 185.48±2.426 | 10.641 | 0.001 |
| TG | 145.96±2.069 | 144.60±2.515 | 2.952 | 0.004 |
| HDL | 58.06±2.452 | 60.68±2.486 | 5.306 | 0.001 |
| LDL | 121.06±4.065 | 119.416±3.228 | 2.240 | 0.027 |
| VLDL | 30.84±3.272 | 29.204±1.506 | 2.996 | 0.003 |

The mean value of Total Cholesterol in study group before yogic intervention is 190.94±2.698mg/dl and 185.48±2.426mg/dl after yogic intervention. The difference in the mean value of Total Cholesterol is statistically highly significant (p<0.001).The mean value of Triglyceride (TG) in study group before yogic intervention is 145.96±2.069mg/dl and 144.60±2.515mg/dl after yogic intervention. The difference in the mean value of TG is statistically significant (p<0.05).The mean value of HDL in study group before yogic intervention is 58.06±2.452mg/dl and 60.68±2.486mg/dl after yogic intervention. The difference in the mean value of HDL is statistically

highly significant (p<0.001).The mean value of LDL-Cholesterol in study group before yogic intervention is 121.06±4.065mg/dl and 119.416±3.228mg/dl after yogic intervention. The difference in the mean value of LDL is statistically significant (p<0.05).The mean value of VLDL in study group before yogic intervention is 30.84±3.272mg/dl and 29.204±1.506mg/dl after yogic intervention. The difference in the mean value of VLDL is statistically significant (p<0.05).

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.

LIPID PROFILE

Results of our study showed statistically significant decrease in lipid profile i.e. TC, LDL were decreased while HDL was increased after 3 months intervention of SKY. Our results are consistent with Sayed *et al.* [8] and Geetha [9] who showed that SKY significantly improves lipid profile in the practitioners. The improvement in the Lipid profile parameters after yoga could be due to increased hepatic lipase and lipoprotein lipase at cellular level, which affects the metabolism of lipoprotein and thus increase uptake of triglycerides by adipose tissue [10]. Increased physical activity in the form of yoga, better ability to overcome stress can be cited as possible mechanism for improvement in Lipid profile [11]. Thus lifestyle modification and stress management through SKY leads to favorable metabolic effects which may help balance weight and body fat.

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 risk factors like lipid profile (decreased TC, LDL-C, while increased HDL-C) in post-menopausal women.

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