

Effect of Sudarshan Kriya Yoga on Hamilton Anxiety Rating Scale (HAM-A) in Postmenopausal women of Bikaner City

Purnima Rathore¹, Soniya Pipliwal², Vikas Choudhary³, Dev Kishan Devra^{4*}^{1,2}M.Sc. (Medicine) final year student, Department of Physiology, S.P. Medical College, Bikaner, Rajasthan, India,³MD Resident 2nd year, Department Of Physiology, S.P. Medical College, Bikaner, Rajasthan, India,⁴Associate Professor, Department Of Physiology, S.P. Medical College, Bikaner, Rajasthan, India.

*Corresponding author: Dr. Dev Kishan Devra

| Received: 03.06.2019 | Accepted: 10.06.2019 | Published: 21.06.2019

DOI: [10.36347/sjams.2019.v07i06.018](https://doi.org/10.36347/sjams.2019.v07i06.018)

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 age 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 age 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

Method

Group I: 50 randomly selected subjects of postmenopausal women.

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 HAMA (mean ± SD) in Study group

| | Study Group | | t | p |
|------|---------------------|--------------------|--------|-------|
| | Before Intervention | After Intervention | | |
| HAMA | 13.76±2.095 | 2.14±0.728 | 37.047 | 0.001 |

The mean value of HAMA in study group before yogic intervention is 13.76±2.095 and 2.14±0.728 after yogic intervention. The difference in the mean value of HAMA is statistically highly significant (p<0.001).

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 a 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 anxiety

Patients of hypertension undergoing SKY practices showed significant decrease in the Hamilton anxiety score at the end of three months. It has been proved that cyclical breathing techniques in SKY quietens those cortical areas of the brain that are involved in the executive function like anticipation, planning and worry which is suggestive of anti-anxiety effect of this relaxation technique [8].

Insomnia and anxiety: Insomnia is one of the first symptoms to respond to daily SKY practices. Ujjayi quiets the mind, reduces obsessive worry, and induces a state of physical and mental calmness conducive to sleep [9].

Blood lactate is a biochemical measure of stress. Regular practices of SKY have been found to decrease in the level of serum lactate in the participants. The significant fall in lactate levels after practicing Sudarshan Kriya for the first time, suggests that it induces a state of relaxation [10].

Prolactin also called as ‘well-being hormone’ is reported to increase while cortisol ‘stress hormone’ decreases by Sudarshan Kriya indicates the stress relieving, relaxant, bonding and anxiolytic effect of this yogic breathing process[6,11].

Stretching exercises, asanas, slow, deep, controlled breathing during SKY practices increase the circulation of blood with plenty of oxygen supplying the neurons in the brain and cells of other vital organs simultaneously excess CO₂ is released with prolonged

voluntary expiration thus burdening tension is relieved leaving the individual calm, relaxed yet energetic.

Guided Meditation during SKY reduces perception of stress, relieves anxiety, and decreases O₂ consumption and oxidative stress which shows the beneficial effect on anxiety, hypertension and other psychosomatic diseases [12, 13].

Although controlled clinical trials are needed to document the benefits of programs that combine pranayama, asanas, and meditation, there is now sufficient evidence to consider Sudarshan Kriya Yoga as a potentially beneficial, low - risk adjunct for the treatment of stress, anxiety, Post Traumatic Stress Disorder, depression, stress - related medical illnesses, and substance abuse and for the rehabilitation of criminal offenders. Yoga techniques have historically been found to enhance well - being, mood, attention, mental focus, and stress tolerance [14].

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 Hamilton Anxiety Rating Scale (HAM-A) in post-menopausal women.

REFERENCES

- Joshi S, Khandwe R, Bapat D, Deshmukh U. Effect of yoga on menopausal symptoms. *Menopause international*. 2011 Sep;17(3):78-81.
- Turnbull S. Yoga as a treatment for menopausal symptoms. *Journal of Yoga: Ontogenetic and Therapeutic Investigation*.2010;2:14–15.
- Dorval M, Vallee MH, Plante M, Chiquette J, Gaudet M, Simard J. Effect of the women's Health Initiative study publication on hormone replacement therapy use among women who have undergone BRCA1/2 testing. *Cancer Epidemiology, Biomarkers and Prevention*.2007;16:157–60.
- Geetha H. Sudarshan Kriya and Health. *Science of breath International Symposium on Sudarshan Kriya, Pranayam and Consciousness*, New Delhi. All India Institute of Medical Sciences.2002;53-5.
- Swati G. Effect of Sudarshan Kriya and related practices on cardiovascular and mental health in normal healthy volunteers. *Indian Journal of Physiology & Pharmacology*.2011;55(5):72-3.
- Vedamurthachar A, Bijoor A R, Agte V, Reddy S, Lakshmi B; Short term effect of Sudarshan Kriya yoga on lipid and hormone profile of type 2 diabetic patients. *Research Journal of Chemical Science*. 2011; 1(9): 83-6.
- Madan M, Pal GK; Effects of Yoga Training on Cardio-respiratory functions of school Children of Pondichery. Dissertation submitted to Dept. of Physiology JIPMER Pondichery. 2002.
- Brown RP, Gerbarg PL. Sudarshan Kriya yogic breathing in the treatment of stress, anxiety, and depression: Part I-neurophysiologic model. *Journal of Alternative and Complementary Medicine*. 2005;11:189-201.
- Brown RP, Gerbarg PL. Sudarshan kriya yogic breathing in the treatment of stress, anxiety, and depression: Part II-clinical applications and guidelines. *J Altern Complement Med*. 2005; 11: 711-17
- Sharma H, Sen S, Singh A, Bhardwaj NK, Kochupillai V, Singh N. Sudarshan Kriya practitioners exhibit better antioxidant status and lower blood lactate levels. *Biological psychology*. 2003 Jul 1;63(3):281-91.
- http://www.aolresearch.org/published_research.html
- Johnson O. Scientific Research on maharishi's transcendental meditation and transcendental meditation-sidhi program. [Document on Internet] 1995; [cited 2018 2 Dec]. Available from: <https://www.mum.edu>orme-johnson>.
- Jayadevappa R, Johnson JC, Bloom BS, Nidich S, Desai S, Chhatre S, Raziano DB, Schneider RH. Effectiveness of transcendental meditation on functional capacity and quality of life of African Americans with congestive heart failure: a randomized control study. *Ethnicity & disease*. 2007;17(1):72.
- Brown RP, Gerbarg PL. Sudarshan Kriya Yogic breathing in the treatment of stress, anxiety, and depression: part II—clinical applications and guidelines. *Journal of Alternative & Complementary Medicine*. 2005 Aug 1;11(4):711-7.