



THE EFFECT OF SUDERSHAN KRIYA ON WORK RELATED STRESS

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ABSTRACT In the present study, 40 participants (21 males and 19 females) in the age group of 20-50 years who were attending the Happiness Program by the Art of Living foundation were assessed for the level of stress before and after Sudershankriya yoga. The participants were taught Sudershankriya for the duration of 5 days and the effect of Sudershankriya was assessed on the stress levels of the participants and the stress levels were compared before the start and at the end of Sudershankriya. The stress levels were assessed by the Stress Questionnaire by ISMA UK-2013. At the end of 5 days of Sudershankriya, there was a drastic reduction in the stress levels of the participants. Both males and females showed improvement in stress but the females who had more stress initially benefitted more than males. Sudershankriya relieves stress and helps people to lead a happier and healthier life. It is a cost effective, well tolerated practice that can be inculcated in routine. Further studies on larger population and for longer duration of Sudershankriya are needed to be done to confirm the results.

KEYWORDS : Sudershankriya, Yoga, Stress

Introduction

The environmental pollution, increased pace of life, psychosocial disturbances, eating habits, and sedentary lifestyle have increased stress levels and their related disorder.¹ Stress is one of the main reasons for the development of various pathological conditions. These include psychological disorders such as depression and anxiety,^{2,3} and medical disorders including coronary heart diseases, hypertension and diabetes.⁴ Several yogic exercises, such as Shavasana, Kapal bhati, Hatha yoga, and meditation have been evaluated for their utility in reducing stress and the high blood pressure that often accompanies it.^{5,6} Regular practice of yoga for 3–4 months has shown beneficial effects on subjective well being, depression, and anxiety.⁷⁻⁹

Sudarshan kriya and pranayam (SK and P) are rhythmic breathing techniques which emphasizes breathing in three different rhythms. SK and P are preceded by Ujjai Pranayam and Bhastrika. SK and P has been found to be useful for relieving depression^{10,11} and improving antioxidant defenses in the body.¹² Although many stress reduction techniques are well known, there is lack of research about the usefulness of Sudarshan kriya on stress related to work. Therefore, the present study aims to study the effect of Sudarshan Kriya on work related stress and generate awareness about their stress early in life and for the proper management of stress.

Material and Methods

The study includes 40 participants (21 males and 19 females) who were working in any company or owned their business, in the age group of 20-55 years. Participants who were apparently healthy, volunteers, who gave written informed consent, were included in the study after obtaining Institutional ethical clearance. Persons suffering from any acute or chronic illness and uninterested in the study were excluded. Following their enrollment, they were given the Art of Living Happiness Program in Sudarshan Kriya Yoga at Sri Sri Space in Rourkela. At baseline and again after the practice of SKY for 5 days, a Stress questioner was filled by these volunteers. Founded in 1981 by Gurudev Sri Sri Ravi Shankar, The Art of Living is an educational and humanitarian movement engaged in stress-management and service initiatives. The organization operates globally in 155 countries and has touched the lives of over 370 million people.¹³

The Art of Living Happiness Program is a course which span for a total of 24 to 28 hours during five to six consecutive days. Sudarshan kriya yoga (SKY) is a type of cyclical controlled breathing practice with roots in traditional yoga that provides relief for depression, and it is taught by the nonprofit Art of Living Foundation. It has four distinct components.¹⁴ Detailed descriptions of the four main SKY breathing techniques are as following.¹¹

1. Ujjayi or “Victorious Breath”: This involves experiencing the

conscious sensation of the breath touching the throat. This slow breath technique (2–4 breaths per minute) increases airway resistance during inspiration and expiration and controls airflow so that each phase of the breath cycle can be prolonged to an exact count. The subjective experience is physical and mental calmness with alertness.

2. During Bhastrika or “Bellows Breath,” air is rapidly inhaled and forcefully exhaled at a rate of 30 breaths per minute. It causes excitation followed by calmness.
3. “Om” is chanted three times with very prolonged expiration.
4. Sudarshan Kriya which is a Sanskrit term meaning “proper vision by purifying action” is an advanced form of rhythmic, cyclical breathing with slow, medium, and fast cycles.

The present study is done using ISMA UK (International Stress Management Association UK – 2013) Stress Questionnaire.¹⁵ The Questionnaire consists of 25 questions each carrying one point. The participants were asked to answer all the questions but just tick one box that applies to them, either yes or no. (Answer as yes, even if only part of a question applies to them). Scoring is such that 4 points or less means the person is least likely to suffer from stress-related illness. 5 - 13 points means more likely to experience stress related ill health either mental, physical or both.

14 points or more means persons are most prone to stress showing a great many traits or characteristics that are creating un-healthy behaviors.

Statistical Analysis

All data obtained were expressed as mean \pm standard deviation (SD). The differences in observations before and after Sudarshan Kriya were studied using student's paired t-test. A two tailed, un-paired student's t-test was used to test difference between males and females. A p-value of <0.05 has been considered to be statistically significant.

Table 1: The Mean \pm SD values of questionnaire scores in participants before and after Sudershankriya (N=50)

	Before Sudershankriya	After Sudershankriya	P value
Questionnaire Scores	13.58 \pm 3.91	8.55 \pm 4.22	P=0.0001

Table 2: The Mean \pm SD values of questionnaire scores in Male participants before and after Sudershankriya (N=21)

	Before Sudershankriya	After Sudershankriya	P value
Questionnaire Scores	11.14 \pm 3.85	9.00 \pm 4.42	P=0.0014

Table 3: The Mean± SD values of questionnaire scores in Female participants before and after Sudershankriya (N=19)

	Before Sudershankriya	After Sudershankriya	P value
Questionnaire Scores	16.26±1.45	8.05±4.05	P=0.0001

Table 4: The Mean± SD values of test scores between Males and Females

a) Before Sudershankriya			
Questionnaire Scores	Males (N=21)	Females (N=19)	P value
	11.14±3.85	16.26±1.45	p=0.0001
b) After Sudershankriya			
Questionnaire Scores	Males (N=21)	Females (N=19)	P Value
	9.00±4.42	8.05±4.05	P=0.4853

Results and Discussion

The Mean and SD of test scores in participants before and after Sudershan kriya are shown in Table 1. The questionnaire scores in Table.1 show extreme statistical significance as the p value is 0.0001. There is a significant reduction in the stress levels after sudershan kriya. This result is consistent with the finding of the study conducted by Sushil Chandra (et.al) on 20 participants to see the effect of stress on EEG and its regulation by Sudershan kriya, which revealed that the brain can bear more stress after the exposure of SKY, i.e., stress tolerance increases.¹⁶

Table 2. and Table 3. show the Questionnaire scores among males and females before and after sudershan kriya respectively. In males, the scores are very statistically significant (p=0.0014). In females, the scores are extremely statistically significant (p=0.0001).

Table 4a. shows the comparison of questionnaire scores between males and females before Sudershan Kriya. There is an extremely statistical significance in the scores between males and females of our study population, with higher stress levels in females than males. Table 4b. shows the comparison of questionnaire scores between males and females after Sudershan Kriya, which shows no statistical significance among the two groups. There is a drastic improvement in stress as assessed by the test scores in both males and females (Table 2 & 3), but more significant improvement occurred in females, who had higher level of stress than males (Table 4a). A study conducted by Vivek B (et.al) showed that the stress was observed in 187 (27.7%) females and 112 (20.4%) males; the association with gender was statistically significant.¹⁷

The present study results are similar to the findings of study by Sushil Chandra (et.al) which showed that after SKY, significant changes were found in all of the samples, but more stressed subjects were more benefitted as compared to the less stressed.¹⁶ SKY has been reported to be effective not only for treating stress and anxiety, but also for post-traumatic stress disorder (PTSD), depression, stress-related medical illness, and substance abuse, and for rehabilitation of criminal offenders.¹¹

Gerberg and Brown have found SKY to be helpful in patients with a wide range of medical disorders including chronic fatigue, chronic pain, fibromyalgia, neck and back pain, temporo-mandibular joint pain, cancer, diabetes, multiple sclerosis, and asthma. Reducing stress and anxiety is known to ameliorate pain and other stress-related symptoms.¹¹ Vallabh VG (et.al) has reported that stress reduction techniques (SKY practice) might prove useful to improve the ability to see distant objects and reduce physiological stress activation during every day activities.¹⁸

Conclusion

The present study suggests that after five days of Sudershan Kriya in the Happiness Program of Art of Living, there is drastic reduction in the stress levels of sample population. The females had more stress than the males in the start of the study. Both males and females responded well to Sudershan Kriya done for five days with more improvement in females. SKY practices are cost-effective, well-tolerated tools that can be easily integrated into diverse community care models. SKY relieves stress and develops an individual's mind-body-spirit so that they can be happier, healthier, and possibly even longer lived. In the competitive modern world, in which stress and anxiety are part of everyday life, adding a time-honored, evidence-based breathing program like SKY may facilitate a healthy life. Overall, it may be beneficial to include Sudershan Kriya as a routine.

Further study of a large number of individuals and for a longer duration is necessary to confirm these results.

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