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Effect of Simplified Kundalini Yoga on Stress Among Rehabilitative Middle-Aged Women Affected with Tuberculosis – Pilot Study

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Abstract: One hundred and twenty middle-aged women were asked to participate, 90 were screened, and 40 were picked at random for an experiment to see how simplified Kundalini yoga affects stress in middle-aged women with tuberculosis (TB) who are getting better. There would be 40 people in total, and they would be fairly split between two groups (A and B). It is thought that simplified Kundalini yoga will have a bigger effect on some risk factors than the control group when it comes to helping middle-aged women with tuberculosis get better. Both the study group A and the control group B would first have their stress levels measured. Subjects in Group A (the experiment) would do Yogic practises six days a week for a total of 12 weeks. Sessions would last 40 min for the first four weeks, 50 min for the second four weeks, and 60 min for the last four weeks. The control would be the group that did nothing (Group B). At the end of the experiment, the same dependent factors would be used to test two groups again. Analysis of covariance (ANCOVA) can be used to find out how much group A is different from group B. The test's significance level would always be set to 0.05.

Keywords: Yoga Therapy, Tuberculosis, Stress, Kundalini yoga

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Introduction

Tuberculosis (TB) is a socially communicable, chronic infectious disease that is one of the leading causes of illness and mortality. After COVID-19, tuberculosis is the second leading infectious murderer. The organism that causes tuberculosis is *Mycobacterium tuberculosis*. The

bacteria primarily affect the lungs, causing tuberculosis of the lungs. The infection may be localized in lymph nodes, bone marrow, the brain, or the kidneys, or it may be widespread. Persistent wheezing, expectoration, haemoptysis, chest pain, fatigue, fever, Night Sweats, weight

loss, anorexia, and insomnia are all TB symptoms. Midlife, the period of life between younger and elder maturity, has been described as a transitional period in the lives of women. The recognized age range for midlife is between the ages of 25 and 45. World Health Organization (WHO) mentions that 10.6 million people will be infected with tuberculosis in 2021, of which 3.4 million women will fall ill and 1.6 million will perish. Those with tuberculosis are susceptible to a variety of health complications. Consequently, tuberculosis patients must maintain their physiological, respiratory, and psychological health. Yoga is the most effective method to normalize tuberculosis levels, surpassing ATT drugs and yogic therapy. Yoga reduces tension, protects against cardiovascular disease, reduces the severity of tuberculosis, and improves strength and balance to promote overall health.

The objective of this study was to find out whether there would be any significant difference in psychological variable stress among rehabilitative middle-aged women affected with tuberculosis due to Simplified kundalini yoga. It was hypothesized that there would be significant differences due simplified kundalini yoga on selected Psychological variable stress among rehabilitative middle-aged women affected with tuberculosis

Significance of the Study:

Women mostly affected with TB by the age of 15 to 49 yrs. Tuberculosis leads to swelling of the lung membranes and heart's inability to pump effectively and stress. High secretions of Adrenaline and cortisol during stress affect heart rate and Blood pressure. The health of women in middle age is vital because it influences the quality of life. Women play a major role in promoting family and community health. As a result, their physical, psychological, social, and spiritual health is of utmost importance. The main health challenge of the twenty-first century is to improve the quality of life and promote health by

empowering middle-aged women to have greater control over their own health.

The inclusion criteria for this study was: (i) The study was delimited to Chennai City only; (ii) Subjects were in Age of range from 35 to 50 years only; (iii) The subjects were middle-aged women affected with tuberculosis only; (iv) The dependent variable was restricted to stress only; (v) Independent variables were Simplified kundalini yoga only; and (vi) Subjects were included without cavity and cardiac problems.

Materials and Methods

The study was performed to facilitate the Random group experimental study to determine the effect of Simplified Kundalini Yoga on Selected Risk Factors in Rehabilitative Middle-Aged Women with Tuberculosis. 120 Middle-Aged Women were invited, 90 were screened, and 40 were chosen using a random group sampling design. Group A and group B, each comprised of 20 subjects. It is hypothesized that Simplified Kundalini Yoga would have a significant effect on selected risk factors among rehabilitating middle-aged women with tuberculosis compared to the control group. A preliminary stress test was administered to Experimental group (group A) and Control group (group B). Experimental Group A subjects were engaged in Yogic Practises six days per week, for a total of 12 weeks (for 40 min for the first four weeks, 50 min for the second four weeks, and 60 min for the final four weeks). The practise of yoga includes purification processes (kriya), postures (asana), controlled breathing (pranayama), meditation, relaxation, a code of conduct, and spirituality. Sky yoga practises have been found to be advantageous in the treatment of tuberculosis; however, their use should be tempered by a thorough evaluation of the patient's overall health, individual needs, risk factors, and contraindications. Group B were engaged in active recuperation. After the duration of the investigation, two groups were retested on the dependent variables. Analysis of covariance (ANCOVA) was used to determine the differences between the experimental group A and the

control group B. The significance test would be preset at a level of confidence of 0.05.

For subject selection, a questionnaire (Latha Sathish) was distributed to 120 randomly invited participants, of whom 90 were middle-aged women diagnosed with tuberculosis. After analysing their responses to a questionnaire, forty subjects were chosen for experimental research, with each group receiving twenty participants. A group of rehabilitative middle-aged women were given selective yogic practises to control stress, while another group of middle-aged women were not given any practises and were permitted to engage in active rest. Tables 1 and 2 illustrate the Yogic Practises training schedule. Training Scheduled Experimental Group A SKY listing of Yogic Practises is presented in Tables 1, 2 and 3. Figure 1 displays a Flow Diagram with a Complete Methodology.

Results and Discussion

The variables obtained from the two groups before and after the training period were statistically analyzed using Analysis of Covariance (ANCOVA) at a significance level of 0.05 to ascertain any significant differences. Table 3 presents the results of Analysis of Covariance (ANCOVA) for the effect of yoga on stress.

As shown in Table 1, the obtained F value on post-test means was 4.73, which exceeded the required table value of 4.2, indicating that the study was statistically significant. Taking into account the pre-test and post-test means, the adjusted post-test means were calculated, and an Analysis of Covariance was performed. The obtained F value of 18.39 was greater than the required table value of 4.20, so it was determined that there were significant differences between the treated groups.

Chowdhery and Nandi (2016) stated that the source of the tension could be work-related responsibilities, corporate culture-based conditions, or personality conflicts. As with other forms of tension, if occupational stress is not effectively managed, it can ultimately affect both

physical and emotional health. The questionnaire created by Latha consists of 52 items arranged from mild stress, moderate stress, to severe stress. This lists life experiences based on the amount of change or adjustment one must make in life, as opposed to the unfavorableness of the events themselves. Good concurrent validity and a test-retest reliability of 0.87 for the stress questionnaire 0 to 17 indicates minimal stress, 18 to 35 indicates moderate stress, and 36 to 52 indicates high stress. The investigation was conducted to determine the efficacy of a stress management programme for Physical Education Teachers. According to the results, tension has an effect on the activities of physical education teachers, and numerous relaxation techniques should be developed to reduce their stress levels (Chowdhery and Nandi, 2016).

Nagarasan and Kalavathi (2020) mentions that the components of Simplified Kundalini Yoga are Simplified Physical Exercises, Kayakalpa Yoga Exercises, Simplified Kundalini Meditation, and Introspection. Occupational stress, also known as job stress or work stress, is the experience of disagreeable, negative emotions such as tension, anxiety, irritation, wrath, and melancholy as a consequence of work-related factors. Nagarasan and Kalavathi (2020) determined the impact of Simplified Kundalini Yoga on Occupational Stress in middle-aged men. To determine the objective and purpose of the study, 80 Coimbatore, India-based hardware engineers aged 30 to 35 were selected at random. The subjects were separated into two groups of forty individuals each. Group I underwent simplified Kundalini yoga training (SKYT), while Group II served as the control group (CG) and did not participate in the training programme. The instruction period lasts twenty-four weeks. Following the instruction period, a post-test was administered: Within the study's limitations and based on its findings, it was evident that twenty-four weeks of simplified Kundalini yoga caused significant alterations in the occupational stress of middle-aged men. The fact that the control group did not demonstrate a

Tables 1: Yogic Practices training time schedule Adopted for study

S. No.	Yogic Practices	Time Duration for 6 days /week		
		I Four weeks (40 min)	II Four weeks (50 min)	Last Four weeks (60 min)
1	Kayakalpham	6 min	6 min	6 min
2	SKY exercise	24 min	29 min	34 min
3	Meditation	10 min	15 min	20 min

Table 2: Training Scheduled Experimental Group A SKY Yogic Practices

9 th to 12 th week (60 Min)						
S. No.	Name of Yogic Practise	Duration	Total Duration	Repetition	Breath	Grand total Duration
1	Prayer with Guru salute	1+1 =2 min	2 min	-	-	2 min
2	Kaya kalpam	3+3 min	6 min		10+10 Sec	6 min
3	Hand Exercise	2 min	2 min	5	1 min	3 min
4	Leg Exercise	3 min	3 min			3 min
5	Neuro muscular breathing Exercise	3 min	3 min	5	7*25 sec	3 min
6	Eye Exercise	3 min	3 min	5		3 min
7	Kapalbhati	3 min	3 min	3		3 min
8	Maharasanam I & II	120sec+ 120sec	4 min	3	1 min	5 min
9	Massage	2 min	2 min	3		2 min
10	Acupressure	7 min	7 mi		14*30 sec	7 min
20	Relaxation	2 min	2 min			3 min
25	MEDITATION - Basic Meditation from SKY	15 min	15 min	-	-	20 min

Table 3: Analysis of Covariance of the means of simplified kundalini yoga group and control group on stress

TEST	Experimental Group	Control Group	Source of Variance	Degree of Freedom	F Ratio
Pre	32.07	28.93	Between	1	0.52
			Within	38	
Post	20.33	26.47	Between	1	4.73*
			Within	38	
Adjusted Post	19.14	27.66	Between	1	18.39*
			Within	37	
Mean Gain	-11.75	-2.47			

* Table F ratio at 0.05 level of confidence for 1 and 38 (df) = 4.2, 1 and 37 (df) = 4.21

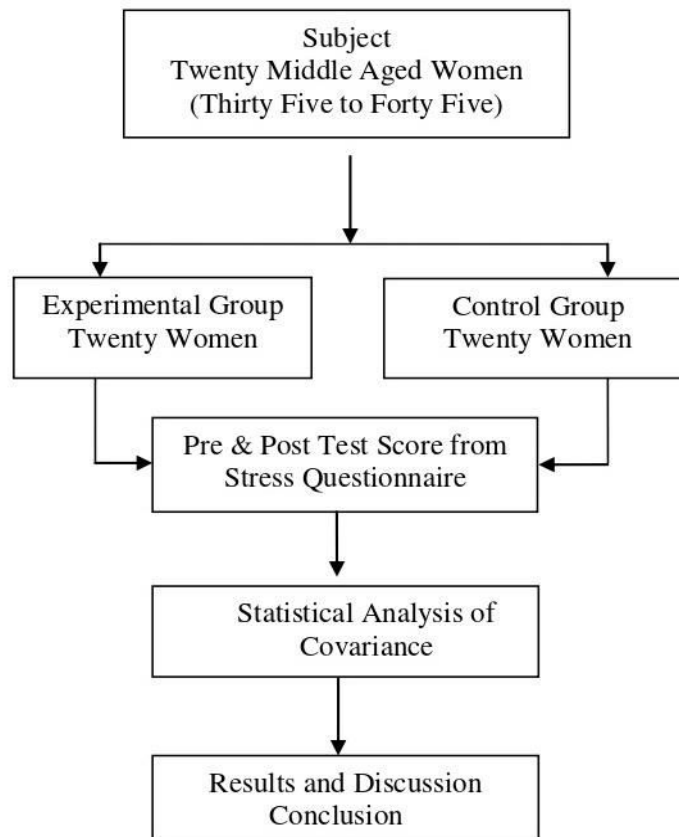


Fig:1: Flow chart showing methodology adopted for study.

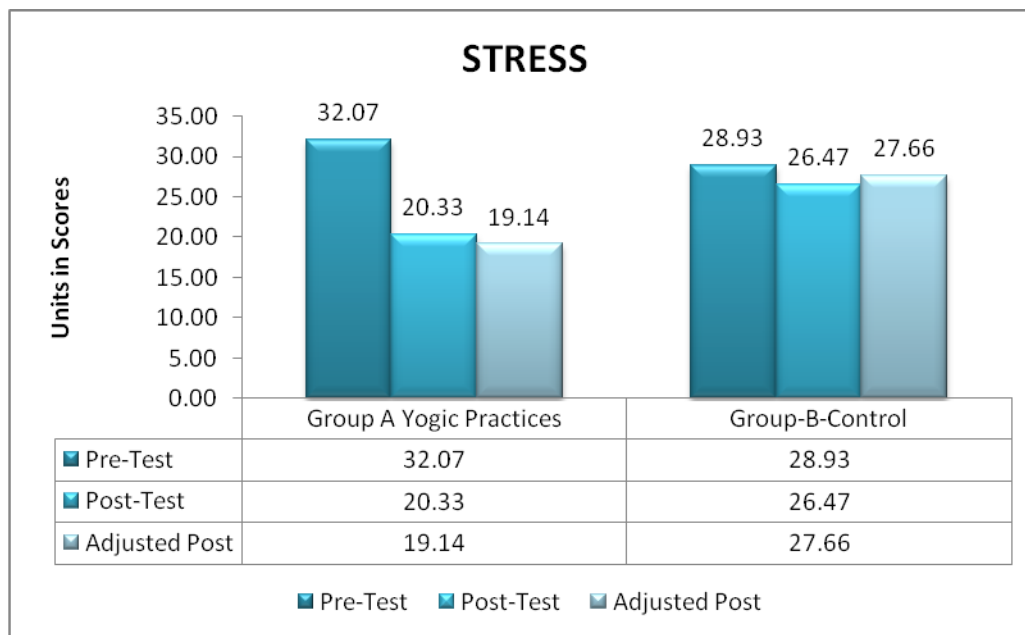


Fig. 2: Analysis of covariance of the means of simplified kundalini yoga group and control group on stress. Table F ratio at 0.05 level of confidence for 1 and 38 (df) =4.2, 1 and 37 (df) = 4.21.

significant improvement in the variables suggests that the changes observed in the simplified Kundalini yoga group are due solely to the training and not to external factors (Nagarasan and Kalavathi, 2020).

Mooventhan *et al.* (2014) reported that in August of 2013, a 24-year-old unmarried woman with pulmonary tuberculosis (PTB) visited the hospital's outpatient department. Since two weeks, the patient has complained of a severe cough with expectoration, an increase in temperature in the evening, and a progressive loss of appetite and weight. The patient was referred to the Revised National Tuberculosis Programme, direct observed treatment short-course centre at our institution for sputum fluorescence microscopic examination (FME). The FME report indicated that the new stain was 2+ PTB positive. This patient received yogic breathing techniques (YBT) for 45 min daily under supervision on three alternate days per week for eight weeks in conjunction with anti-tuberculosis treatment (ATT). With the conversion of positive to negative FME for acid-fast bacilli, the intervention resulted in greater weight gain, BMI, symptom scores, pulmonary

function, and health-related quality of life. It suggests that YBT combined with ATT is effective in treating PTB, but additional research is required to confirm this effect (Mooventhan *et al* , 2014).

In the present study it was hypothesised that there would be significant differences between the Simplified Kundalini Yoga group and the control group on selected psychological variables among rehabilitating middle-aged women with tuberculosis. Analysis of covariance revealed significant differences between the Simplified Kundalini Yoga Group and the Control Group on the Psychological variable Stress (reduced). Therefore, the first hypothesis was approved at a confidence level of 0.05.

Conclusion

Condensed Kundalini Yoga can significantly aid in the management of tuberculosis, as this study indicates that yoga improves pulmonary and autonomic function and reduces the need for additional medication. The most recent scientific evidence suggests that yoga-based lifestyle modifications may play a role in the treatment of tuberculosis. Thus, yogic practises aided to

reduce tension among middle-aged women undergoing rehabilitation for tuberculosis.

References

- Chowdhery A and Nandi J. (2016) A study on effectiveness of stress management programme among physical education teachers. *Int J Indian Psychology* 3(3): 44-8.
- Mooventhan A, Khode V and Nivethitha L. (2014) Effect of yogic breathing techniques in new sputum positive pulmonary tuberculosis. *Int J Preventive Med.* 5(6): 787-790.
- Nagarasan K and Kalavathi S. (2020) Simplified kundalini yoga for occupational stress. *Int J Sci Engineer Res.* 11(2): 1012-1021.