



# Effect Of Simplified Kundalini Yoga On Biochemical Indicators In Aged Women: A Random Group Experimental Study

K. Nallathambi<sup>1\*</sup>, Dr. G. Amala Karthiga<sup>2</sup>, Dr. P.Yoga<sup>3</sup>,

<sup>1</sup>Ph.D Scholar (Part-Time), Faculty of Yoga Sciences & Therapy, Meenakshi Academy of Higher Education and Research, West K.K.Nagar, Chennai-78, Tamilnadu, India.

<sup>2</sup>Assistant Professor, Faculty of Humanities and Science, Meenakshi Academy of Higher Education and Research, West K.K.Nagar, Chennai-78.

<sup>3</sup>Assistant Professor, Alagappa University College of Physical Education, Alagappa University, Karaikudi - 630003

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## ARTICLE INFO

## ABSTRACT

The aim of the experimental random group was to determine how certain biochemical indicators among the elder and more hypertensive women were affected by streamlined Kundalini yoga practices. It was hypothesized that the practice of simplified Kundalini Yoga would lead to significant changes in certain biochemical indicators among elderly hypertensive women. To achieve the objectives of the study, thirty participants aged 60 to 70 were selected from Sivakasi by appropriate election techniques. They were divided into two groups: Group I was the experimental group and Group II was the control group. Each group consists of 15 participants. Group I received an appropriate planned course of selected, simplified Kundalini yoga practices, whereas Group II served as a control group and did not receive yoga instruction; instead, they were in active rest. After the 12-week study, the two groups were administered a post-test on a subset of dependent variables. To determine whether there were statistical differences between the experimental group and the control group, collected data were statistically evaluated using Covariance Analysis (ANCOVA). The significance test has a predefined confidence level of 0.05. It has been shown that, compared to the control group of hypertensive elderly women, there have been significant changes in some biochemical indicators, i.e. HDL has been significantly increased and LDL has declined dramatically as a result of simplified Kundalini Yoga practices. Therefore, the hypothesis was accepted at a confidence level of 0.05. It has been demonstrated that older women with hypertension benefit from simplified Kundalini Yoga.

**KEYWORDS:** *Simplified kundalini yoga, hypertensive aged women, LDL and HDL*

## INTRODUCTION

High blood pressure, or hypertension, is defined as a systolic blood pressure of more than 140 mmHg or a diastolic blood pressure of more than 90 mmHg. The optimal blood pressure is less than 120/80 mmHg. Systolic blood pressure is a more reliable measure of cardiovascular events than diastolic blood pressure. Systolic blood pressure may increase with age while diastolic blood pressure actually decreases; this is an indication of increased arterial stiffness throughout the body.

Conversely, there is a considerable chance of peripheral vascular disease, heart failure, coronary artery disease, stroke, vision loss, and chronic renal disease if blood pressure is consistently high. The elderly are primarily affected by age-related increases in the incidence of hypertension.

Globally, over 40% of people over 25 had high blood pressure in 2008. Of these, over 29%, or one in three Americans, suffer from excessive blood pressure. It is anticipated that by 2020, hypertension would impact approximately one-third of the population, turning it into an epidemic.

Yoga can be very helpful in naturally managing and lowering high blood pressure. One of the primary causes of hypertension is stress, which may be reduced by practising yoga's gentle, relaxing practises, which also assist to quiet the mind and body. You may help activate the parasympathetic nervous system, which is in charge of relaxing and healing, and turn off the sympathetic nervous system, which is engaged in the fight-or-flight stress response. Increased parasympathetic activity helps the nervous system attain better balance and benefits many other physiological systems. Activating the body's natural healing mechanism can help decrease blood pressure. This is one way that practising yoga for high blood pressure can help.

Vethathiri Maharishi is a spiritual guide and Father of Almighty (Arut-Thanthai). After years of rigorous meditation, yogic practises, study, and spiritual awakenings, he created the SKY practices, which is essentially a simplified version of kundalini yoga.

### OBJECTIVES OF THE STUDY

The aim of the research was to determine if practicing simplified Kundalini yoga among elderly hypertensive women will have any meaningful impact on certain biochemical indicators.

### STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effect of simplified kundalini yoga on selected bio-chemical variables among hypertensive aged women.

### HYPOTHESIS

It was predicted that the simplified form of kundalini yoga would have a greater impact on a few key biochemical indicators in elder hypertensive women than in the control group.

### REVIEW OF RELATED LITERATURE

**Yogaraj P et.al., (2010)** discovered the impact of certain yoga practises and physical activities on biochemical variables in female college students. Twenty female Queen Mary's College students from Chennai, Tamil Nadu were chosen as research participants. Two groups of the chosen subjects were formed. Group I received instruction in yoga poses, while Group II engaged in physical activities. The age range of the subjects was 18 to 23. The subjects were from among the female college students and were chosen at random. Pre-post and pre-experimental designs were used in the formulation of the study. Significant improvements in triglycerides, HDL, LDL, and body cholesterol were observed in the yoga practise group.

**Anki Reddy (2018)**, discovered that yoga treatment was effective for a few biochemical factors in older hypertensive women. Only thirty individuals were randomly chosen from the Godhavari District in order to assist the investigation. They were in the 30- to 45-year-old age group. They were divided into two groups: one for yoga treatment and the other for control. Before and just after the six-week therapy, all of the participants underwent testing for biochemical variables including cholesterol and low-density lipoprotein (LDL). To determine the significant mean differences, the baseline and end scores in a few chosen biochemical variables were statistically treated using Analysis of Covariance (ANCOVA). Compared to the control group, a six-week yoga treatment programme significantly decreased cholesterol and LDL levels.

### METHODOLOGY

The techniques and procedures used to determine how simplified kundalini yoga affected a few biochemical variables in hypertensive elder women in Sivakasi, who were between the ages of 60 and 70. The following biochemical variables—LDL and HDL—were selected for the investigation based on previously established references. The experimental group took an HDL and LDL pre-test. For a period of twelve weeks, the experimental group in this study received yoga treatment that included asanas, pranayama, and relaxation five days a week. Every day, there was an hour-long training session dedicated to yogic practises, which was followed by an hour-long practise of relaxation methods. Aside from their regular activities, the control group did not engage in any structured training or physically demanding activities.

### DEPENDENT VARIABLES

The following bio-chemical variables were considered and measured using standard tests

- High-Density Lipoprotein (HDL)
- Low-Density Lipoproteins (LDL)

### INDEPENDENT VARIABLES

For a duration of 12 weeks, five days a week of simplified kundalini yoga were offered. Every day, practice lasted for an hour.

## RESULTS AND DISCUSSIONS

Analysis of Covariance (ANCOVA) was used to statistically examine the data related to the variables that were gathered from the two groups prior to and following the training session. The significant difference was assessed at the 0.05 level of significance.

### RESULTS ON HIGH-DENSITY LIPOPROTEIN

The Analysis of Covariance (ANCOVA) on High-Density Lipoprotein among Simplified kundalini yoga and control group was analyzed and are presented in Table-I.

**TABLE – I ANALYSIS OF COVARIANCE OF THE MEANS OF TWO EXPERIMENTAL GROUPS AND THE CONTROL GROUP ON HIGH-DENSITY LIPOPROTEIN (IN MG/DL)**

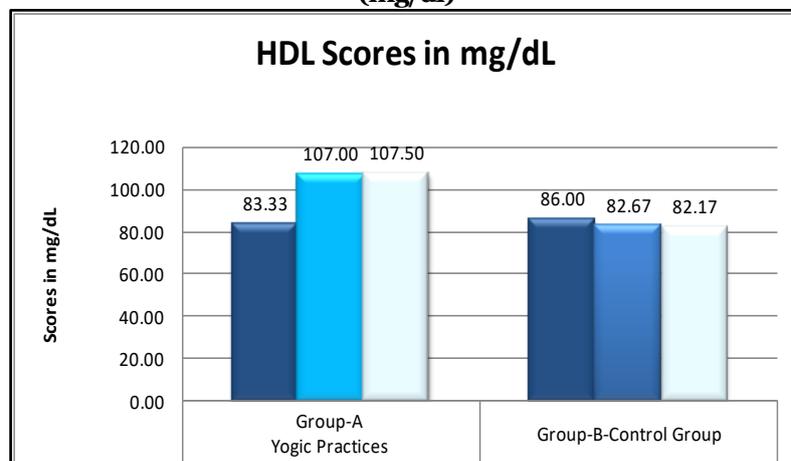
Test	Experimental group	Control Group	Source of Variation	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio
Pre	83.33	86.00	Between	1	53.33	53.33	<b>1.15</b>
			Within	28	1293.33	46.19	
Post	107.00	82.67	Between	1	4440.83	4440.83	<b>62.69*</b>
			Within	28	1983.33	70.83	
Adjusted Post	107.50	82.17	Between	1	4622.71	4622.71	<b>69.28*</b>
			Within	27	1801.46	66.72	

\* Significant at 0.05 level of confidence. (Table F ratio for df 1 and 28= 4.20 and df 1 and 27= 4.21)

For the HDL, the obtained F-ratio value was higher than the number in the table. This suggests that the Simplified Kundalini Yoga group's post-test and adjusted post-test means differed significantly from the Control group's on HDL. The above findings can also be substantiated by the observations of experts. **Yogaraj**

**P et.al., (2010)** The following is a graphic representation of the experimental group's and the control group's HDL pretest, posttest, and corrected post test mean values.

**Figure – 1 BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON hdl (mg/dl)**



\* Significant at 0.05 level of confidence

### RESULTS ON LDL

**Table II ANALYSIS OF COVARIANCE OF THE MEANS OF TWO EXPERIMENTAL GROUPS AND THE CONTROL GROUP ON LDL (mg/dl)**

Test	Experimental group	Control Group	Source of Variation	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio
Pre	116.07	111.33	Between	1	168.03	168.03	<b>1.02</b>
			Within	28	4602.27	164.37	
Post	90.00	113.67	Between	1	4200.83	4200.83	<b>36.49*</b>
			Within	28	3223.33	115.12	
Adjusted Post	88.53	115.14	Between	1	5123.56	5123.56	<b>95.80*</b>
			Within	27	1443.96	53.48	

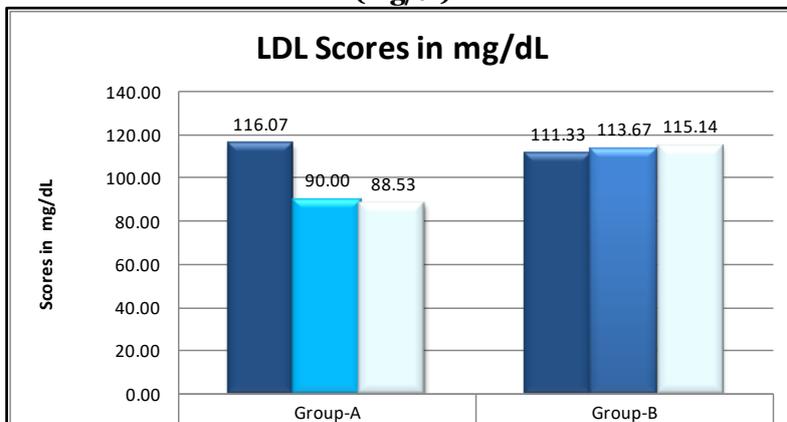
\* Significant at 0.05 level of confidence. (Table F ratio for df 1 and 28= 4.20 and df 1 and 27= 4.21)

For the LDL, the obtained F-ratio value was higher than the number in the table. This suggests that the LDL post-test and adjusted post-test means for the Simplified Physical Exercise group differed significantly from

those of the control group. The above findings can also be substantiated by the observations of experts. **Anki Reddy (2018)**, The following figure displays the experimental group's and the control group's LDL pretest, posttest, and corrected posttest mean values.

The ordered adjusted means on LDL were presented through bar diagram for better understanding of the results of this study in Figure - 2.

**Figure 2 BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON LDL (mg/dl)**



\* Significant at 0.05 level of confidence

### CONCLUSION

It was determined that among elder hypertensive women, Simplified Kundalini Yoga improved HDL and lowered LDL in the Experimental group compared to the Control group.

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