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EFFECT OF YOGIC PRACTICES WITH KAYAKALPAM ON LOW DENSITY LIPOPROTEIN AMONG HYPERTENSIVE AGED WOMEN

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Abstract

For the random group experimental study, 30 hypertensive aged women were selected at random by using random sampling design from virudhunagar district between the age group of 60 and 70 years and they were divided into two groups (Group A and B) with 15 subjects in each. It was hypothesized that there would be significant differences due to Yogic Practices with kayakalpam on Low Density Lipo Protein(LDL) among Hypertensive aged women than the Control Group. Pre- test was conducted for the two Groups (A and B) on the selected dependent variable before the start of the training program. Group A was given Yogic Practices with kayakalpam; Group B (Control Group) was not given any specific treatment but were in active rest. After the experimental period of twelve weeks, both the Groups (A and B) were retested on the same selected dependent variables. Analysis of co- variance (ANCOVA) was used to find out the significant differences between experimental group and the control group. The test of significance was fixed at 0.05 level of confidence. The results proved that Yogic Practices with kayakalpam decreases Low Density Lipo Protein increased among hypertensive women at 0.05 level of confidence. It was concluded that yogic practices are essential for hypertensive aged women to maintain appropriate Low Density Lipo Protein (LDL) lead a healthy life.

KEY WORDS: *Low Density Lipoprotein (LDL), Yogic Practices, Kayakalpam, Hypertensive Aged Women.*

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INTRODUCTION

Yoga is one of the best forms of practice for creating space in every aspect of your life because it is all-encompassing, working on a number of levels. Old age is that stage in one's life that requires both mental and social support from others, both of which are interconnected. The elderly in India suffers the following problems: Lack of gainful engagement opportunities, Declining health status, Lack of respect in family/society, Loneliness/isolation, Psychological issues, Financial problems and so on. Hypertension−Elevated blood pressure−is a serious medical condition that significantly increases the risks of heart, brain, kidney and other diseases. Hypertension is the leading global risk factor for premature death and disability, more than 9.4 million deaths annually, causing more than 40% of worldwide deaths from cardiovascular diseases (CVD) and chronic kidney disease. An estimated 1.28 billion adults aged 30-79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries. In India 32 per cent in senior citizens (aged 60 years and above) having hypertension. The prevalence was higher in aged women (36 per cent) than men (27 per cent) among the senior citizens. The sages and saints of elder ages conducted research on this, found out the way to wither away the pain and to lead a blissful state of life. Kundalini yoga is a form of physical and meditative yoga that comprises of various techniques using the mind, body and senses. Simplified Kundalini Yoga is a physical, mental and spiritual discipline packaged by Yogiraj Vethathiri Maharishi for developing strength, awareness, character, and consciousness. He found that Kundalini Yoga must reach all the human being and hence after deep contemplation and research he simplified it. The practices of Simplified Physical Exercises, Simplified Kundalini Meditation and Kayakalpam practices in Yoga raises the body awareness to prepare the body, nervous system, and mind to handle the life energy better.

SYMPTOMS

- Severe headaches
- Nosebleed
- Fatigue or confusion
- Vision problems
- Chest pain
- Difficulty breathing
- Irregular heartbeat
- Blood in the urine
- Pounding in your chest, neck, or ears

OBJECTIVE OF THE STUDY

The objective of the study was to find out whether there would be any significant difference on selected bio-chemical variable such as Low Density Lipoprotein (LDL) due to yogic practices with kayakalpam among Hypertensive aged women.

PURPOSE OF THE STUDY

The purpose of the study was to find out the effect of yogic practices with kayakalpam on Low Density Lipoprotein (LDL) among hypertensive aged women.

HYPOTHESIS

It was hypothesized that there would be significant differences on Low Density Lipo Protein (LDL) among Hypertensive aged women due to yogic practices with kayakalpam than the control group.

DELIMITATIONS

- The study was confined to Hypertensive aged women only.
- Subjects were selected from virudhunagar district only.
- The age of the subject was ranged between 60 and 70 years only.

- The study was delimited to 12 weeks only.
- The independent variables were yogic practices with kayakalpam only.
- The study was conducted on Low Density Lipo Protein(LDL) as dependant variable only.

LIMITTIONS

- The factors like Socio – Economical status were not taken into consideration.
- The climatic conditions were not considered.
- Factors like life style habits were not taken into consideration.
- Subject's day to day activities were not taken into account.
- Diet and medication followed by subjects was controlled

REVIEW OF LITERATURE

Ashutosh Chauhan, et.al (2017) Yoga Practice Improves the Low Density Lipo Proteinand Blood Pressure: A Randomized Controlled Trial." Aim of the present study is to evaluate the effect of 1-month yoga practice on Low Density Lipo Protein(BMI), and blood pressure (BP). The present study was conducted to determine the effect of yoga practice on 64 participants (age 53.6 ± 13.1 years) (experimental group) whereas the results were compared with 26 healthy volunteers (control group). We examined the effects of yoga on bio-chemical parameters in a 1-month pilot study. Most of the participants were learner and practiced yoga for 1 h daily in the morning for 1 month. BMI and BP (systolic and diastolic) were studied before and after 1 month of yoga practice. Yoga practice causes decreased BMI (26.4 ± 2.5–25.22 ± 2.4), systolic BP (136.9 ± 22.18 mmHg to 133 ± 21.38 mmHg), and diastolic BP (84.7 ± 6.5 mmHg to 82.34 ± 7.6 mmHg). On the other hand, no significant changes were observed in BMI and BP of control group. This study concludes that yoga practice has potential to control BMI and BP without taking any medication.

(Ueda P ,et.al 2017) Harmful effects of long-term exposure to moderately elevated low-density lipoprotein (LDL)-cholesterol and blood pressure on coronary heart disease (CHD) have not been rigorously examined. We estimated the risk of CHD under long-term exposure to moderately elevated LDL-cholesterol and blood pressure compared with the risk under shorter exposures to higher levels of the same risk factors. Observational study using data from 2,714 adults in Framingham Offspring Study who were free of existing cardiovascular disease and aged <70 years at baseline (1987–1991). We used the parametric g-formula to estimate 16-year CHD risk under different levels and durations of exposure to LDL-cholesterol (low: <130 mg/dL, moderate: 130 to <160 mg/dL, high 160 to <190 mg/dL, and very high: ≥190 mg/dL) and systolic blood pressure (low: <120 mmHg, prehypertension: 120 to <140 mmHg, stage 1 hypertension: 140 to <160 mmHg, and stage 2 hypertension: ≥160 mmHg).**The** estimated 16-year CHD risk under exposure to low LDL was 8.2% (95% CI = 7.0–9.6). The 16-year CHD risk under exposure to moderate LDL was 8.9% (7.8–10.1) which was similar to CHD risk under 8 years of low LDL followed by 8 years of high LDL at 9.0% (7.7–10.3); and 12 years of low LDL followed by 4 years of very high LDL at 8.8% (7.6–10.1). The results for blood pressure were similar.

(Ghazvineh D et.al 2022) Yoga is a mind-body stress-relieving exercise that increases mental and physical health, which may have a role in the improvement of metabolic disorders. The present study has reviewed the effect of yoga on lipid profiles as a systematic review and meta-analysis.We evaluated the available randomized controlled trials on the effects of yoga-based programs, and lipid profiles by searching PubMed/Medline, Scopus, Web of Science, and the Cochrane central

register of control trials up to January 2022. Both fixed and random effect analyses were used to find the relationships. Subgroup analysis was performed based on the continent, duration of the included studies, gender, and health condition of participants to discover the sources of heterogeneity.Fifty-three studies were included in the current systematic review and meta-analysis with a total sample size of 13,191. There was a striking association between yoga and total cholesterol (−10.31 mg/dl; 95% CI: −14.16, −6.45; I^2 = 82.5%, $P < 0.001$), low-density lipoprotein cholesterol (−8.64 mg/dl; 95% CI: −12.03, −5.25; I^2 = 75.0%, $P < 0.001$), high-density lipoprotein cholesterol (1.98 mg/dl; 95% CI: 0.81, 3.14; I^2 = 91.6%, $P <$ 0.001), triglycerides (−13.50 mg/dl; 95% CI: −20.09, −6.92; I^2 = 90.7%, $P < 0.001$) and very low-density lipoprotein (−3.94 mg/dl; 95%CI: −6.31, −1.56; I^2 = 72.2%, $P <$ 0.001).It seems yoga interventions had a substantial effect on lipid profiles, however, more qualified trials or cohort studies are needed to conclude exactly.

METHODOLOGY

To achieve the purpose of the study, 30 hypertensive aged women were selected randomly for the study from Virudhunagar, between the age group of 60 to 70 years and they are equally divided into two groups I and II with 15 subjects each. Preliminarytest was taken for the two groups (I and II) on the selected dependent variable before start the training program. Group I was given simplified kundalini yoga (Simplified physical exercises, Meditation, Kayakalpam, Agathaivu) for 60 minutes for six days for a total period of 12 weeks. Group II (control group) was permitted to undergo their routine and normal life style without any specific training. After eight weeks, the both the group were rested again on the same selected dependent variable, the selected bio-chemical variables such as low density lipo protein(LDL). Analysis of co-variance (ANCOVA) was used to find out the significant differences between experimental group and the control group. The test of significance was fixed at 0.05 level of confidence.

RESULTS AND DISCUSSIONS

The data pertaining to the variable collected from the groups before and after the training period were statistically analysed by using analysis of covariance (ANCOVA) to determine the significant difference and the hypothesis was tested at 0.05 level of confidence.

TABLE I

COMPUTATION OF MEAN AND ANALYSIS OF CO-VARIANCE (ANCOVA) ON LOW DENSITY LIPO PROTEIN OF EXPERIMENTAL AND CONTROL GROUP

(Scores in mg/dl)

Test	Group-A Yogic Practices	Group-B Control Group	Source Of Variation	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio
Pre	147.27	147.13	**Between**	1	147.13	147.13	1.97*
			With in	28	2090.67	74.67	
Post	137.87	148.93	**Between**	1	918.53	918.53	13.39*
			\With in	28	1920.67	68.60	
Adjusted Post	137.82	148.98	**Between**	1	933.74	933.74	26.97
			With in	27	934.79	34.62	

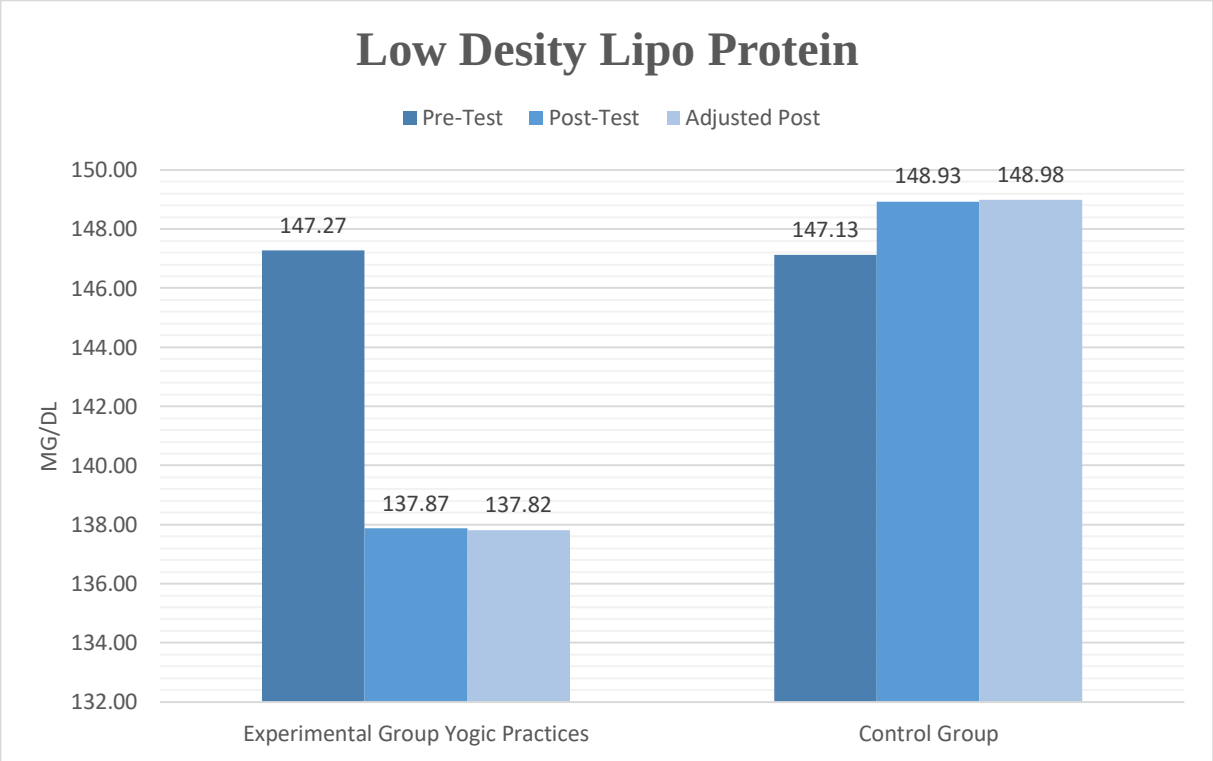
*** Significant at 0.05 level of confidence (Table F ratio at 0.05 level of confidence for df 1 and 28 = 4.20, 1 and 27 = 4.21).**

The obtained F value on pre-test scores 1.97 was lesser than the required F value of 4.20 to be significant at 0.05 level. This proved that there was a significant difference between the groups a pre-test and post-test and the randomization at the pre-test was equal. The post test scores analysis proved that there was significant difference between the groups, as obtained F value 13.39 was greater than the required F value of 4.20. This proved that the differences between the post- test means of the subjects were significant. Taking into consideration the pre and post test scores among the groups, adjusted mean scores were calculated and subjected to statistical treatment. The obtained F value 26.97 was greater than the required F value of 4.20. This proved that there was a significant difference on Low Density Lipo Protein decreased due to 12 weeks of yogic practices with kayakalpam among Hypertensive aged women. The result of this study on Low Density Lipo Protein has in line with the study conducted by **Ashutosh Chauhan, et,al (2017).**

The ordered adjusted means on Low Density Lipo Protein were presented through bar diagram for better understanding of the results of this study in Figure -I

Figure – 1

BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON LOW DENSITY LIPOPROTEIN (mg/dl)



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

CONCLUSION

It was concluded that there were significant differences on reduced Low Density Lipo Protein due to yogic practices with kayakalpam among hypertensive aged women. Yogic practices with kayakalpam are good for hypertensive aged women to lead a healthy life.

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