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Research Article

Effect of Yogic Practices with and Without Diet Modification on Weight and Triglycerides Among Menopausal Women

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Abstract

The present random group experimental study was designed to find out the effect of yogic practices with and without diet modification on weight and triglycerides among menopausal women. It was hypothesized that there would be a significant difference between yogic practices with and without diet modification groups and control group on weight and triglycerides among menopausal women. It was also hypothesized that there would be a significant difference between yogic practices with diet modification group and yogic practices without diet modification group on weight and triglycerides among menopausal women. To achieve the purpose of the study, 45 peri menopausal women from Chennai city aged between 40 years to 50 years were selected randomly into experimental group I and experimental group II and control group of 15 subjects each. Experimental Group I underwent yogic practices with diet modification and Experimental group II underwent yogic practices without diet modification for 12 weeks, six days a week for a maximum of one hour. The control group was kept in active rest. The pretest and posttest were conducted before and after the training for all three groups. Weight was measured by weighing machine and triglycerides was measured by laboratory test. The data collected from the groups before and after the training period were statistically analyzed by using Analysis of Co-variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance. The result of the study showed that the weight was significantly reduced and triglycerides was significantly decreased as a result of yogic practices with and without diet modification. Hence the hypotheses were accepted at 0.05 level of confidence. The conclusion was that the yogic practices with and without diet modification helped to reduce the weight and decrease the triglycerides among menopausal women.

Keywords: Peri Menopausal Women; Weight and Triglycerides; Yogic Practices with Diet; Yogic Practices Without Diet

Introduction

God has given equal opportunity of self-realization to both men and women. Both have been provided with the dormant Kundalini Shakti to awaken it to achieve self-realization. Yogic practices equally important for men and women. Due to the advancement of science and technology lack of labor in activities yoga practices more necessary for women to keep themselves healthy and without obesity. (Dharam Vir mangala, 2004) In women life stages menopause is the crucial stage for health maintenance. Total cholesterol, triglyceride, and low-density lipoprotein cholesterol levels increased with age, whereas high density lipoprotein cholesterol level fell slightly. The rise in triglyceride and low-density lipoprotein levels were particularly more marked just before the onset of the menopause. It might be important that the rapid rise of triglyceride and low-density lipoprotein levels at about the menopause age was associated with a decline of oestrogen levels. (Takahisa Ushiroyama, 1993)

With increased life expectancy, today, women spend one-third of their life after menopause. Thus, more attention is needed towards peri- and post-menopausal symptoms. Oestrogen replacement therapy is the most effective treatment; however, it has its own limitations. The present need is to explore new options for the management of menopausal symptoms. Yogic life style is

a way of living which aims to improve the body, mind and day to day life of individuals.

The cause of sickness and malfunctioning of some of the body organs is due to the lack of life force flowing in those body organs. The distribution of life force in the body is disturbed due to many habitual wrong postures and idleness. But by the practice of yoga can send the life force forcefully in every part of the body.

Life to be sustained requires protein, carbohydrates, fat and vitamins, salts and minerals, etc. It is necessary to understand how the food taken in is used by the human system. Each type in the body requires a particular nutrition and combination of elements. (Yogacharya Sundaram 2004).

High triglycerides can also be a sign of metabolic syndrome, a group of conditions that put people at risk for heart disease and diabetes. These include obesity, low HDL level, high blood sugar, insulin resistance (a condition in which the muscle, fat, and liver cells do not properly use the insulin produced by the pancreas), and high blood pressure.

Purpose of the Study

The purpose of the study was to find out the effect of yogic practices with and without diet modification on weight and triglycerides among Menopausal Women.

Hypotheses

It was hypothesized that there would be significant difference in weight and triglycerides among menopausal women due to the influences of yogic practices with and without diet modification groups and the control group.

It was also hypothesized that there would be significant difference in weight and triglycerides among menopausal women between the yogic practices with diet modification group and yogic practices without diet modification group.

Review of Related Literature

Vishal R. Tandon, et al (2014) evaluated the effect of life-style modification on Postmenopausal (PM) overweight and obese Indian women in a randomized controlled 24 weeks study. Two groups were formed Group I (n = 30) was designated as intervention (dietary and exercise group) and Group II (n = 24) served as control. Comparison of weight, Waist Circumference (WC) and body mass index (BMI) were made and compared among two groups at 4, 8, 16 and 24 weeks. Mean age at menopause was 48.35 years versus 49.65 years; mean number of menopausal symptoms were 5.70 ± 1.76 versus 5.10 ± 1.56 and mean duration since menopause was 2.70 versus 2.90 years in Groups I and II respectively. When the effect of Group I and control on weight was compared at 4, 8, 16 and 24 weeks, there was no significant difference between them up to 8 weeks. At 8 weeks Group I caused a significant decrease in weight ($P \leq 0.05$) when compared with control arm and which continued throughout the study period ($P < 0.05$) at both 16 and 24 weeks. Group I produced a significant reduction in WC from 8 weeks onwards up to 24 weeks ($P \leq 0.05$). BMI was statistically significant in Group I and the effect started at 4(th) week ($P \leq 0.05$) and the differences in BMI reduction were highly significant at 16(th) and 24(th) weeks ($P \leq 0.001$). The results of the study strongly recommend the life-style management to be incorporated in daily style of postmenopausal women under controlled supervision.

Robert A. Carels, et al. (2004) examined the impact of a 6-month lifestyle change intervention on cardiovascular risk factors in obese, sedentary, postmenopausal women. A secondary aim of this investigation was to determine whether the addition of self-control skills training to an empirically supported lifestyle change intervention would result in greater cardiovascular risk reduction. Forty-four women were randomly assigned to receive either a lifestyle change or a lifestyle change with self-control skills intervention. Pretreatment and post treatment weight loss, body composition, physical activity, cardiorespiratory fitness, diet, Blood Pressure (BP), blood lipids, and psychosocial functioning were assessed. Also, at 1-year post treatment, weight loss, body composition, self-reported physical activity, and psychosocial functioning were assessed. The women significantly increased their physical activity (+39.6%) and cardiorespiratory fitness (+13.5%) and reduced their body weight (-6.5%), fat mass (-7.4%), body fat (-2.4%), BP (SBP -6.2%, DBP -9.2%), total cholesterol (-7.4%), triglycerides (-16.5%), and Low-Density Lipoprotein (LDL) cholesterol (9.1%) and improved their diet ($p < 0.05$). At the 1-year follow-up, women had regained approximately 63% of their post treatment weight loss ($p < 0.05$), but had maintained their previous increases in physical activity. Additionally, there were no significant changes in fat free mass, body fat, anxiety, or depression between the end of treatment and 1-year post treatment. The addition of self-control skills training did not significantly improve cardiovascular risk reduction. Lifestyle change interventions may be an effective means for reducing cardiovascular risk in obese, sedentary, postmenopausal women.

Methodology

To fulfil the goal of the random group experimental study, 45 peri menopausal women were selected at random from Chennai city. The age of the subjects ranged between 40 to 50 years. The subjects were assigned into two experimental groups and one control group with 15 subjects each. Experimental group I was involved in yogic practices with diet modification and experimental group II was involved yogic practices without diet modification for 12 weeks, and the control group kept in active rest. Yogic practices given to the yogic practices with and without diet modification groups include OM Chanting , Prayer, Loosening

Exercises, Suryanamaskara, Trikonasana, Veerabhadrasana,II, Veerabhadrasana I, parivrtta trikonasana, Parsva Konasana, parivrtta parsva konasana Baddha konasana, Paschimottanasana, Janusirasasana, Bhardvajasana, Ardha matsyendrasana Purvottanasana, Marjariasana, Pawanamuktasana, Sethubhandasana Salabhasana, Bhujangasana, Dhanurasana, Padautthanasan, Padasanchalanasana, Jhulanalurhakanasana, Suptauthakarsanasana, Shavaudarkarsanasana Noukasana and Shavasana, Pranayamas, Mudras, Bandhas, Relaxation and Meditation.

Diet recommendations given to the yogic practices with diet modification group include fresh fruits and vegetables, whole-grain foods and low-fat dairy products, phytosterols products, soybeans products. Weight was measured by weighing machine and Triglycerides was measured by laboratory test.

Results and Discussions

The data pertaining to the variables collected from the three groups before and after the training period were statistically analysed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of confidence. The Analysis of Covariance (ANCOVA) on weight of the Yogic Practices with and without Diet Modification groups and the Control Group were analysed and are presented in (Table 1) and Scheffe's adjusted Post hoc test is presented in (Table 1A).

Test	Yogic Practices with Diet Modification	Yogic Practices without Diet Modification	Control Group	Source of variance	Sum of squares	Df	Means of Squares	Obtained F Ratio
Pre-Test	72.5	69.87	69.57	between	77.99	2	38.99	0.25
				within	6665.12	42	158.69	
Post Test	62.2	62.84	71.29	between	772.79	2	386.39	3.57*
				within	4550.32	42	108.34	
Adjusted Post Test	60.72164	63.46	72.15	between	1062.29	2	531.14	70.38*
				within	309.42	41	7.55	
Mean Gain	10.3	7.03	-1.727					
*Significant at 0.05 level of confidence. Table F ratio at 0.05 level of Confidence for (2, 42 and 2, 41) = 3.21, 3.22 respectively								

Table 1: Analysis of Co-Variance (ANCOVA) of Data on Yogic Practices with and without Diet Modification Groups and the Control Group on Weight (Scores in Kg).

The obtained F-ratio values were greater than the table value, it indicates that there was significant difference among the adjusted post-test means of the Yogic Practices with and without diet modification groups and the Control Group on Weight.

Mean Values			Mean Difference	Required Confidence Interval
Ex Gr I Yogic Practices with Diet	Ex Gr II Yogic Practices without Diet	Control Group		
60.72	63.46	-	2.74*	2.55
60.72	-	72.15	11.43*	2.55
-	63.46	72.15	8.70*	2.55
*Significant at 0.05 level of Confidence				

Table 1A: Scheffe's Test for Differences of the Adjusted Post- Hoc Paired Means of Waist to Hip Ratio.

According to Scheffe's post hoc test paired means of weight shows that there was significant difference between Yogic Practices with diet modification group and control group, Yogic Practices without diet modification group and the Control Group and also there was very less significant difference between Yogic Practices with and without diet modification groups on weight.

The pre-test, post-test and adjusted post-test mean values of Yogic Practices with and without diet modification groups and the Control Group on weight were graphically presented in (Figure 1).

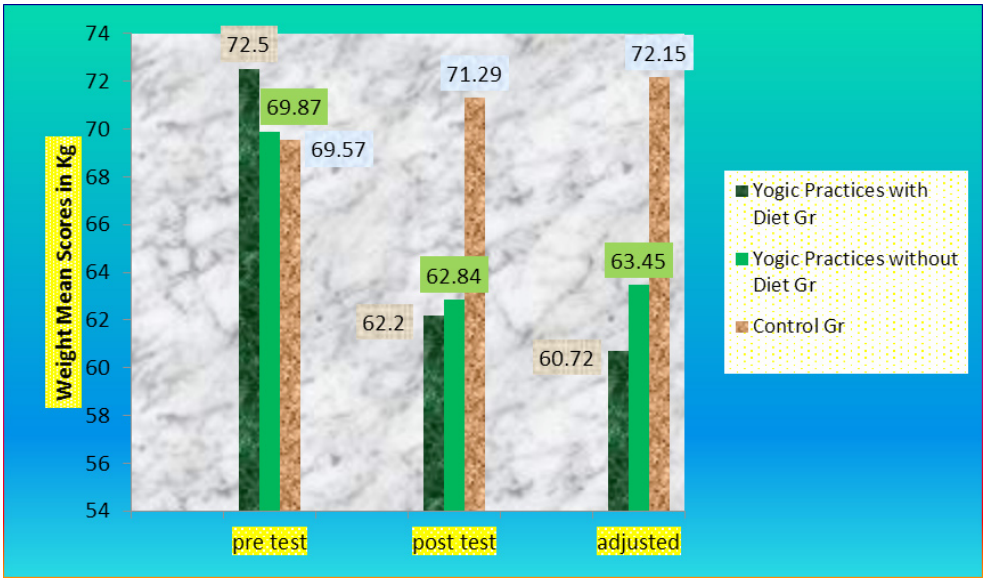

Figure 1: Mean Scores of Pre, Post Tests and Adjusted Post Test of Yogic Practices with and without Diet Modification Groups and Control Group on Weight.

The results of the study showed that weight reduced significantly as a result of Yogic Practices with and without Diet modification groups than the Control group. Hence, the hypothesis was accepted at 0.05 level of confidence and also there was significant difference between the Yogic Practices with and without Diet modification groups. Hence the research hypothesis accepted. The above findings can also be substantiated by observations made by renowned experts Vishal R. Tandon, et al (2014) and Robert A. Carels, et al. (2004).

The Analysis of Covariance (ANCOVA) on Triglycerides of the of Yogic Practices with and without Diet Modification groups and the Control group were analysed and are presented in (Table 2) and Scheffe's adjusted Post hoc test is presented in (Table 2A).

Test	Ex Gr I Yogic Practices with Diet	Ex Gr II Yogic Practices without Diet	Control Group	Source of variance	Sum of squares	Df	Means of Squares	Obtained F Ratio
Pre-Test	154.33	150.2	151.93	between	129.24	2	64.62	0.04
				within	60544.6	42	1441.54	
Post-Test	128.67	136.4	158.93	between	7418.13	2	3709.07	3.67*
				within	42447.8	42	1010.66	
Adjusted Post Test	126.96	137.93	159.11	between	8009.41	2	4004.70	32.04*
				within	5124.85	41	125.00	
Mean Gain	25.67	13.8	-7					
*Significant at0.05 level of confidence. Table F ratio at 0.05 level of Confidence for (2, 42 and 2, 41) = 3.21, 3.22 respectively								

Table 2: Analysis of Co-Variance (ANCOVA) of Data on Yogic Practices with and without Diet Modification Groups and the Control Group on Triglycerides.

The obtained F-ratio values were greater than the table value, it indicates that there was significant difference among the adjusted post-test means of the Yogic Practices with and without Diet Modification Groups and the Control Group on Triglycerides.

Mean Values			Mean Difference	Required Confidence Interval
Ex Gr I Yogic Practices with Diet	Ex Gr II Yogic Practices without Diet	Control Group		
126.96	137.94	-	10.98*	10.38
126.96	-	159.11	32.15*	10.38
-	137.94	159.11	21.17*	10.38
*Significant at 0.05 level of Confidence				

Table 2A: Scheffe's Test for Differences of the Adjusted Post – Hoc Paired Means of Triglycerides.

According to Scheffe's post hoc test paired means of triglycerides shows that there was significant difference between Yogic Practices with diet and control group and also Yogic Practices without diet and the Control Group and also there was significant difference between Yogic Practices with diet and Yogic Practices without diet on triglycerides.

The pre-test, post-test and adjusted post-test mean values of Yogic Practices with diet, Yogic Practices without diet and the Control Group on triglycerides were graphically presented in (Figure 2).

Figure 2: Mean Scores of Pre, Post Tests and Adjusted Post Test of Yogic Practices with without Diet Modification Groups and Control Group on Triglycerides.

The results of the study showed that triglycerides decreased significantly as a result of Yogic Practices with diet and Yogic Practices without diet than the Control group. Hence, the hypothesis was accepted at 0.05 level of confidence and also there was significant difference between the experimental groups. Hence the research hypothesis accepted. The above findings can also be substantiated by observations made by renowned experts Robert A. Carels, et al. (2004).

Conclusions

There was significant difference between yogic practices with and without diet modification groups than the Control group on reducing weight and decreasing triglycerides among menopausal women. And also there was significant difference between yogic practices with and without diet modification groups on reducing weight and decreasing triglycerides.

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