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Research Paper

EFFECTS OF DIFFERENT PACKAGES OF YOGIC PRACTICES ON SELECTED BIO CHEMICAL VARIABLES AMONG MIDDLE AGED OBESE WOMEN

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Abstract:

The study was designed to investigate the effects of different packages of yogic practices on selected biochemical variables among middle age women. For this purpose, 90 middle aged obese women from Tamilnadu were selected as subjects. Their age was ranged from 46 and 55 years only. The study was formulated as a true random group experimental design. Consisting of a pre test and post test the subjects (n=90) were randomly assigned to three equal groups of thirty middle aged obese women each. The groups were assigned as experimental group I underwent B.K.S Iyengar yogic techniques, experimental group II underwent Brown Christiana yogic techniques and control group was not given any specific training respectively. Pretest was conducted for all the subjects on selected bio-chemical variables such as Blood Sugar, Total Cholesterol Triglycerides. The experimental groups participated for a period of 12 weeks. The post test was conducted on the above said dependent variables after a period of 12 weeks in the respective treatments. The training Program was scheduled at 6 am to 7 am and 7 am to 8 am from Monday to Saturday in progression. Analysis of covariance was used to analyze data. The study revealed that the Yogic packages helped to reduce the blood sugar, total cholesterol and triglycerides level.

Key words: yoga, Blood Sugar, Total Cholesterol, Triglycerides.

Introduction:

Yoga is a psychological, physiological and spiritual discipline that has been an integral part of our Indian culture for centuries. Yoga is a complete science of life that originated about thousands of years ago in India and still been practiced in India for centuries. India's current National Family Health Survey shows that more than twenty percent of Indians living in cities are overweight or obese. And in the northwestern state of Punjab, that is true for almost forty percent of women. Yoga is a process or system that maintains not only the health but also generates a sense of happiness and fulfillment. It also encourages personal growth and development.

Methodology:

The study was formulated as a true random group design. Consisting of a pre test and post test the subjects (n=90) were randomly assigned to three equal

groups of thirty middle aged obese women each. The groups were assigned as experimental group I underwent B.K.S Iyengar yogic techniques, experimental group II underwent Brown Christiana yogic techniques and control group was not given any specific training respectively. Pretest was conducted for all the subjects on selected bio-chemical variables such as Blood Sugar, Total Cholesterol Triglycerides. The experimental groups participated for a period of 12 weeks. The post test was conducted on the above said dependent variables after a period of 12 weeks in the respective treatments. The training Program was scheduled at 6 am to 7 am from Monday to Saturday.

Package (1) b.k.s. Iyengar yogic practices

Loosening Exercises, Tadasana, Utthita Parsvakonasana,ArdhaChandrasana,AdhomukhaSavasana,Parsvavirasana,Bharadvajasana,Marichyasana,Paschimottanasana,Janusirasasana,Ustrasana,Sarvangasana,Halasana, Savasana, Ujjayi Pranayama.

Package (2) brown Christina yogic practices

Pawanmukthasana,Suryanamaskar,Utkatasana, Virabhadrasana, Trikonasana, Prasarita Padottanasana , Salabhasana, Bhujangasana, Marichyasana, Setubandhasana, Chakrasana, Viparitakarani,Halasana,Savasana,Nadisudhi

Statistical Technique:

The data collected from the three groups before and after the experimental period were statistically examined for significant improvement by using analysis of covariance. The data collected from the three groups before and after the experimental period were statistically examined for significant improvement by using analysis of covariance. (Clarke and Clarke, 1972) Whenever the 'F' ratio was found to be significant, Scheffe's test was used as post-hoc test to determine which of the paired means differed significantly. In all cases the criterion for statistical significance was set at 0.05 level of confidence ($P<0.05$).

Results of Blood sugar:

Table shows that the pre-test means in blood sugar of the BKSG, BCG and CG were 95.07, 96.1, and 93.67 respectively, resulted in an "F' ratio of 0.64, which indicates statistically no significant difference between the pre test means at 0.05 level of confidence. The post test means of BKSG, BCG and CG were 87.87, 91 and 93.17 respectively, resulted in an "F' ratio of 4.71, which indicates statistically significant difference between the post test means at 0.05 level of confidence. The adjusted post-test means of BKSG, BCG and CG were 87.78, 90.22, and 94.03 respectively. The obtained F-ratio value was 21.54, which was higher than the table value of 3.11 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted posttest means of blood sugar of the BKSG, BCG and CG.

Results of Scheffe's Test on Blood sugar:

Table shows that the adjusted post-test mean difference in blood sugar between BKSG and BCG, BKSG and CG and between BCG and CG are 2.44, 6.25 and 3.81 respectively, which were statistically significant at 0.05 level of confidence. However, BKSG was to be found better in reduce the blood sugar than the BCG.

Discussion on findings on blood sugar:

The findings of the study on blood sugar reveal that the experimental group namely BKSG and BCG had significantly improved after the training. Besides, the results of the study indicated that there was a significant difference between the BKSG and BCG. BKSG training showed better results in blood sugar than the BCG. A systematic varied package of yogic training reduces the blood sugar level.

Results of Total cholesterol:

Table shows that the pre-test means in total cholesterol of the BKSG, BCG and CG were 169.83, 174.9, and 174.6 respectively, resulted in an "F' ratio of 0.62, which indicates statistically no significant difference between the pre test means at 0.05 level of confidence. The post test means of BKSG, BCG and CG were 160.43, 169.2 and 173.63 respectively, resulted in an "F' ratio of 4.74, which indicates statistically significant difference between the post test means at 0.05 level of confidence. The adjusted post-test means of BKSG, BCG and CG were 162.98, 167.81, and 172.48 respectively. The obtained F-ratio value was 13.26, which was higher than the table value of 3.11 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted posttest means of total cholesterol of the BKSG, BCG and CG.

Results of Scheffe's Test on Total cholesterol:

Table shows that the adjusted post-test mean difference in total cholesterol between BKSG and BCG, BKSG and CG and between BCG and CG are 4.83, 9.5 and 4.67 respectively, which were statistically significant at 0.05 level of confidence. However, BKSG was to be found better in reduce the total cholesterol than the BCG.

Discussion on findings on total cholesterol:

The findings of the study on total cholesterol reveal that the experimental group namely BKSG and BCG had significantly improved after the training. Besides, the results of the study indicated that there was a significant difference between the BKSG and BCG. BKSG training showed better results in total cholesterol than the BCG. A systematic varied package of yogic training reduces the total cholesterol level.

Results of Triglycerides:

Table shows that the pre-test means in triglycerides of the BKSG, BCG and CG were 100.3, 101.03, and 102.7 respectively, resulted in an "F' ratio of 0.25, which indicates statistically no significant difference between the pre test means at 0.05 level of confidence. The post test means of BKSG, BCG and CG were 95.83, 98.2 and 101.3 respectively, resulted in an "F' ratio of 1.39, which indicates statistically no significant difference between the post test means at 0.05 level of confidence. The adjusted post-test means of BKSG, BCG and CG were 96.82, 98.49, and 100.02 respectively. The obtained F-ratio value was 18.83, which was higher than the table value of 3.11 for df 2 and 86 required for significance at 0.05 level. It indicates that there was a significant difference among the adjusted posttest means of triglycerides of the BKSG, BCG and CG. Results of Scheffe's Test on Triglycerides Table shows that the adjusted post-test mean difference in triglycerides between BKSG and BCG, BKSG and CG and between BCG and CG are 1.67, 3.2 and 1.53 respectively, which were statistically significant at 0.05 level of

confidence. However, BKSG was to be found better in reduce the triglycerides than the BCG.

Discussion on findings on triglycerides:
The findings of the study on triglycerides reveal that the experimental group namely BKSG and BCG had significantly improved after the training. Besides, the results of the study indicated that there was a significant difference between the BKSG and BCG. BKSG training showed better results in triglycerides than the BCG. The present study also concluded that yogic practice decrease the triglycerides level among the obese person.

Analysis of covariance of data on blood sugar among bksg, BCG and cg

Tests/ Groups		BKSG	BCG	CG	SOV	Sum of Squares	df	Mean Squares	"F" Ratio
Pre Test	$\bar{X}$	95.07	96.1	93.67	B	89.48889	2	44.74444	0.64
	□	7.56	6.36	10.51	W	6037.233	87	69.39349	
Post Test	$\bar{X}$	87.87	91	93.17	B	426.0222	2	213.0111	4.71*
	□	6.1	4.91	8.62	W	3933.633	87	45.21418	
Adjusted Post Test	$\bar{X}$	87.78	90.22	94.03	B	590.6535	2	295.3267	21.54*
					W	1179.136	86	13.71089	

*** Significant at .05 level of confidence,** (Blood sugar in mg/dL)
(The table value required for 0.05 level of significance with f 2, 87 and 2, 86 are 3.11)

Scheffe's test for differences of the adjusted post-test paired means of blood sugar

Adjusted Post-test means			Mean Differences	Confidence Interval
BKSG	BCG	CG		
87.78	90.22		2.44*	2.38
87.78		94.03	6.25*	2.38
	90.22	94.03	3.81*	2.38

*** Significant at 0.05 level of confidence.**

Analysis of covariance of data on total cholesterol among bksg bcg and cg

Tests/ Groups		BKSG	BCG	CG	SOV	Sum of Squares	df	Mean Squares	"F" Ratio
Pre Test	$\bar{X}$	169.83	174.9	174.6	B	484.8222	2	242.4111	0.62
	□	18.05	20.65	20.50	W	34000.07	87	390.8054	
Post Test	$\bar{X}$	160.43	169.2	173.63	B	2707.489	2	1353.744	4.74*
	□	14.89	16.39	19.12	W	24833.13	87	285.4383	
Adjusted Post Test	$\bar{X}$	162.98	167.81	172.48	B	1340.305	2	670.1527	13.26*
					W	4346.202	86	50.53724	

*** Significant at .05 level of confidence** (Total cholesterol in mg/dL)
(The table value required for 0.05 level of significance with f 2, 87 and 2, 86 are 3.11)

Scheffe's test for differences of the adjusted post-test paired means of total cholesterol

Adjusted Post-test means			Mean Differences	Confidence Interval
BKSG	BCG	CG		
162.98	167.81		4.83*	4.58
162.98		172.48	9.5*	4.58
	167.81	172.48	4.67*	4.58

*** Significant at 0.05 level of confidence.**

Analysis of covariance of data on triglycerides among bksg bcg and cg

Tests/ Groups		BKSG	BSG	CG	SOV	Sum of Squares	df	Mean Squares	"F" Ratio
Pre Test	$\bar{X}$	100.3	101.03	102.7	B	90.75556	2	45.37778	0.25
	□	11.34	17.36	10.06	W	15399.57	87	177.0065	

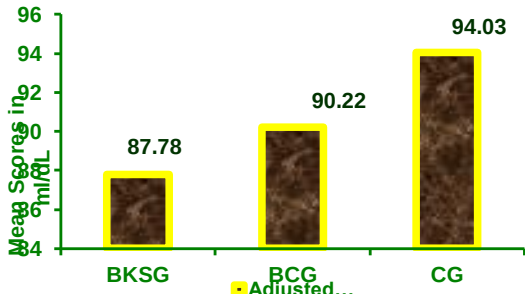
Post Test	$\bar{X}$	95.83	98.2	101.3	B	450.9556	2	225.4778	1.39
	□	10.16	17.09	9.54	W	14107.27	87	162.1525	
Adjusted Post Test	$\bar{X}$	96.82	98.49	100.02	B	152.6864	2	76.34321	18.83*
					W	348.6239	86	4.053767	

*** Significant at .05 level of confidence** (Triglycerides in mg/dL)
(The table value required for 0.05 level of significance with f 2, 87 and 2, 86 are 3.11)

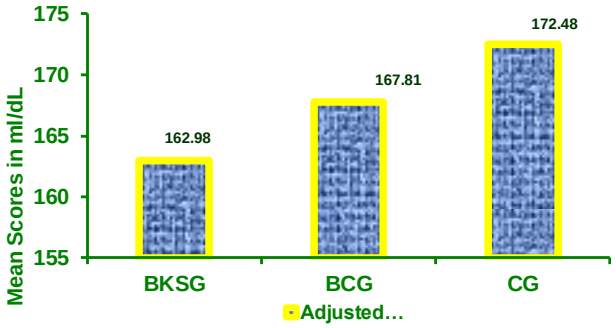
Scheffe's test for differences of the adjusted post-test paired means of triglycerides

Adjusted Post-test means			Mean Differences	Confidence Interval
BKSG	BCG	CG		
96.82	98.49		1.67*	1.29
96.82		100.02	3.2*	1.29
	98.49	100.02	1.53*	1.29

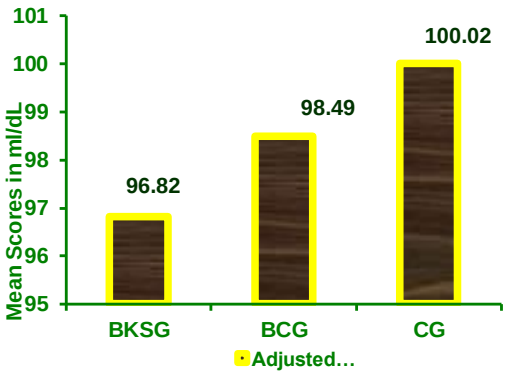
*** Significant at 0.05 level of confidence.**



Mean scores of pre, post tests and adjusted post test of bksg, BCG and cg on blood sugar



Mean scores of pre, post tests and adjusted post test of bksg, BCG and cg on total cholesterol



Mean scores of pre, post tests and adjusted post test of bksg, bcg and cg on triglycerides

Conclusions:

In the present investigation as a result of two different training programmes, the following improvements occurred on biochemical variables among the obese women. Yogic packages helped to reduce the blood sugar, total cholesterol and triglycerides level among middle aged obese women. BKS Iyengar yogic practices (package I) was identified as slightly effective training method when compared to the brown christina yogic practices (packageII). But both were suitable under systematic training on all the selected criterion variables of the study.

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