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EFFECT OF YOGIC PRACTICES AND THERAPEUTIC EXERCISES ON SELECTED BIOCHEMICAL VARIABLES AMONG LOW BACKACHE MEN

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ABSTRACT

Consequently, organisms a complex network of antioxidant metabolites and enzymes that work together to prevent to prevent oxidative damage to cellular components such as DNA, proteins and lipids. During exercise, oxygen consumption can increase by a factor of more than 10. This leads to a large increase in the production of oxidants and results in damage that contributes to muscular fatigue during and after exercise. Yoga, a form was designed to find to find out the effect of yogic practices and therapeutic exercises on selected biochemical variables among low backache men. Totally 60 low back ache men subjects were selected randomly as subjects and their age randomly as subjects and their age ranged between 30-40 years. They were divided into three groups of fifteen each. Group I served as Yogic practices; Group II Therapeutic Exercises and group III as control group. The data collected before and after the training programme. Data was analyzed by using ANCOVA and Scheffe's Post Hoc test. The study concluded that the yogic practices and therapeutic exercises significantly decrease the cholesterol and triglycerides among men low back ache than the control group.

KEY WORD: *Yogic Practices, Therapeutic Exercises, Cholesterol, Triglycerides.*

INTRODUCTION:-

In general, antioxidant systems either prevent these reactive species from being formed, or remove them before they can damage vital components of the cell. However, since reactive oxygen species do have useful functions in cells, such as redox signaling, the function of antioxidant systems is not to remove oxidants entirely, but instead to keep them at an optimum level.

During exercise, oxygen consumption can increase by a factor of more than 10. This leads to a large increase in the production of oxidants and results in damage that contributes to muscular fatigue during and after exercise. The inflammatory response that occurs after strenuous exercise is also associated with oxidative stress, especially in the 24 hours after an exercise session.

Yogic techniques are known to improve ones overall performance. Pranayama is known to be a part of yogic techniques. Patanjali in its yoga sutra describes - Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi as eight angas (parts) of yoga (Yoga Sutra of Patanjali, cited by Christopher (2008). Amongst them, in the present materialistic world, the third and fourth part, Pranayama and Asana (Postures) are considered as very important parts and prescribed by modem medicine too.

De Lateur defined therapeutic exercise as the prescription of bodily movement to correct impairment, improve musculoskeletal function, or maintain a state of well-being. It may vary from highly selected activities

restricted to specific muscles or parts of the body, to general and vigorous activities that can return a convalescing patient to the peak of physical condition.

OBJECTIVE

- To find out the effect of yogic practices and therapeutic exercises on selected biochemical variables among low backache men.

METHODS AND MATERIALS

60 low back ache men were selected randomly as subjects and their age ranged between 30-40 years. The selected subjects were divided into three groups, namely, yogic practices group, therapeutic exercises group and control group, consisting of 15 subjects in each. The selected yogic practices group was given Ardhakatichakrasana, Ardhachakraasana, Parivarthatrikonaasana, Bhujangaasana, Salabhaasana, Vakrasana (twisted pose), ustraasana (**camel shaped asana)** Nadi Sodhana (Alternate Nostril Breathing), SarnaVritti Pranayama (Equal Breathing), Bastrika Pranayama (Bellow Breath) and relaxation for 6 weeks. The therapeutic exercises group was Double knee-to-chest stretch, Pelvic tilt exercise, Lower trunk rotation stretch, Curl-up exercise, Trunk flexion stretch, alternate arm- leg extension exercise, given for 6 weeks. The control group was not exposed to any treatments and was strictly under control. Lipid profiles, which have direct influence on antioxidant status, total cholesterol and triglycerides were tested perior to and after the experiment treatment from all the three groups. Boehringer-Manheim kit was used to measurethe selected variables. The differences between the initial and final scores were considered. The collected data were analysed through ANCOVA and if significant differences were recorded post hoc test using scheffe's confidence Interval test was done to compare the differences between paired means.

RESULTS AND DISCUSSIONS

Table 1: Results on Calculation of Analysis of Covariance (Scores in mg/dl)

Calculation of Analysis of Covariance on Blood Cholesterol								
	Ex.Gr.I I	**Ex.Gr. II**	**Control Group**	**Source of Variance**	**Sum of Squares**	**Df**	**Mean Squares**	**F**
Pre Test Mean	175.25	176.99	173.87	Between Groups	569.7	2	284.87	1.91
Std. Deviation	7.88	8.22	9.06	Within Groups	5576.2	57	97.83	
Post Test Mean	164.84	167.22	173.69	Between Groups	839.3	2	419.63	6.82*
Std. Deviation	8.18	10.84	8.77	Within Groups	4966.0	57	87.12	
Adjusted Post Test Mean	166.16	168.32	173.27	Between Groups	1744.1	2	872.04	14.43*
				Within Groups	347.8	56	6.21	
Calculation of Analysis of Covariance on Triglycerides								
Pre Test Mean	165.0	162.0	161.7	Between Groups	129.3	2	64.6	1.08
Std. Deviation	6.6	6.8	12.2	Within Groups	4515.7	57	79.2	
Post Test Mean	153.1	156.2	162.3	Between	882.6	2	441.3	14.7*

				Groups				
Std. Deviation	8.5	6.3	13.0	Within Groups	5312.2	57	93.2	
Adjusted Post Test Mean	151.4	157.0	163.3	Between Groups	1384.5	2	692.3	17.3*
				Within Groups	2245.8	56	40.1	

Required F ($_{0.05, 2, 57}$) = 3.15 *Significant

Table 2: Results of Scheffe's Post Hoc Analysis

Post Hoc Analysis for Blood Cholesterol				
Ex.Gr.I I	**Ex.Gr. II**	Control Group	Mean Difference	Req C.I
166.2	167.22		1.02	2.9
166.2		176.3	10.1*	2.9
	167.22	176.6	9.38*	2.9
Post Hoc Analysis for Triglycerides				
151.4	157.0		5.6*	5.1
151.4		163.3	11.9*	5.1
	157.0	163.3	6.3	5.1

The obtained results proved that six weeks of yogic practices and therapeutic exercises treatments have been significantly moderated the blood cholesterol and triglycerides ($p<0.05$) than the control group as the obtained values were greater than the paired differences of means between yogic practices group and control group, therapeutic exercises group and control group were significant. It was also found that yogic practices group was significantly better than therapeutic exercises group in reducing blood cholesterol and triglycerides.

CONCLUSION

The yogic practices and therapeutic exercises significantly decrease the cholesterol and triglycerides among men low back ache than the control group.

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