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EFFECT OF PHYSICAL EXERCISE AND YOGIC PRACTICES ON MUSCULAR STRENGTH SELF-CONCEPT AND BLOOD PRESSURE

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Abstract

The purpose of the present study was to find the effect of physical exercise and yogic practice on self-confidence and blood pressure (both systolic and diastolic). For this purpose, forty five middle aged working women of Faridabad town, New Delhi in the age group of 35 – 40 years were selected. They were divided into three equal groups (n = 15), each group consisted of fifteen subjects, in which group – I underwent physical exercise, group – II underwent yogic practice and group – III acted as control group who did not participate in any special training. The training period for this study was six days in a week for twelve weeks. Prior to and after the training period the subjects were tested for self-confidence and blood pressure (systolic and diastolic). Self-confidence was assessed by using Agnihotri self-confidence inventory (ASCI) and blood pressure was assessed by using sphygmomanometer respectively. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental groups and control group on selected criterion variables separately. Since there were three groups involved in this study the Scheffẻ S test was used as pos-hoc test. It was concluded from the result of the study that the physical exercise and yoga practice has positively altered the criterion variables, such as, self-confidence and blood pressure (both systolic and diastolic).

Keywords: *yogic practice, physical exercise, self-confidence, systolic and diastolic blood pressure.*

INTRODUCTION

This reality of pure Consciousness has been recognized by all thinkers, spiritualists or materialists, as the fundamental axiom of life from which intelligence, volition, love and thought emanate [1]. It is a science that affects not only the aware oneself but the subliminal as well. It is a practical physiological training, can praise man to the 'supra mundane level'.[2] Patanjali introduced yoga and its principles were first written down in India several thousand years ago.[3]

According to Swami Vishnu Devananda[4] "Yoga is not an ancient myth buried in oblivion. It is the most valuable inheritance of the present. It is the essential need of today and the culture of tomorrow".

Yogsanas have a deeper considerable value in the development of the physical, mental and spiritual personality. But pure physical exercises only have effect on the muscles and bones. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy-generating process.[5]

METHODS

This study under investigation involves the experimentation of physical exercise and yoga practice on self-confidence and blood pressure (systolic and diastolic). Only middle aged women those who were working in around Faridabad town, New Delhi and aged between 35 and 40 years were selected. The selected forty five subjects were randomly divided into three groups of fifteen each, out of which group - I (n = 15) underwent physical exercise, group - II (n = 15) underwent yogic practice and group - III (n = 15) remained as control. The training programme was carried out for six days per week during morning session only (6 am to 8 am) for twelve weeks. Self-concept was measured with the help of Muktha Rani Rasthogi's self – concept scale and blood pressure was measured by using sphygmomanometer.

ANALYSIS OF DATA

The data collected prior to and after the experimental periods on self-concept and blood pressure (systolic and diastolic) on physical exercise group, yoga practice group and control group were analysed and presented in the following table - I.

Table – I Analysis of Covariance and 'F' ratio for Self-concept and Blood Pressure (systolic and diastolic) for Physical exercise Group, Yoga Practice Group and Control Group

Variable Name	Group Name	Physical Exercise Group	Yoga Practice Group	Control Group	'F' Ratio
Self - Concept	**Pre-test Mean ± S.D**	27.90 ± 0.74	27.40 ± 1.27	26.8 ± 1.99	1.50
	Post-test Mean ± S.D.	30.33 ± 1.0	29.20 ± 1.23	26.50 ± 2.46	12.77*
	Adj. Post-test Mean	29.733	29.18	27.06	16.94*
Systolic Blood Pressure	**Pre-test Mean ± S.D**	126.40 ± 6.01	126.0 ± 4.92	126.0 ± 6.63	0.016
	Post-test Mean ± S.D.	124.10 ± 6.06	123.1 ± 4.68	126.3 ± 6.55	0.79
	Adj. Post-test Mean	123.836	123.232	126.432	32.63*
Diastolic Blood Pressure	**Pre-test Mean ± S.D**	80.90 ± 4.38	80.60 ± 1.78	80.20 ± 4.02	0.096

Post-test Mean ± S.D.	78.60 ± 4.4	78.70 ± 2.63	81.4 ± 3.38	2.01
Adj. Post-test Mean	78.299	78.67	81.731	16.55*

* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 2 and 43 and 2 and 42 were 3.21 and 3.22 respectively).

Further to determine which of the paired means has a significant improvement, Scheffĕ *S* test was applied as post-hoc test. The result of the follow-up test is presented in Table - II.

Table – II Scheffĕ S Test for the Difference between the Adjusted Post-Test Mean of Self-concept and Blood Pressure (systolic and diastolic)

Adjusted Post-test Mean of Self-concept				
Physical Exercise Group	**Yoga Practice Group**	**Control Group**	**Mean Difference**	**Confidence interval at .05 level**
29.733		27.06	2.673*	1.178
29.733	29.18		0.553	1.178
	29.18	27.06	2.120*	1.178
Adjusted Post-test Mean of Systolic Blood Pressure				
123.836		126.432	2.597*	1.4394
123.836	123.232		0.603	1.4394
	123.232	126.432	3.20*	1.4394
Adjusted Post-test Mean of Diastolic Blood Pressure				
78.299		81.731	3.433*	1.69
78.299	78.670		0.371	1.69
	78.670	81.731	3.062*	1.69

* Significant at 0.05 level of confidence.

Results

The training intensity for physical exercise and yogic practice was shown in appendices. Before applying the experiment all the subjects of the physical exercise, yoga practice and control groups were attended the pre-test, which was conducted a day prior to the commencement of the training and the data were collected on self-concept and blood pressure (systolic and diastolic). After twelve weeks of training the post-test was conducted one day after the training period to find out any changes in the criterion variables.

The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental groups and control group on selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate. Since there was three groups were involved in this study, the Scheffẻ *S* test was used as pos-hoc test and it was shown in Table - II.

After applying the analysis of covariance, the result of this study showed that there was a significant difference among physical exercise, yoga practice and control groups on the changes in self-concept and blood pressure after twelve weeks of training. The criterion variables such as, self-concept was improved for both the physical exercise group and yoga practice group and systolic and diastolic blood pressure has significantly decreased after the physical exercise, yoga practice period. Further, comparing the adjusted post-test means of all the criterion variables, such as, self-concept and systolic and diastolic blood pressure, both the training groups were significantly increased the performance after the training period, when compared with the control group. Basically the physical exercise and yoga practice has tremendously improves the psychological variables.

Conclusions

Self-concept has improved [6] for both the experimental groups, such as physical exercise group and yogic practice group, when compared with the control group. The blood pressure has also decreased [6,7] in physical exercise group and yogic practice group when compared with the control group.

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