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Effect of Selected Physical Exercises and Yogic Practice on Physical and Hematological Variables among College Women Students

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Abstract – Physical education and sports are essentials elements of educational process to promote health, physical fitness and quality of life, besides producing topnotch athletes and sportsmen.

Physical fitness is fundamentally important to all human beings, a man cannot move even an inch without proper amount of physical fitness.

Physical exercise is capable of giving better living, exercise keeps muscular motions, joints and tendons and circulation in motion. Exercise can also be used to control blood pressure. Hypertension causes inordinate amount of pressure on the walls of the arteries in the brain which is called stroke. If hypertensive individual exercises regularly, it lowers the blood pressure, thereby helping to prevent stroke, one of the leading cause of death in the world.

Practice of yoga brings a perfect balance in body and mind. It makes the body healthy to cooperate with the mind, so that steadiness, composure, and firmness are developed. Patanjali explains that the practice of yoga enables one to avoid the pain which may be in store in the future.

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Physical fitness is fundamentally important to all human beings, a man cannot move even an inch without proper amount of physical fitness

Physical fitness is one's richest possession, it cannot be purchased, and it has to be earned through a daily routine of physical exercise. Physical fitness is the basic requirements for most of the tasks to be undertaken by an individual in his daily life. (Reet, 1994).

Physical exercises are very effective in balancing fitness of the body. The sufficient amounts of physical exercise are needed to maintain adequate health.

In physical exercise, muscles and limbs of the body powers are exerted. The main aim of this exertion will be either to maintain the health or to improve the health. All systematic training programs have originated from physical exercises. People, invariably are interested in keeping good physical fitness and thus health, but try to opt for short cut method.

Physical exercise is capable of giving better living, exercise keeps muscular motions, joints and tendons and circulation in motion. Exercise can also be used to control blood pressure. Hypertension causes inordinate amount of pressure on the walls of the arteries in the brain which is called stroke. If hypertensive individual exercises regularly, it lowers the blood pressure, thereby helping to prevent stroke, one of the leading cause of death in the world.

"Yoga is a system of attaining perfect physical and mental health. "The body is the temple of soul and to reach harmony of mind, body and spirit, the body must be physically fit". (Bucher, 1968).

Practice of yoga brings a perfect balance in body and mind. It makes the body healthy to cooperate with the mind, so that steadiness, composure, and firmness are developed. Patanjali explains that the practice of yoga enables one to avoid the pain which may be in store in the future.

It has been proven worldwide by so many research works that the regular practice of yoga is essential to

lead a harmonious and fruitful life and also it is proven that it promotes the health status.

Yoga has a special gift to offer to athletes and sports-women. The asanas can help correct the faulty movements of muscles which cause strains and sprains. They create freedom from pressures and tensions and give speed, elasticity, strength, endurance, and coordination to the entire system. When sportsmen and sports-women suffer exhaustion, they can easily recover their range of movement. (Iyengar, 2006).

HYPOTHESIS:

1. There would be significant difference in the selected physical and hematological variables due to physical exercises among college women students.

2. There would be significant difference in the selected physical and hematological variables due to yogic practices among college women students.

3. There would be better improvement in the selected physical and hematological variables due to physical exercises than yogic practice among college women students.

REVIEW OF RELATED LITERATURE:

Kuppuswamy (1996) Conducted a study on the "Influence of physical exercise and yogic practices on health related physical fitness of school children in Tamil Nadu" on one hundred and twenty students on six variables of health related physical fitness and found that physical exercise training has improved flexibility, abdominal muscular strength, agility, body fat percentage and shoulder strength. Cardiovascular endurance was improved due to yogic practices and in general the physical exercise and yogic practices have improved in the health related physical fitness variables.

Rathore (2012) conducted a study on "impact of yogic exercises intervention on selected physiological and fitness variables of tribal sub-junior national volley ball players". The purpose of this study was to investigate the effect of yoga exercise on t and impact of yogic exercise on selected physiological and motor fitness component of national sub-junior volleyball players. The 24 junior national volleyball players were randomly selected from special demographic region and districts of Chattisgarh (India). The age of subject ranged from 12 to 16 years old, subjects were participated in 12 weeks yoga training programme, every week and 4 sessions and every session lasted 30 minutes. The data pertaining to criterion were taken before and after the training programme. Resting heart rate, flexibility, haemoglobin and explosive strength were measured before and after 12 week yogic practice. The Kapal bhati, Suryanamaskara, Chakrasana, Shavasana and Pranayama intervention procedure was adopted as independent variables. Polar heart monitor was used to measure the resting heart rate and haemoglobin measure in pharmacy department. Vertical jump test for explosive strength, flexibility measured by sit and reach test. Standard statistical procedure was employed, mean standard deviation and analysis of repeated measurement't' test to compare pre and post test data was used. The result of the study showed the yogic exercise intervention has significant effect on physiological variables. In the light of findings, it is concluded that resting heart rate and haemoglobin and flexibility, explosive strength, with the help of yogic practice elasticity of muscle improve and improve range of motion. Muscle stretching consequently develops elastic resistance. This effect is the mechanism in the muscles contribution to contractile force. Thus it is concluded that the selected yogic exercise improved the flexibility, explosive strength and decrease in pulse rate.

METHODOLOGY

The purpose of the study was to find out the effect of physical exercise and yogic practice on physical and haematological variables among college women students.

To achieve the very purpose of the study, women students from Government First Grade College, K.R. Pete, were selected as subjects at random and their age was 18 to 22 years.

The subjects were divided into two groups namely physical exercise group and control group. Each group consisted of 30 subjects. The duration of the training was 12 weeks. The subjects of the control group were not allowed to participate in any of the training programmes except in their routine activities.

Table 1

The Summary of Mean and Dependent t-Test for the Pre and Post-Tests on Explosive Strength of Control Group, Physical Exercise Group and Yogic Practice Group

(Scores in Centimeter)

	Pre-Test Mean	Post-Test Mean	't' Test
Control Group	34.24	34.16	0.231
Physical Exercise Group	34.83	40.89	17.140*
Yogic Practice Group	32.68	37.13	13.465*

*Significant at .05 level

Table value required for 0.05 level of sig with df 29 is 1.699

The table 4.6 shows the pre -test mean values of control group, physical exercise group and yogic practice group are 34.24, 34.83, and 32.68 respectively, and the post-test means are 34.16, 40.89 and 37.13 respectively. The obtained dependent't' ratio values between the pre and post-

test means of control group, physical exercise group, and yogic practice group are 0.231, 17.140 and 13.465 respectively. The table value required for significant difference with 29 at 0.05 level is 1.699. Since, the obtained 't'-ratio value of experimental groups are greater than the table value. It is understood that physical exercise group and yogic practice group significantly improved the performance of explosive strength. However, the control group has not improved significantly as the obtained 't'-value is less than the table value, because they were not subjected to any specific training.

Figure-1

Bar Diagram showing Summary of Mean and Dependent t-Test for the Pre and Post-Tests on Explosive Strength of Control Group, Physical Exercise Group and Yogic Practice Group

(Scores in Centimeter)

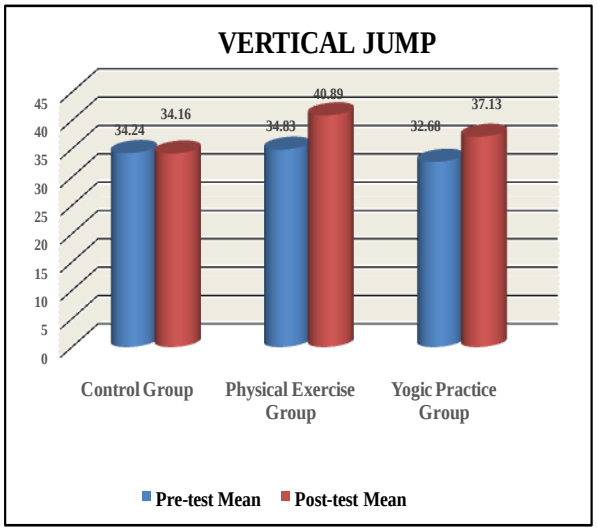


Table 2

The Summary of Mean and Dependent t-Test for the Pre and Post-Tests on Hemoglobin of Control Group, Physical Exercise Group and Yogic Practice Group (Scores in gm/ml)

	Pre-Test Mean	Post-Test Mean	't' Test
Control Group	11.42	11.40	0.681
Physical Exercise Group	11.43	12.45	8.253*
Yogic Practice Group	11.59	11.95	4.464*

* Significant

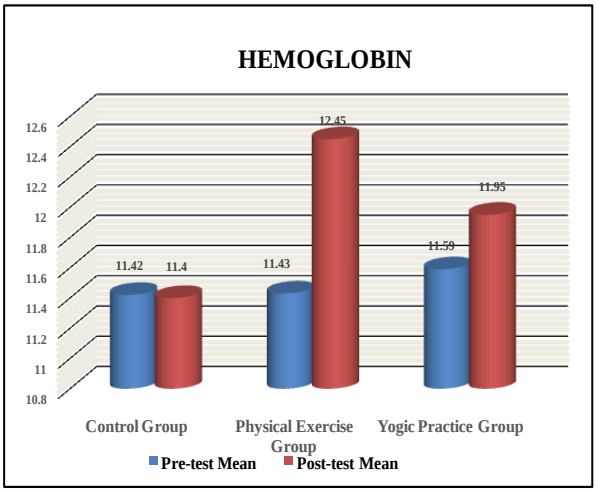
Table value required for 0.05 level of sig with df 29 is 1.699

The table 4.15 shows that the pre-test mean values of control group, physical exercise group and yogic practice group are 11.42, 11.43 and 11.59 respectively, and the post-test means are 11.40, 12.45 and 11.95 respectively. The obtained dependent t- ratio values between pre and post-test means of control group, physical exercise group, and yogic practice group are 0.681, 8.253 and 4.464 respectively. The table value required for significant difference with 29 at 0.05 level is 1.699. Since, the obtained 't'-ratio value of experiment groups are greater than the table value. It is understood that physical exercise group and yogic practice groups significantly improved the performance of hemoglobin. However, the control group has not improved significantly as the obtained 't'-value is less than the table value, because they were not subjected to any specific training.

Figure 2

Bar Diagram showing Summary of Mean and Dependent t-Test for the Pre and Post-Tests on Haemoglobin of Control Group, Physical Exercise Group and Yogic Practice Group

(Scores in gm/ml)



DISCUSSION ON FINDINGS OF HYPOTHESIS:

1. There would be significant difference in the selected physical and hematological variables due to physical exercises among college women students.

2. The findings of the study showed that there was significant difference in selected physical and hematological variables such as speed and high density lipoprotein due to physical exercises among college women students.

3. There would be significant difference in the selected physical and hematological variables due to yogic practice among college women students.

4. The findings of the study showed that there was significant difference in selected physical and hematological variables such as speed and high density lipoprotein due to yogic practice among college women students.

5. There would be better improvement in the physical and hematological variables due to physical exercises than yogic practice among college women students.

The findings of the study showed that there was better improvement in selected physical and hematological variables such as speed and high density lipoprotein and due to physical exercise than yogic practice among college women students.

CONCLUSIONS:

Based on above findings, the following conclusions were made:

1. The explosive strength is increased significantly in the physical exercises group and yogic Practice group when compared with the control group.

2. The hemoglobin is increased significantly in the physical exercises group and yogic Practice when compared with the control group.

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