Influence of Suryanamaskar and Physical Exercises on Selected Hematological Variables among College Women Students

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Abstract

The purpose of the present investigation is to find out the effect of suryanamaskar and physical exercises on selected hematological variables among college women students. To achieve these purpose 90 women students were selected from A. K. D. Dharmaraja Women's College, Rajapalayam, Tamilnadu as subjects. Their age ranged from 18 to 25 years. They were divided into three equal groups of 30 subjects each and assigned to experimental group-I, experimental group-II and control group. In a week the experimental group I underwent suryanamaskar practice, experimental group II underwent physical exercises and control Group was not given any specific training. All the subjects underwent three areas of test namely RBC Count (Red Blood Cell Count), WBC Count (White Blood Cell Count) and Hemoglobin. They assessed before and after the training period of six weeks. The analysis of covariance was used to analyze the data. The study revealed that the above said criterion variables were significantly improved due to the influence of suryanamaskar and physical exercises on selected hematological variables among college women students.

Key words: Suryanamaskar, Physical exercises, RBC count, WBC count, Hemoglobin.

Introduction

Yoga is usually defined as union: union between the limited self (jiva) and the cosmic self (atman). Without trying to confuse things any further, we would like to point out that there is an anomaly in this definition. For there to be an aim or goal of union there must first be a state of separation. And in fact this separation does not exist. At this very moment you are united with the cosmic consciousness. Even this statement is not true, for you actually are the cosmic consciousness. So the aim of yoga is not really to unite you with greater self, to make you are already united. It is to make you realize your identity with the greater self, to make you know and tune in with your existing inner nature (Swami Satyananda Saraswati, 2008).

It is considered as the best exercise for human body. Surya namaskar consists of important yogasanas and Pranayama. The Pranayama and thus its advantages are skillfully incorporated in Surya namaskar. The Mantras (Bija Mantras), which are chanted before practicing are also very useful.In all this Surya namaskar is an appreciated exercise among people of all ages from kids to old age people.Surya namaskar or sun salutation is the best way to burn the calories and reduce weight. It is often recommended for obesity. (Yogacharya vishwas mandlik, 2008)

Suryanamaskara is the best to begin all sessions of yogasanas. Suryanamaskara combines yogasana and Pranayama. It comes in between asanas and loosening Exercises. It brings the general flexibility to the body preparing it for Asanas. It consists of 12 different spinal positions. The sun salutation helps to regulate the breathing and focus the mind. This is usually done both at sunrise and sunset, facing the sun, after chanting the prayer with bija mantra. The different names of the sun according to their meanings instill in the person those qualities like friendship, devotion, energy, health, strength, luster and vigor as he identifies with the supreme and meditates on those qualities during the practice.

Training is a pedagogical process, based on scientific principles, aiming at preparing sportsmen for higher performance in sports competitions (Green, 1978).

Physical exercise is the performance of some activity in order to develop or maintain physical fitness and overall health. Frequent and regular physical exercise is an important component in the prevention of diseases (Thomas, 1998).

Methodology

To achieve this purpose 90 women students were selected from A. K. D. Dharmaraja Women's College, Rajapalayam, Tamilnadu as subjects. Their age ranged from 18 to 25 years. They were divided into three equal groups of 30 subjects each and assigned to experimental group-I, experimental group – II and control group. In a week the experimental group I underwent Suryanamaskar Practice, experimental group II underwent physical exercises and control Group was not given any specific training. All the subjects underwent three areas of test namely RBC Count (Red Blood Cell Count), WBC Count (White Blood Cell Count) and Hemoglobin. They assessed before and after the training period of six weeks. The analysis of covariance was used to analyze the data. The study revealed that the above said criterion variables were significantly improved due to the influence of suryanamaskar and physical exercises on selected hematological variables among college women students.

Results and Discussions

Table–I
Computation of Analysis of Covariance of RBC Count

Test	Experimental group 1	Experimental group 2	Control group	Sum of variance	Sum of squares	Df	Mean square	F
Pre test	3.95	4.05	3.92	Between	0.29	2	0.14	1.43
				Within	8.76	87	0.10	
Post test	4.37	4.43	3.95	Between	4.10	2	2.05	16.72*
				Within	10.68	87	0.12	
Adjusted mean	4.39	4.35	4.00	Between	2.72	2	1.36	44.73*
				Within	2.618	86	0.03	

Significant at 0.05 level with 2 and 87 (df) = 3.103

Table I shows the analyzed data on RBC Count (Red Blood Cell Count). The pre test, post test and adjusted post test means of the RBC Count (Red Blood Cell Count) were (3.95, 4.05, 3.92) (4.37, 4.43, 3.95) (4.39, 4.35, 4.00) for the experimental group I, II and Control group respectively. The obtained 'F' ratio for pre test 1.43 post test 16.72 and adjusted post test 44.73. The obtained 'F' ratio of post and adjusted post test were 16.72 and 44.73. The table value is 3.103 at 5% level of significance for the degree of freedom (2 & 87 and 2 & 86). Therefore it is proved that experimental group I has been better than the other two groups.

Table–II
Computation of Analysis of Covariance of WBC Count

Test	Experimental group 1	Experimental group 2	Control group	Sum of variance	Sum of squares	Df	Mean square	F
Pre test	9555	9441.67	9480.00	Between	199388.89	2	99694.44	0.09
				Within	92225166.67	87	1060059.39	
Post test	10113.33	9900.00	9483.67	Between	6153246.67	2	3076623.33	3.28*
				Within	81523763.33	87	937054.75	
Adjusted mean	10055.53	9946.55	9494.92	Between	5299760.55	2	2649880.28	68.51*
				Within	3326235.332	86	38677.16	

Significant at 0.05 level with 2 and 87 (df) = 3.103

Table II shows the analyzed data on WBC Count (White Blood Cell Count). The pre test, post test and adjusted post test means of the WBC Count (White Blood Cell Count) were (9555, 94441.67, 9480.00) (10113.33, 9900.00, 9946.55) (10055.53, 9946.55, 9494.92) for the experimental group I, II and Control group respectively. The obtained 'F' ratio for pre test 0.09 post test 3.28 and adjusted post test 68.51. The obtained 'F' ratio of post and adjusted post test were 3.28 and 68.51. The table value is 3.103 at 5% level of significance for the degree of freedom (2 & 87 and 2 & 86). Therefore it is proved that experimental group I has been better than the other two groups.

Table–III
Computation of Analysis of Covariance of Hemoglobin

Test	Experimental group 1	Experimental group 2	Control group	Sum of variance	Sum of squares	Df	Mean square	F
Pre test	11.98	12.17	12.14	Between	0.67	2	0.34	0.32
				Within	91.89	87	1.06	
Post test	13.56	13.26	12.22	Between	29.40	2	14.70	15.12*
				Within	84.60	87	0.97	
Adjusted mean	13.66	13.20	12.18	Between	34.08	2	17.04	86.51*
				Within	16.94	86	0.20	

Significant at 0.05 level with 2 and 87 (df) = 3.103

Table II shows the analyzed data on Hemoglobin. The pre test, post test and adjusted post test means of the Hemoglobin were (11.98, 12.17, 12.14) (13.56, 13.26, 12.22) (13.66, 13.20, 12.18) for the experimental group I, II and control group respectively. The obtained 'F' ratio for pre test 0.32 post test 15.12 and adjusted post test 86.51. The obtained 'F' ratio of post and adjusted post test were 15.12 and 86.51. The table value is 3.103 at 5% level of significance for the degree of freedom (2 & 87 and 2 & 86). Therefore it is proved that experimental group I has been better than the other two groups.

Conclusions

From the analysis of the data, the following conclusions were drawn.

1. There was a significant difference among Suryanamaskar Practice group, Physical Exercises group and control group on selected Hematological Variables namely RBC Count (Red Blood Cell Count), WBC Count (White Blood Cell Count) and Hemoglobin.

2. There was a significant improvement were noticed on selected Hematological Variables namely RBC Count (Red Blood Cell Count), WBC Count (White Blood Cell Count) and Hemoglobin due to Suryanamaskar and Physical Exercises of training among college women students.

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