



ISSN: 2456-4419

Impact Factor: (RJIF): 5.18

Yoga 2018; 3(1): 1036-1038

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www.theyogicjournal.com

Received: 02-11-2017

Accepted: 04-12-2017

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Effect of yogasana on biochemical variables of high school girls students

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Abstract

The purpose of the study was to find out the Effect of Yogasana on Bio-Chemical Variables of High School Girls Students. To facilitate the study, 40 subjects were selected at random from high schools of Vijayapura city. The target subjects are the girls high school students and having their age in the range of 14-16 years old. The subjects are classified into two groups one is control group which is not exposed to any treatment and other one is experimental group which is exposed to yoga training treatment. Before carry out the treatment, all the subjects were tested and thier initial scores are measured and recorded on the bio chemical variables of the students. Later yogasana treatment is given for experimental group for two weeks and by keeping the control group constant. Finally, all the bio-chemical variables such as blood glucose and Total cholesterol are tested and scores are recorded. Later, collected data was put into the statistical treatment using Analysis of Covariance (ANCOVA) to find out the significant mean differences. The study reveals that yoga training played vital role in decreasing the blood glucose and total cholesterol of the students. So, it can be concluded that Yogasana made significant impact on the control of bio chemical variables of the high students under study.

Keywords: Yoga, biochemical, blood glucose, and total cholesterol

Introduction

The word yoga means 'unity' or 'oneness' and is derived from the Sanskrit word yug, which means 'to join'. This unity or joining is described in spiritual terms as the union of the individual consciousness with the universal consciousness. on a more practical level, yoga is a means of balancing and harmonizing the body, mind and emotions. This is done through the practice of asana, pranayama, mudra, bandha, shatkarma and meditation, and must be achieved before union can take place with the higher reality.

The science of yoga begins to work on the outermost aspect of the personality, the physical body, which for most people is a practical and familiar starting point. When imbalance is experienced at this level, the organs, muscles and nerves no longer function in harmony; rather they act in opposition to each other. For instance, the endocrine system might become irregular and the efficiency of the nervous system decrease to such an extent that a disease will manifest. Yoga aims at bringing the different bodily functions into perfect coordination so that they work for the good of the whole body.

Methodology

The purpose of the study was to find out the Effect of Yogasana on Bio-Chemical Variables of High School Girls Students, for the present study the experimental research design was employed where in treatment is applied to study the cause and effect of the treatment. To carry out the the study, 40 subjects were selected at random from high schools of Vijayapura city. The target subjects are the girls high school students and having their age in the range of 14-16 years old. The subjects are classified into two groups one is control group which is not exposed to any treatment and other one is experimental group which is exposed to yoga training treatment. Before carry out the treatment, all the subjects were tested and thier initial scores are measured and recorded on the bio chemical variables of the students. Later yogasana treatment is given for experimental group for two weeks and by keeping the control group constant. Finally, all the bio-chemical variables such as blood glucose and Total

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cholesterol are tested and scores are recorded. Later, collected data was put into the statistical treatment using Analysis of Covariance (ANCOVA) to find out the significant mean differences. The study reveals that yoga training played vital

role in decreasing the blood glucose and total cholesterol of the students. So, it can be concluded that Yogasana made significant impact on the control of bio chemical variables of the high students under study.

Analysis of covariance of performance of blood sugar level of high school students

Variable	Test		Experimental Group	Control Group	SOV	Sum of the Square	Df	Mean Square	F – ratio
Blood Sugar	Pretest	Mean	81.1500	81.0000	B	.225	1	.225	.964
		SD	10.24580	10.70661	W	4172.550	38	109.804	
	Posttest	Mean	74.3000	81.8000	B	562.500	1	562.500	5.266*
		SD	10.58102	10.08438	W	4059.400	38	106.826	
	Adjusted post test	Mean	74.135	77.635	B	582.285	1	582.285	24.522*
		SD	6.893	7.7224	W	878.569	37	23.745	

*significance $\alpha = .05$, Table value = 4.08

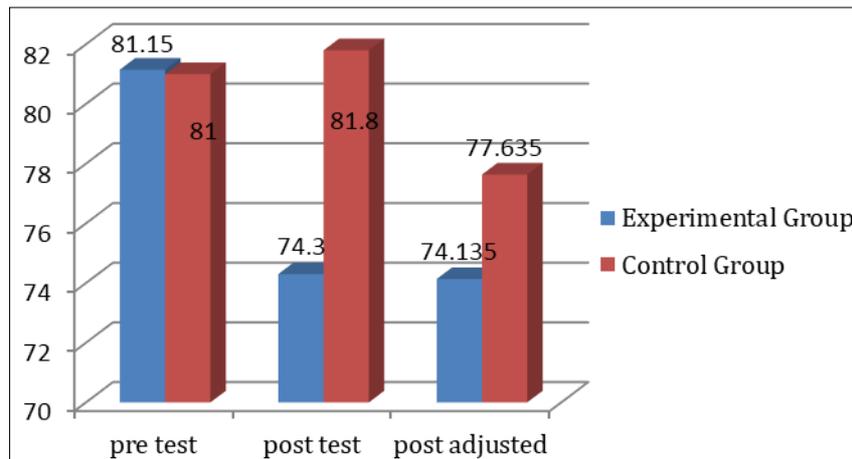


Table- 1 Shows that the pre test means scores of Blood sugar level of control and experimental groups of high school girl students. It is observed that mean scores of pretest of control and experimental groups of girl high school students are 81.1500 and 74.3000 and their standard deviation are 10.24580 and 10.70661 respectively. The obtained ‘F’ Ratio value is (F=.964, 1,38, $\alpha = .05$) .964 at 5% level of significance, which is less than the table value (F=4.08), hence the null hypothesis is accepted. It indicates that the blood sugar level between the experimental group and control group of high school girl students is found almost similar, Further, It is observed that mean scores of the post test of control and experimental groups of girl high school students are 74.3000 and 81.8000 and their standard deviation are 10.58102 and 10.08438 respectively. The obtained ‘F’ Ratio value is (F=5.266, 1,38, $\alpha = .05$) 5.266 at 5% level of significance, which is more than the table value (F=4.08), hence the null hypothesis is rejected and alternative hypothesis is accepted. It can be concluded that there is

significant difference found between the experimental group and control group with respect to blood sugar level of high school girl students. This indicates that blood sugar level is more among the control group when compared to the experimental group. Finally it can be concluded that yoga treatment given to the high school girl students has made a significant impact to control the blood sugar level of the high school girl students.

The adjusted post test means scores on blood sugar of the control and experimental groups are 74.135 and 77.635 respectively and their standard deviation are 6.893 and 7.7224 respectively. The obtained ‘F’ Ratio value is (F=24.522, 1,37, $\alpha = .05$) 24.522 at 5% level of significance, which is much higher than the table value (F=4.08), hence the null hypothesis is rejected and alternative hypothesis is accepted. It can be concluded that there is significant difference is found between the experimental group and control group with respect to blood sugar level of of high school girl students.

Analysis of covariance of performance of total cholesterol level of high school students

Variable	Test		Experimental Group	Control Group	SOV	Sum of the Square	Df	Mean Square	F – ratio
Total Cholesterol Level	Pretest	Mean	165.05	162.323	B	72.900	1	72.900	0.571
		SD	14.2233	15.632	W	8491.500	38	223.461	
	Posttest	Mean	151.400	161.3500	B	990.025	1	990.025	4.268*
		SD	14.51058	15.9186	W	990.025	38	231.983	
	Adjusted post test	Mean	156.375	163.7300	B	925.002	1	925.002	4.022*
		SD	15.16628	5.477	W	8509.035	37	229.974	

*significance, $\alpha = .05$, Table value = 4.08

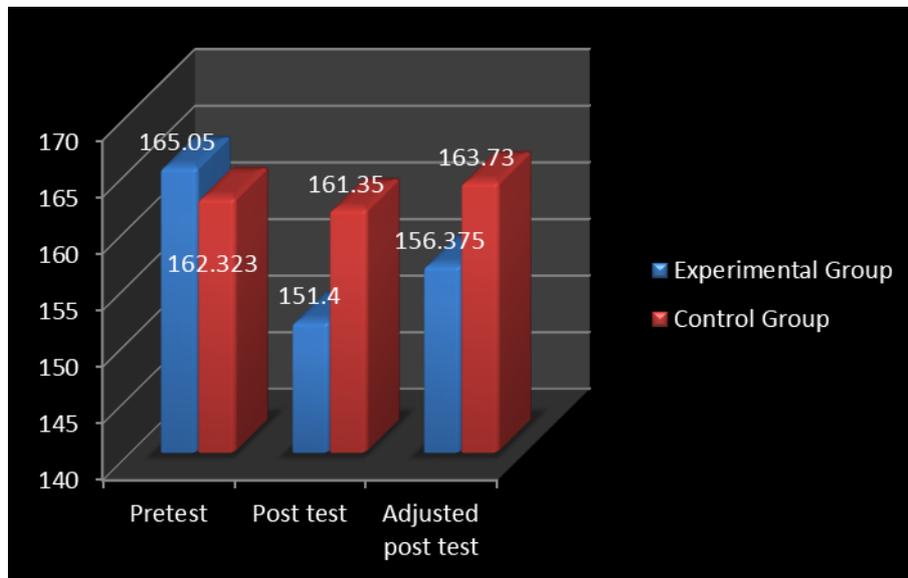


Table- 2 indicates that the pre test means scores of Cholesterol level of control and experimental groups of high school girl students. It is observed that mean scores of pretest of control and experimental groups of high school girl students are 165.05 and 151.400 and their standard deviation are 14.2233 and 15.632 respectively. The obtained 'F' Ratio value is ($F=0.571$, 1,38, $\alpha =.05$) 0.571 at 5% level of significance, which is less than the table value ($F=4.08$), hence the null hypothesis is accepted. It indicates that Cholesterol level between the experimental group and control group of high school girl students found almost same.

Further, It is noticed that mean scores of the post test of control and experimental groups of high school girl students are 151.400 and 161.3500 and their standard deviation are 14.51058 and 14.51058 respectively. The obtained 'F' Ratio value is ($F= 4.268$, 1, 38, $\alpha =.05$) at 4.268 5% level of significance, which is higher than the table value ($F=4.08$). Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It can be concluded that there is significant difference found between the experimental group and control group with respect to Cholesterol level of high school girl students. This indicates that Cholesterol level is more among the control group when compared to the experimental group. Finally it can be concluded that yoga treatment has made significant influence on the control of Cholesterol level of the high school girl students.

The adjusted post test means scores on Cholesterol of the control and the experimental groups are 74.135 and 77.635 respectively and their standard deviation are 6.893 and 7.7224 respectively. The obtained 'F' Ratio value is ($F=24.522$, 1,37, $\alpha =.05$) 24.522 at 5% level of significance, which is much higher than the table value ($F=4.08$). Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It can be concluded that there is significant difference is found between the experimental group and control group with respect to Cholesterol level of girl of high school students.

Major findings of the study

1. Pre test means scores of Blood sugar level of control and experimental groups of high school girl students is found to be similar.
2. Post test means scores found significant difference found between the experimental group and control group with respect to blood sugar level of high school girl students.
3. The adjusted post test means scores on blood sugar of the

control and experimental groups found to be significant.

4. Pre test means scores of Cholesterol level of control and experimental groups of high school girl students is found to be similar.
5. Post test means scores found significant difference found between the experimental group and control group with respect to Cholesterol level of high school girl students.
6. the adjusted post test means scores on Cholesterol level of the control and experimental groups found to be significant

Conclusion

The purpose of the study was to find out the Effect of Yogasana on Bio-Chemical Variables of High School Girls Students. To facilitate the study, 40 subjects were selected at random from high schools of Vijayapura city. The target subjects are the girls high school students and having their age in the range of 14-16 years old. Later yogasana treatment is given for experimental group for two weeks and by keeping the control group constant. Finally, all the bio-chemical variables such as blood glucose and Total cholesterol are tested and scores are recorded. Later, collected data was put into the statistical treatment using Analysis of Covariance (ANCOVA) to find out the significant mean differences. Finally the study reveals that yoga training played vital role in decreasing the blood glucose and total cholesterol of the students. So, it can be concluded that Yogasana made significant impact on the control of bio chemical variables of subjects.

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