



EFFECT OF YOGIC PRACTICES WITH MANTRA CHANTING ON FASTING BLOOD SUGAR AND STRESS AMONG PREGNANT WOMEN

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ABSTRACT

To achieve the purpose of the study, 45 pregnant women were identified from Chennai city, and 30 among them selected randomly by using random sampling method between 23 and 33 years of age. The subjects were divided into experimental group, and control group of 15 subjects each. Experimental Group were imparted training for 8 weeks, Five days a week for a maximum of one hour in the morning. The control group were in active rest. The pre-test and post-test conducted before and after the training for experimental and control group and the scores on Fasting Blood Sugar and Stress were measured. Analysis of co-variance (ANCOVA) used to find out the significant differences among the groups. The result of the study showed that Fasting Blood Sugar significantly, Stress was reduced as result of Yogic practices in Experimental Group. Hence the hypothesis was accepted at 0.05 level of confidence. The conclusion was that the Yogic practices with mantra chanting helped to decrease Fasting Blood Sugar and reduce Stress among pregnant women.

KEY WORDS: Yoga, Pregnant Women, Mantra Chanting, Fasting Blood Sugar, Stress.

INTRODUCTION

Pregnancy known as gestation the time during which one or more offspring develops inside a woman's womb. Signs and symptoms of early pregnancy may include missed periods, tender breasts, morning sickness, hunger, and frequent urination. Prenatal care may include taking extra folic acid, avoiding drugs, tobacco smoking, and alcohol, taking regular exercise, having blood tests, and regular physical examinations. Complications of pregnancy may include disorders of high blood pressure, gestational diabetes, iron-deficiency anemia, and severe nausea and vomiting.

OBJECTIVES OF THE STUDY

- To find whether there is any significant difference on selected Biochemical variables due to the practice of yoga.
- To find whether there is any significant difference on selected Psychological variables due to the practice of yoga.

STATEMENT OF THE PROBLEM

The purpose of study was to find out effect of yogic practices with mantra chanting on selected Biochemical, and psychological variables among pregnant women.

SIGNIFICANCE OF THE STUDY

The second trimester of pregnancy lasts from week 13 to 28. The baby's organs become fully developed during the second trimester. Complication occur during the pregnancy are Bleeding, Preterm labor, PPROM, Cervical incompetence, Preeclampsia and Injury. Hence the significance of the study was to create awareness among pregnant women to reduce complications by observing yogic practices with mantra chanting regularly.

HYPOTHESIS

It is hypothesized that there was a significant difference due to the practices of yoga with mantra chanting on selected biochemical and psychological variables among pregnant than the control group.

REVIEW OF RELATED LITERATURE

Balaji P A and Smitha R Varne (March 13 2017) conducted the study on “Physiological effects of yoga asanas and pranayama on metabolic parameters, maternal, and fetal outcome in gestational diabetes”. Gestational diabetes affects the health of the women, the fetus, and even after birth, the baby or child. Studies related to the assessment of the effects of yoga and pranayama on metabolic parameters, maternal and fetal outcome among gestational diabetic patients are inadequate. The aim of the present study was to assess the effects of yoga and pranayama on metabolic parameters, maternal and fetal outcome in gestational diabetes. Materials and A total of 162 gestational diabetic patients were recruited in the study; after removing the drop outs, 75 of them did specific yoga and pranayama (test group) for 3 months and the remaining, blood sugar-matched, 76 patients were recruited as (control group) who were not on any yoga practice. The data obtained were analyzed using appropriate statistical methods such as mean, standard deviation, and t-test for paired data and categorical data were analyzed using Chi-square test ($r \times c$ table). P value was considered significant below 0.05. Analysis of data showed statistically significant difference between metabolic parameters, maternal and fetal outcome of mothers with gestational diabetes mellitus (GDM) between yoga group and control group $P < 0.01$. Yoga and pranayama significantly decrease blood glucose level which in turn can prevent adverse maternal and fetal outcomes of GDM. Safety during pregnancy is paramount and exercises such as low exerting forces such as yoga can be safe for both mother and fetus.

Momoko Kusaka et.al., (April 17 2016) conducted the study on “Immediate stress reduction effects of yoga during pregnancy: One group pre-post test”. Excessive stress during pregnancy may cause mental disorders in pregnant women and inhibit fetal growth. Yoga may alleviate stress during pregnancy. To verify the immediate effects of yoga on stress response during pregnancy. One group pre-post test was conducted at a hospital in Japan. We recruited 60 healthy primiparas without complications and asked them to attend yoga classes twice a month and to practice yoga at their homes using DVD 3 times a week from 20 gestational weeks until childbirth. Salivary cortisol and alpha-amylase concentration were measured before and after yoga classes at time 1 (27-32 gestational weeks) and time 2 (34-37 gestational weeks). Subjective mood was assessed using the profile of mood states. Saliva values and mood scores before and after each yoga class were compared using paired t-test and Wilcoxon rank-sum test, respectively. We analyzed 44 and 35 women at time 1 and time 2, respectively. The mean salivary cortisol concentration declined significantly after each yoga class [time 1: 0.36-0.26 μ g/dL ($p < 0.001$), time 2: 0.32-0.26 μ g/dL ($p = 0.001$)]. The mean salivary alpha-amylase concentration also decreased significantly following each class [time 1: 72.2-50.8kU/L ($p = 0.001$), time 2: 70.6-52.7kU/L ($p = 0.006$)]. The scores for negative dimensions of mood (Trait-Anxiety, Depression, Anger-Hostility, Fatigue, and Confusion) decreased significantly. The scores of Vigor for a positive dimension of mood significantly increased. This study indicated the immediate stress reduction effects of yoga during pregnancy.

METHODOLOGY

To achieve the purpose of the study, 45 pregnant women were identified from Chennai city, and 30 among them selected randomly by using random sampling method between 23 and 33 years of age. The subjects were divided into experimental group, and control group of 15 subjects each. Experimental Group were imparted training for 8 weeks, Five days a week for a maximum of one hour in the morning. The control group were in active rest. The pre-test and post-test conducted before and after the training for experimental and control group and the scores on fasting blood sugar and Stress were measured. Analysis of co-variance (ANCOVA) used to find out the significant differences among the groups. The result of the study showed that Fasting Blood Sugar significantly, Stress was reduced as result of Yogic practices in Experimental Group. Hence the hypothesis was accepted at 0.05 level of confidence. The conclusion was that the Yogic practices with mantra chanting helped to decrease fasting blood sugar and reduce stress among pregnant women. Following Yogic practices given for Experimental Group: Loosening the joints, Tadasana, Trikonasana, Parsvakonasana, Kati Chakrasana, Baddhakonasana, Supta Baddhakonasana, Bharadwajasana, Parivrita Janu Sirsasana, Vakrasana, Marjariasana, Setubandhasana, Ujjayi pranayama, Bramhari, Nadi Shudhi, Gayathri mantra, Maha Mritunjaya mantra, AUM Chanting and Yoga Nidra Techniques.

RESULTS AND DISCUSSION

The data pertaining to the variables collected from two groups before and after the training period were statistically analysed by using Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance.

RESULTS ON FASTING BLOOD SUGAR

The data pertaining to the variables collected from two groups before and after the training period were statistically analysed by using Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance. The analysis of Covariance (ANCOVA) on Fasting Blood Sugar of Yogic Practices with mantra chanting and Control Group was analysed and presented in Table I.

TABLE I
ANALYSIS OF CO VARIANCE OF THE MEANS EXPERIMENTAL GROUP AND THE CONTROL GROUP IN FASTING BLOOD SUGAR

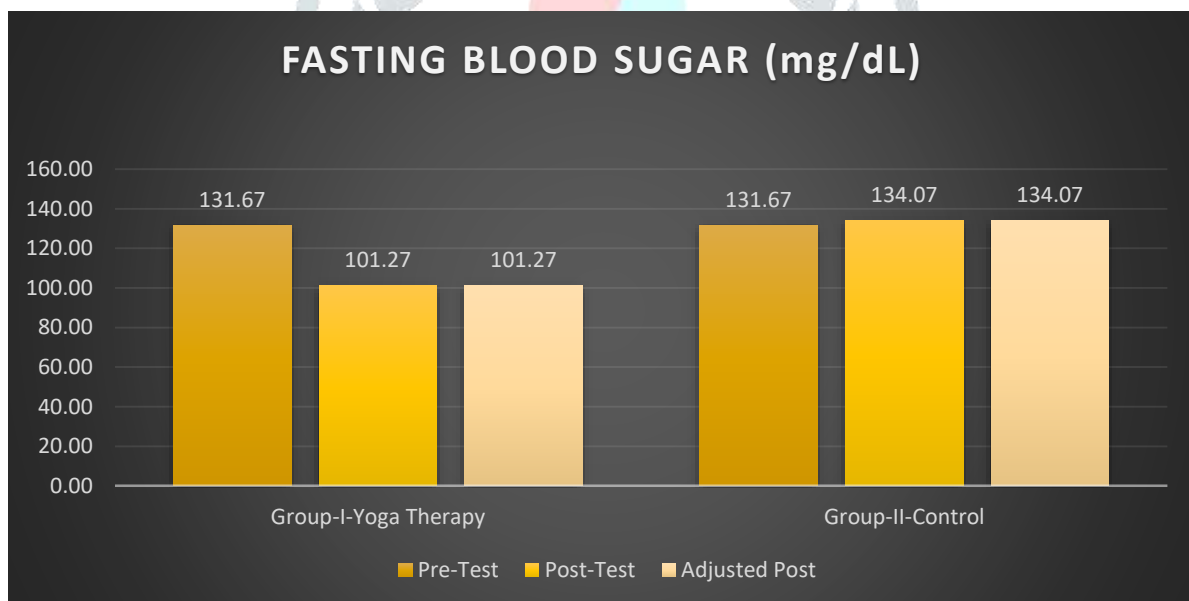
Test	Group-A Yogic Practices	Group-B Control Group	Source Of Variation	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio
Pre	127.53	127.87	Between	1	127.87	127.87	1.17
			With in	28	3047.47	108.84	
Post	98.40	128.20	Between	1	6660.30	6660.30	135.92*
			With in	28	1372.00	49.00	
Adjusted Post	98.49	128.11	Between	1	6579.52	6579.52	347.91*
			With in	27	510.61	18.91	

*Significant at 0.05 level of confidence. (Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27 (df) =4.21)

The obtained F ratio on pre test scores 1.17 was more than the required F value of 4.2 to be significant at 0.05 level. The post test scores analysis proved that there was significant difference between the groups, as obtained F value 135.92 was greater than the required F value of 4.21. This proved that the differences between the post-test means of the subjects were significant. This proved that there was significant difference among the means due to eight weeks of yogic practices with mantra chanting on variables. ‘The pre-test, post-test and adjusted post-test mean values of yogic practices and the control group on Fasting Blood Sugar were graphically presented in Figure I

FIGURE I

Bar diagram showing the mean difference among experimental group and control group on Fasting Blood Sugar



*Significant at 0.05 level of confidence. (Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27 (df) =4.21)

RESULTS ON STRESS

The data pertaining to the variables collected from two groups before and after the training period were statistically analysed by using Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance. The analysis of Covariance (ANCOVA) on Stress of Yogic Practices with mantra chanting and Control Group was analysed and presented in Table II.

TABLE II

ANALYSIS OF CO VARIANCE OF THE MEANS EXPERIMENTAL GROUP AND THE CONTROL GROUP IN STRESS.

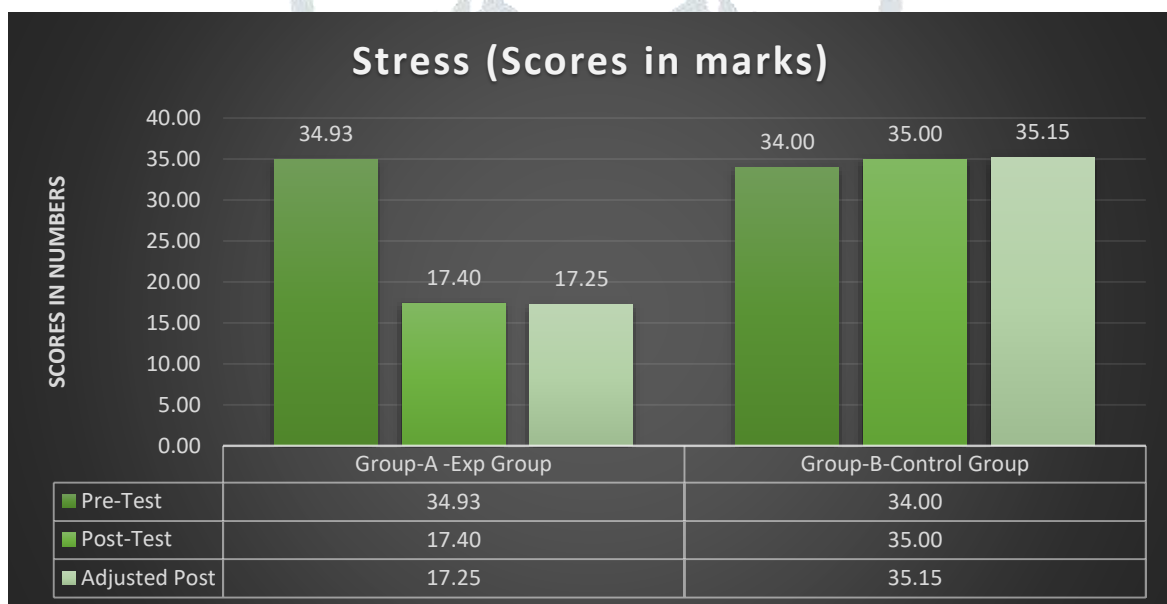
Test	Group-A Yogic Practices	Group-B Control Group	Source Of Variation	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio
Pre	34.93	34.00	Between	1	6.53	6.53	0.62
			With in	28	296.93	10.60	
Post	17.40	35.00	Between	1	2323.20	2323.20	383.55*
			With in	28	169.60	6.06	
Adjusted Post	17.25	35.15	Between	1	2351.30	2351.30	456.89*
			With in	27	138.95	5.15	

*Significant at 0.05 level of confidence. (Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27 (df) =4.21)

The obtained F ratio on pre test scores 0.62 was less than the required F value of 4.2 to be significant at 0.05 level. The post test scores analysis proved that there was significant difference between the groups, as obtained F value 383.55 was greater than the required F value of 4.21. This proved that the differences between the post-test means of the subjects were significant. This proved that there was significant difference among the means due to eight weeks of yogic practices with mantra chanting. The pre-test, post-test and adjusted post-test mean values of yogic practices with mantra chanting and the control group on stress were graphically presented in Figure II

FIGURE II

Bar diagram showing the mean difference among experimental group and control group on Stress



*Significant at 0.05 level of confidence. (Table F-ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27 (df) =4.21).

DISCUSSION ON HYPOTHESIS

It was hypothesized that there were significant differences on selected variables such as Fasting Blood Sugar and Stress due to yogic practices with mantra chanting among pregnant women than the control group. The results proved that there was significant difference in decreased fasting blood sugar and reduce Stress due to yogic practices with mantra chanting than the control group among pregnant women. The hypothesis was accepted at 0.05 level of confidence.

CONCLUSION

It was concluded that yogic practices with mantra chanting decreased fasting blood sugar and reduce stress among pregnant women. Hence, yogic practices are beneficial to pregnant women.

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