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EFFECT OF YOGIC PRACTICES ON SELECTED PSYCHOLOGICAL VARIABLE AMONG PRENATAL WOMEN

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Abstract

The purpose of the random group experimental study was to find out the effects of Yogic practices on psychological variable such as Stress in Prenatal women. 60 Prenatal women of second trimester came forward from Bengaluru city, 45 were screened and 30 were selected at random by means of Random sampling method between 25 years to 35 years of age and they were divided into 2 groups namely experimental group (Group A) and control group (Group B) with 15 subjects respectively. It was hypothesized that there would be significant differences on psychological variable - Stress due to Yogic practices among the Prenatal women. Preliminary test was taken for two groups on Stress before the start of the training program. The 12 weeks was divided into III quarters, I quarter was 1-4 weeks which consisted of 40 minutes of Yogic practices, the II quarter for 50 minutes of Yogic practices and the final quarter for 60 minutes. Group A was given Yogic practices for 5 days a week for a period of 12 weeks (3 quarter). Group B carried out with their daily routine. After the experimental period of 12 weeks, the 2 groups were retested again on the same selected dependent variables. Analysis Of Co-Variance (ANCOVA) was used to find out the significant differences between the experimental group and control group. The results of the study proved that the experimental group showed significant differences on Stress (Decreased) than the control group due to Yogic practices among Prenatal women. The hypothesis which was fixed at 0.05 level of confidence was accepted. Hence it is established that Yogic practices are constructive to the Prenatal women to preserve Stress throughout pregnancy.

KEYWORDS: Prenatal women, Stress, Yogic Practices.

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INTRODUCTION

Pregnancy is normal parlance is the gestation period for the fetus to develop into a full-grown baby in the womb of the women. It commonly ranges from a period of 280 days as measured from the last menstrual period to delivery. It can be classified into III trimesters.

- I trimester (First week to twelfth week)
- II trimester (Thirteenth week to Twenty-eight week)
- III trimester (twenty ninth week to till delivery)

During the course of pregnancy, the most important phase is the second trimester as predominant variations occur during this period and the study is focused on the second trimester only: the below are certain factors which are observed during this period.

- Pain is felt in many parts of body such as back, groin, abdomen, thigh pain.
- Stretch marks on abdomen, breasts, thighs.
- Spots of shadowy skin are found in cheeks, nose, forehead.
- Inflammation of face, ankles and fingers.
- Itching on the abdomen, palms and soles of the feet.

Special efforts are needed at the time of pregnancy to be active and not at the cost of proper relaxation. Prenatal yoga offers you the chance to get in touch with your body as you build strength, improve flexibility, and develop balance. The main advantages are both physical easing and creating positive mental models to adapt to all the changes which occur at the time of pregnancy.

During the second trimester, it maintains the relaxin hormone to an affordable limit which paves way for better relaxation and comfort. Prenatal Yoga helps the expecting

mother's body conditioning the body to the changes occurring which culminates in the strength, and flexibility essential for labor pain and delivery of the baby.

Benefits of Prenatal Yoga:

- It manages the hormonal levels (Cortisol) in the body to balance stress and anxiety.
- It improves stamina for childbirth to meet the challenges of pregnancy and delivery of baby.
- It induces better quality of sleep.
- It may assist in the reduction of common nausea, headache, and lower back pain which the mother may undergo during this trimester of Pregnancy.
- It could lead to a normal birth weight and reduce emergency C-section, labor duration, induction of labor, and preterm labor.
- It helps to correct exchange of gases in the body, which reduces swelling and inflammation, present in joints.
- It helps in better awareness of the body, which is essential during the time of pregnancy.

The Aim of the study was to verify the efficiency of Yoga system on psychological Variable - Stress attributes in Prenatal women. Prenatal women are face down many challenges in their body due to the fetal growth which eventually leads to Stress, anxiety and depression.

MATERIALS AND METHODS

The collection of subjects was chosen from the population of 60 Prenatal women in II Trimester. Stress questionnaire was issued among the whole population of 45 Prenatal women. The feedback of the questionnaire was reviewed, 30 subjects were projected for the study. The 30 subjects were further classified in to 2 groups, Experimental group (A) and Control group (B). Yogic

practices aligned to manage and cope up with stress was given to the experimental group (A) and control group (B) was

allowed to perform their routine activities. The training schedule of the experimental group are presented below in Table 1.

Table 1

Schedule – Practices underwent by the experimental group (A)

#	Yogic Practices	Time Duration		
		I Quarter	II Quarter	III Quarter
		40 Minutes	50 Minutes	60 Minutes
1.	Starting Prayer	1 Minutes	1 Minutes	1 Minutes
2	Conscious Breathing	2 Minutes	2 Minutes	2 Minutes
3	Discerning Asanas	20 Minutes	25 Minutes	30 Minutes
4	Discerning Pranayamas	5 Minutes	5 Minutes	5 Minutes
5	Yoga Nidra	10 Minutes	15 Minutes	20 Minutes

Table II

YOGIC PRACTICES FOR FIRST 12 WEEKS – DURATION 40 MINUTES

(5 DAYS A WEEK FROM 7:20 AM TO 8 AM)

#	Yogic Practices	Breath Ratios	Repetition/ Round	Duration of practice (in minutes)	Rest time (in minutes)	Total duration (in minutes)
1	Starting Prayer	Normal	1	2	0	1
2	Conscious Breathing	Normal	1	3	0	2
3	Discerning Asanas					
3.1	Greeva Sanchalana	Inhale: Exhale (1:1)	3	1	1	4
3.2	Poorna Titaliasana	Normal	12	15 Sec	1	4
3.3	Namaskarasana	Inhale: Exhale (1:1)	3	1	1	4
3.4	Vayu Nishkasana	Inhale: Exhale (1:1)	3	1	1	4
3.5	Marjari Asana	Inhale: Exhale (1:1)	3	1	1	4
3.6	Shavasanas	Normal Breathing	NA	2	0	2
4	Discerning Pranayamas					
4.1	Sheetali/Sheetakari	Inhale: Exhale (1:1)	12	10 Sec	NA	2
4.2	Nadi Shodhana	Inhale: Exhale (1:1)	6	10 Sec	NA	1
4.3	Chandra Nadi Pranayama	Inhale: Exhale (1:1)	12	10 Sec	NA	2
5	Yoga Nidra	Normal	NA	20	NA	10

Table III
YOGIC PRACTICES FOR SECOND 12 WEEKS – DURATION 50 MINUTES
(5 DAYS A WEEK FROM 7:10 AM TO 8 AM)

#	Yogic Practices	Breath Ratios	Repetition/ Round	Duration of practice (in minutes)	Rest time (in minutes)	Total duration (in minutes)
1	Starting Prayer	Normal	1	2	0	1
2	Conscious Breathing	Normal	1	3	0	2
3	Discerning Asanas					
3.1	Greeva Sanchalana	Inhale: Exhale (1:1)	4	1	1	5
3.2	Poorna Titaliasana	Normal	16	15 Sec	1	5
3.3	Namaskarasana	Inhale: Exhale (1:1)	4	1	1	5
3.4	Vayu Nishkasana	Inhale: Exhale (1:1)	4	1	1	5
3.5	Marjari Asana	Inhale: Exhale (1:1)	4	1	1	5
3.6	Shavasanas	Normal Breathing	NA	2	0	2
4	Discerning Pranayamas					
4.1	Sheetali/Sheetakari	Inhale: Exhale (1:1)	12	10 Sec	NA	2
4.2	Nadi Shodhana	Inhale: Exhale (1:1)	6	10 Sec	NA	1
4.3	Chandra Nadi Pranayama	Inhale: Exhale (1:1)	12	10 Sec	NA	2
5	Yoga Nidra	Normal	NA	20	NA	15

Table IV
YOGIC PRACTICES FOR THIRD 12 WEEKS – DURATION 60 MINUTES
(5 DAYS A WEEK FROM 7:00 AM TO 8 AM)

#	Yogic Practices	Breath Ratios	Repetition/ Round	Duration of practice (in minutes)	Rest time (in minutes)	Total duration (in minutes)
1	Starting Prayer	Normal	1	2	0	1
2	Conscious Breathing	Normal	1	3	0	2
3	Discerning Asanas					
3.1	Greeva Sanchalana	Inhale: Exhale (1:1)	4	1	1	5
3.2	Poorna Titaliasana	Normal	16	15 Sec	1	5
3.3	Namaskarasana	Inhale: Exhale (1:1)	4	1	1	5
3.4	Vayu Nishkasana	Inhale: Exhale (1:1)	4	1	1	5
3.5	Marjari Asana	Inhale: Exhale (1:1)	4	1	1	5
3.6	Shavasanas	Normal Breathing	NA	2	0	2
4	Discerning Pranayamas					
4.1	Sheetali/Sheetakari	Inhale: Exhale (1:1)	12	10 Sec	NA	4
4.2	Nadi Shodhana	Inhale: Exhale (1:1)	6	10 Sec	NA	2
4.3	Chandra Nadi Pranayama	Inhale: Exhale (1:1)	12	10 Sec	NA	4
5	Yoga Nidra	Normal	NA	20	NA	20

Flow Chart with complete Methodology was presented below:

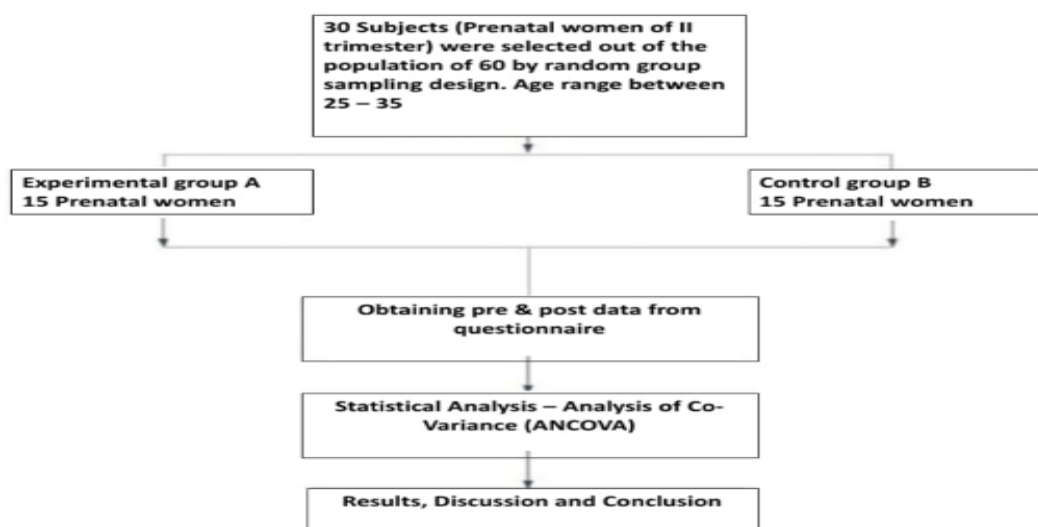


FIGURE – I - FLOW CHART REPRESENTING METHODOLOGY EMBRACED FOR THE RESEARCH

RESULTS AND DISCUSSION ON STRESS

The statistical approach of Analysis of Co-Variance (ANCOVA) was used to examine the variance between the 2 groups {Experimental group (A) & Control group

(B)}, from the data collected before and after the study through the questionnaire to measure the Stress factor preferred for the study. It was tested at a 0.05 level of significance. The Table V represents the statistical values derived from statistical technique.

TABLE V

ANCOVA OF MEANS OF EXPERIMENTAL GROUP (A) AND CONTROL GROUP (B) ON STRESS

Test	Group 1 Yoga Therapy	Group 2 Control Group	Source Of Variance	Degrees Of Freedom	Sum Of Squares	Mean Sum Of Squares	F-Ratio
Pre	32.47	32.6	Between	1	0.13	0.13	0.02
			With in	28	151.33	5.40	
Post	23.07	32.47	Between	1	662.70	662.70	69.58
			With in	28	266.67	9.52	
Adjusted Post	23.13	32.4	Between	1	644.32	644.32	134.85
			With in	27	129.01	4.78	

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

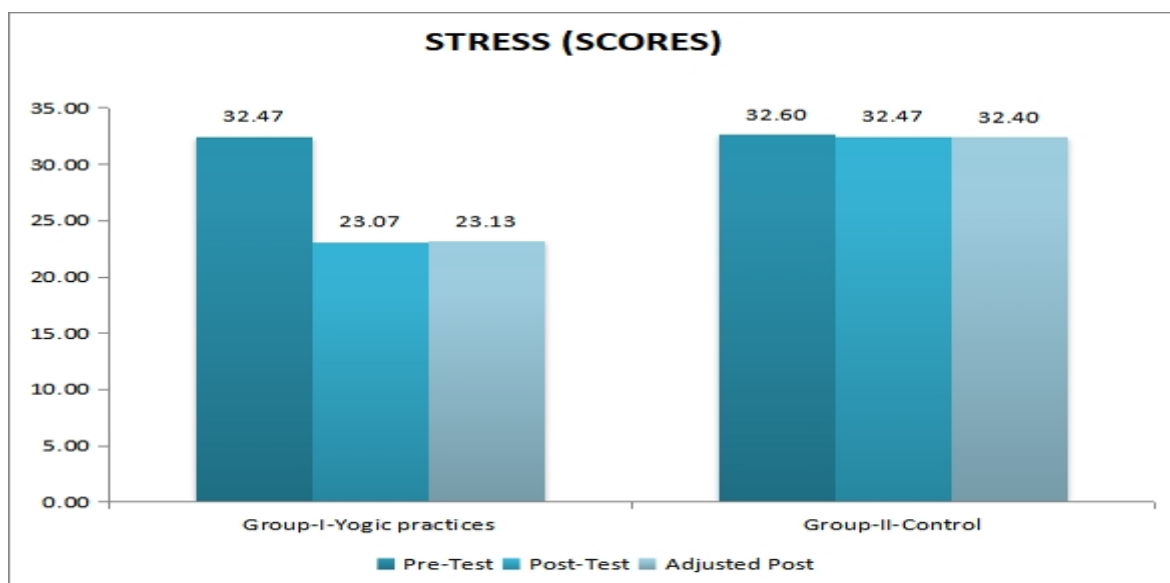
The Initial scores before the study on the groups were **0.02**. After the Yogic practices of 12 weeks (5 Days a week), the scores were **69.58**. From the above study and statistical values, it is apparent that Yogic practices relieved Prenatal women to diminish their Stress significantly on equivalence with studies conducted By **Lisa Corrigan.et.al (Jan 2019)** issued in the Corrigan et al. BMC Pregnancy and Childbirth. In the study Nine electronic databases were searched and Randomised control trials and quasi-experimental studies examining Prenatal Yoga involvements were qualified. Covidence was used to screen titles, abstracts, and full-text articles. Conclusions of concern were stress, anxiety, depression, quality of life, labour duration, pain management in labour and mode of delivery. The practices

of Yoga helped in easing Stress in Prenatal women. Adjusted mean of **134.85** is greater than the table value of 4.21. Theory is recognized at 0.05 level of confidence.

In another study of the Effects of Prenatal yoga on women's Stress and immune function across pregnancy by **Pao-Ju Chen.et.al(Apr 2017)** shows similar results. The intervention group had lower cortisol ($p < 0.001$) and concluded with Prenatal yoga significantly reduced pregnant women's stress and enhanced their immune function.

In support of the above analysis, results were represented in Bar Diagram in Figure II below:

FIGURE II
BAR DIAGRAM SHOWING MEAN DIFFERENCE AMONG
EXPERIMENTAL GROUP (A) AND CONTROL GROUP (B) ON STRESS



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

CONCLUSION

The stress to Prenatal women creates so many changes in mental, physical and physiological levels in the body. Emotions, aptitude and thinking faculty undergo a radical change. There is considerable jump in pulse rate, breathing levels, tightening of muscles and increase in blood pressure level. Each organ and system feel the impacts on Stress.

The stress hormones cortisol, adrenaline, and epinephrine impact most areas of the body, meddlesome with sleep and increasing the risk of stroke, high blood pressure, and heart disease, stress, depression and anxiety,” - Alka Gupta, MD, chief medical officer at Bluerock Care in Washington, DC.

Regular practices of Prenatal yoga are conducive to the overall well being of the body arising out of secretion of necessary hormones like Endorphins. This hormone is useful in creating tranquillity. The practices help balancing hormone cortisol are balanced resulting in the reduction of

Stress. Thus, Prenatal use is recommended during the Second trimester for a comfortable course of pregnancy which results in a healthy baby.

CONFLICT OF INTEREST

The study **Effect of Yogic practices on selected psychological variable among Prenatal women** is not in conflict with established guidelines and practices.

ETHICAL CLERANCE

The Meenakshi Medical College Hospital and Research (MMCHRI – MAHER) Medical Board has provided ethical clearance to proceed with the study.

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