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## **Effect of Yogic Practices on Selected Physical Variables among Postpartum Women**

**Y. PavanyaBalaji**

Ph.D Research Scholar, YMCA College of Physical Education, Nandhanam, Chennai-35, Tamilnadu

**Dr. K. JothiDayanandan**

Associate Professor, YMCA College of Physical Education, Nandhanam, Chennai-35, Tamilnadu

**Abstract**--The purpose of the random group experimental study was to find out the effect of yogic practices on selected physical variables among postpartum women. It was hypothesized that there would be significant difference on selected physical variables such as flexibility and body mass index. To achieve the purpose of the study twenty postpartum women from govt. hospital from Bangalore aged between 25 to 35 years were randomly selected and divided into two groups. One experimental group and one control group of 10 subjects each. Experimental group I underwent yogic practices for a period of eight weeks, three days in a week of 30min. then slowly increased to 60min. The control group II was not exposed to any specific training but in active rest. The pre-test and post-test was conducted before and after the training for both the groups. Flexibility and Body Mass Index was assessed through Sit and Reach and BMI. The data pertaining to the variables collected from the two groups before and after the training period was statistically analysed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of confidence. The results of the study showed that flexibility and body mass index significantly increased due to the influence of eight weeks training of yoga than the control group among postpartum women. Hence, the hypothesis was accepted at 0.05 level of confidence. The conclusion was that yogic practices could be effective in decreasing physical variables such as flexibility and body mass index among postpartum women.

**Keywords**---Flexibility and Body Mass Index, Postpartum women.

## Introduction

Postpartum women who constantly feel the threat of external stressors don't give their systems a chance to return to normal. Their adrenal glands become exhausted from constantly pumping adrenaline into the system; the digestive and immune systems remain sluggish. A consistent yoga practice goes a long way toward mitigating the effects of the fight-or-flight response by giving the body the opportunity to rest completely.

B.K.S. Iyengar, master of yoga's therapeutic applications, explains the benefits of yoga by means of what he calls its "squeezing and soaking" actions. He contends that through the process of squeezing out the old, stale blood or lymphatic fluids and soaking the area with fresh, oxygenated blood or fluids, yoga helps the body to utilize the nutrients it needs. A consistent yoga practice can give us confidence and stability as we move through the world. Yoga can improve posture and coordination, strengthen muscles, increase flexibility, and create balance. (Iyengar, 1992).

## Purpose of the study

The purpose of this study is to find out the effect of yogic practices on selected physical variables among postpartum Women.

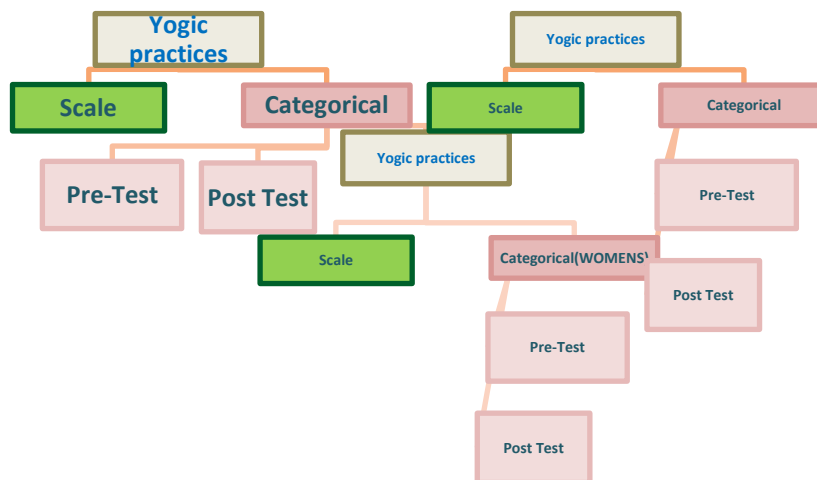


Fig1: Yogic Practices On Selected Physical Variables

## Objective of the study

Objective of the study was to find out whether there would be any significant difference on physical variables among postpartum women due to yogic practices.

## Hypothesis

It was hypothesized that there would be a significant difference between yogic group (group I) and control group (group II) on physical variables such as flexibility and body mass index among postpartum women.

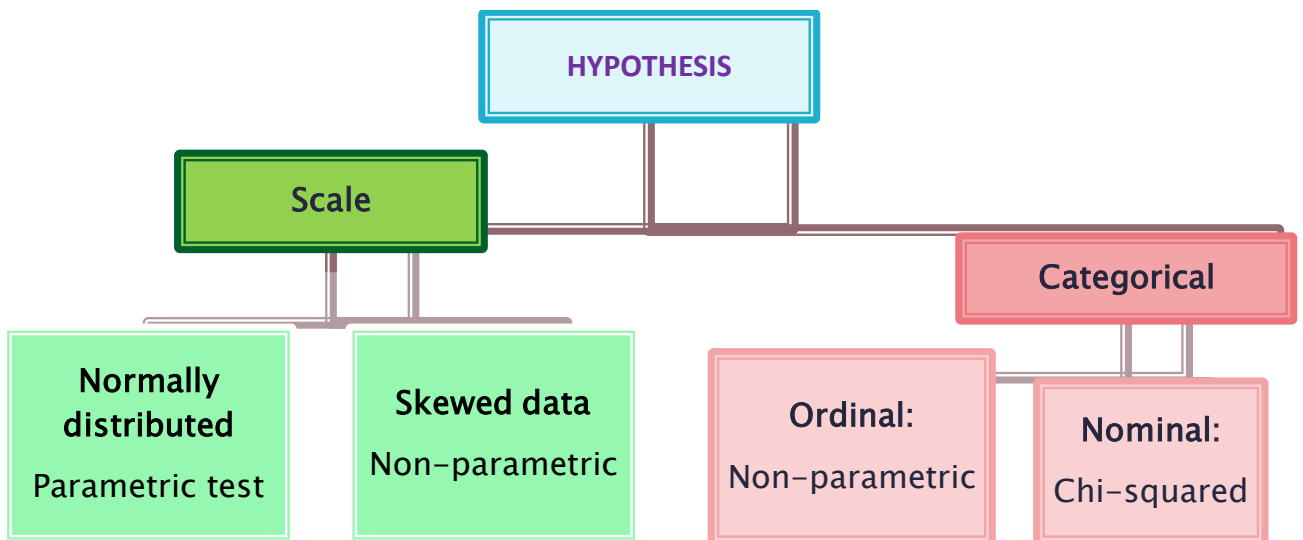


Fig2: Flow Works

### Review of related literature

**Sharma G et al. (2014)** a study to find out the effect of exercise programme after delivery had a comparable reduction in diastasis recti as those who started the program during their pregnancy. A retrospective analysis was done of 63 women who trained prenatal or postnatal, engaging in isometric contractions of the transverse abdominals, resistance training, and cardiovascular exercise, with the same certified postnatal trainer. Both the prenatal and postnatal groups showed significant improvement ( $P < .05$ ) in the reduction of postnatal rectus abdominal muscle separation. There was no significant difference in the final absolute separation measurement of the two groups. Women who started after delivery an exercise program aimed at reducing diastasis recti achieved the same reduction in diastasis recti as those who started the program during pregnancy.

**MohammadiF et al. (2014)** determined the effectiveness of home-based low-intensity stretching and breathing exercises on the reduction of 1 and 2 month post-partum depression (primary outcome) and fatigue (secondary outcome) scores. This study did not provide evidence to show that training women to do the home-based exercises during pregnancy or during pregnancy and post-partum period have a preventive effect on post-partum depression and fatigue.

### Methodology

To achieve the purpose of random group experimental study twenty postpartum women from govt. hospital from Bangalore aged 25 to 35 years were randomly selected as subjects under the supervision of medically qualified and experienced obstetrician and gynaecologist. All subjects filled in an Informed Consent Form to participate voluntarily in the investigation. They were assigned into two groups of which one group served as Experimental group (group I) and other group served as control group (group II).

Experimental group I underwent yogic practices for a period of eight weeks, three days in a week of 30min. then slowly increased to 60min. The control group II was not exposed to any training but in active rest. experimental group were practised loosening exercises, suryanamaskar, vrikshasana, paschimotasana, tadasana, ardhakatichakrasana, padahasthasana, ardhachakrasana, naukasana, shalabasana, pranayama, meditation, savasana. Flexibility assessed through and body mass index among postpartum women.

### Results and Discussions

The data pertaining to the variables collected from the two groups before and after the training period were statistically analysed by using Analysis of covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of confidence. The Analysis of Covariance (ANCOVA) on flexibility and body mass index of the experimental group (group I) and control group (group II) were analysed and are presented in tables I and II.

TABLE-I  
Analysis of covariance (ANCOVA) of data on flexibility between yogic practices and control groups

\*Significant at 0.05 level of confidence.

TEST	EXP. Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtained F
Pre Test	2.50	3.10	B	1.88	3	0.63	0.90
Std Dev	0.85	0.74	W	25.10	36	0.70	
Post Test Mean	4.80	3.80	B	14.48	3	4.83	4.29*
Std Dev	1.23	0.79	W	40.50	36	1.13	
Adjusted Post Test Mean	5.00	3.56	B	19.50	3	6.50	8.38*
			W	27.16	35	0.78	

Table F ratio at 0.05 level of confidence for 1 and 28(df)=4.19,1 and 27(df)=4.21

TABLE-II  
Analysis of covariance (ANCOVA) of data on BODY MASS INDEX between yogic practices and control groups

Test	IYT Group	Control Group	SOV	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	28.18	28.10	B	0.74	3	0.25	0.08
Std Dev	1.69	1.80	W	109.06	36	3.03	
Post Test Mean	27.19	28.05	B	6.18	3	2.06	0.78
Std Dev	1.44	1.77	W	94.84	36	2.63	
Adjusted Post Test Mean	27.08	28.00	B	5.05	3	1.68	3.44*
			W	17.11	35	0.49	

\*Significant at 0.05 level of confidence.

Table F ratio at 0.05 level of confidence for 1 and 28(df)=4.19, 1 and 27(df)=4.21  
The obtained F-ratio values were greater than the table value, it indicates that there was significant difference among the post test and adjusted post-test means of the experiment and control group on flexibility and body mass index among postpartum women.

The pre-test and post-test values of yogic practices and general mental alertness are graphically presented in figure I and II:

Test Statistic = $\frac{\text{between group variation}}{\text{within group variation}}$	Sum of squares	Degrees of freedom	Mean square	F-ratio (test statistic) $\frac{MS_{\text{Diet}}}{MS_{\text{Error}}}$
$SS_{\text{within}} = \sum_{j=1}^k \sum_{i=1}^n (x_{ij} - \bar{x}_j)^2$ between	71.045	2	35.522	6.193
$SS_{\text{Between}} = \sum_{j=1}^k n_j (\bar{x}_j - \bar{x}_T)^2$ within	430.180	75	5.736	5.661
SS $y = a + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3$ total	501.275	77	4.43	0.88

FIGURE-I:PRE TEST VALUE

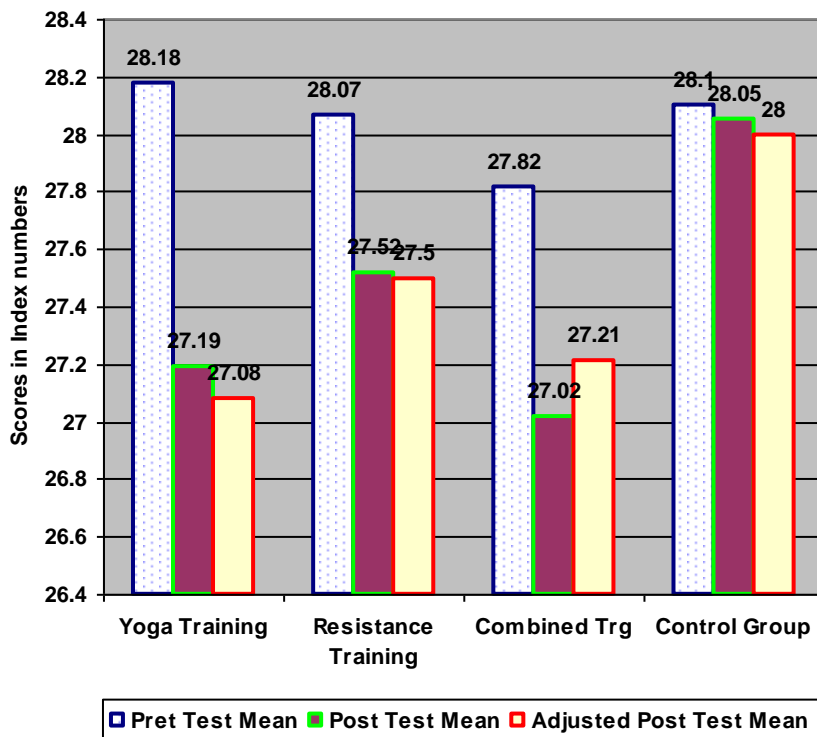
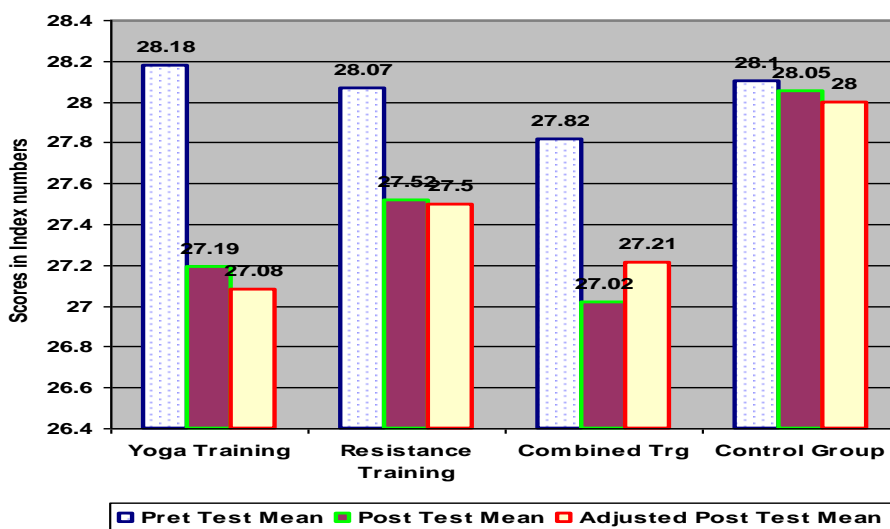


FIGURE-II: POST TEST VALUE



The results of the study showed that significantly increase in flexibility and significantly decrease in body mass index as a result of yogic practices than the control group among postpartum women.

The results of the study showed that significantly increase in flexibility and significantly decreased body mass index as a result of yogic practises. Hence the hypothesis was accepted at 0.05 level of confidence. Practices of yoga decreases body mass index and increase flexibility.

## Conclusion

1. It was concluded that there was significant improvement on flexibility due to yogic practices and pranayama among postpartum women.
2. It was concluded that there was significant decrease on body mass index due to yogic practices and pranayama among postpartum women.

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