



EFFECT OF YOGIC INTERVENTION ON PHYSIOLOGICAL VARIABLES AMONG ANTENATAL WOMEN

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ABSTRACT

The purpose of the study was to find out Influence of yoga intervention on physiological variables among the antenatal women. To achieve the purpose of the study 15 antenatal women in the age group of 27 to 35 years were selected from Karaikudi, Sivagangai District, Tamil Nadu. Pre tests were conducted for all the 15 subjects on selected physiological variables. The subjects were given yoga rehearses five days a week for twelve weeks from 6.30 to 7.30 a.m. Post test was conducted on the subjects on physiological dimensions such as Resting heart rate and Blood pressure. .Pre and Post test data were analyzed by applying Mean, SD and Paired samples't' test. The level of confidence was fixed at 0.05 levels. The training effects of yogic practices evidenced significant influence over the physiological related variables of antenatal women particularly by resting heart rate and mean arterial blood pressure levels were decreased.

KEYWORDS : Yoga Intervention, Resting Heart Rate, Mean Arterial Blood ,Pressure Antenatal Women

INTRODUCTION

Yoga poses may also help optimize the baby's position for birth, by allowing the pelvic bones and ligaments to open and move apart from each other. This allows the baby's head to find more room to nestle at the bottom of the uterus as delivery is near. Some yoga poses, like pelvic tilts, might even encourage a breech or posterior birth baby to turn into the head-down position that most hospitals require for a vaginal birth.

Despite all these reassuring benefits, though labor is complicated, and every woman's personal experience with it is different. Austin urges women not to believe that yoga is helpful only for women who choose to experience "natural," or drug-free, vaginal childbirth. Prenatal yoga can help a wide range of women, including those having an unexpected Cesarean section and those having a natural home birth or drug-free hospital birth. Yoga unites the body and mind, encourages deep relaxation, and strengthens and tones the muscles of the pelvic floor making it one of the best preparatory practices for birth. Yoga helps keep the body supple. Relieving tension around the cervix, by opening up the pelvic region. This prepares to be mothers for labor and delivery.

BENEFITS OF YOGA DURING PREGNANCY

Yoga helps reduce the effect of common symptoms such as morning sickness, painful leg cramps, swollen ankles and constipation. Yoga helps pregnant women recover faster post-delivery. Relieving edema (fluid retention) and cramping which can be quite common in the last months. Influencing the position of the baby and turning it in advance if needed. Strengthening and massaging the abdomen which help stimulate bowel action and appetite. Raising the level of energy while also helping in slowing the metabolism to restore calm and focus. Helping to reduce nausea, morning sickness and mood swings .Focus on relieving tension around the cervix and birth canal. Focus on opening the pelvis to make labor easier and quicker.

Research has connected "self-efficacy," or the level of confidence a woman has in her ability to perform a task, with easier and more satisfying labor and delivery experiences. One 1999 study found that high self-efficacy during the third trimester, when labor is looming, plays an important role in labor pain perception: Women stay in control of their bodies even during the most physically painful parts of the process. A study conducted in Taiwan directly connected regular yoga practice with the high self-efficacy that contributes to smoother deliveries. "Any kind of learned behavior of relaxation, breathing, or concentrating on a focal point can help," adds Adam Romoff, M.D., an ob-gyn at Lenox Hill Hospital in New York City.

HYPOTHESES

The purpose of the present investigation, the following hypotheses was formulated for this study.

1. It was hypothesized that there would not be any significant difference on the Resting Heart Rate among antenatal women.
2. It was hypothesized that there would not be any significant difference on Mean Arterial Blood Pressure among antenatal women.

LIMITATIONS

1. The heterogeneous characters of the subjects in hereditary and environmental factors were recognized as limitation.
2. The disparity prevailing in the internal and external factors which could have discouraged of motivated the subjects during training as well as testing period couldn't be controlled.
3. The uncontrollable changes in climatic conditions such as atmospheric temperature, humidity, and other meteorological factors during the pre and post tests were considered as limitations
4. The quantum of physical exertion, lifestyle and physiological stress and other factors that affect the metabolic functions were also considered as limitations.

DELIMITATIONS

The study was delimited in terms of sample and contents as follows:

1. The age of the subjects ranged between 27 and 35. All of them were antenatal women.
2. Single group design (Yogic practices)
3. The criterion variables selected for the study were confined to the following variables.

Physiological variable

- i. Resting heart rate
 - ii. Mean Arterial Blood Pressure
4. The Duration of the Training was for 12 Weeks
 5. The number of sessions per week varied from 5 to 6.
 6. During the experimentation the testing periods were restricted to 'pre' and 'post'.

In this study, the following variables were selected:

Criterion Variables

- Resting Heart rate
- Blood pressure

Independent Variables

- 12 weeks of Yoga Training

METHODOLOGY

Selection of the subjects:

The purpose of the study was to find out Influence of yoga intervention on designated physiological variables among the antenatal women. To achieve the purpose of the study 15 antenatal women in the age group of 27 to 35 years were selected from Karaikudi, Sivagangai District, Tamil Nadu. Single group design consisting of a pre-test and post – test was administered. The group was given yoga practices five days a week from 6.30 to 7.30 a.m.

Pre tests was conducted for all the 15 subjects on selected physiological variables. After the experimental period of twelve weeks post-test was conducted and the scores were recorded.

TRAINING PROGRAMME

Table I

S. No.	Yogic practice	Name	Duration (minutes)	Total (minutes)	Rest Between Asana
I	Asanas	1. Vakrasana	2	28 Minutes	30 Seconds
		2. Utkatasana	2		
		3. Konasana	2		
		4. Paryankasana	2		
		5. Hast Panangustasana	2		
		6. Bhadrasana	2		
		7. Parvatasana	2		
		8. Yastikasana	2		
		9. Tadasana	2		
		10. Virbhadrasana	2		
		11. Trikonasana	2		
		12. Uttanasana	2		
		13. Marjariasana	2		
		14. Shavasana	2		
		15. Viparita Karani	2		
		16. Bhrumari Pranayama			
		17. NadiShodhan Pranayama			
		18. Yoga Nidra			

TOOL AND TECHNIQUE

Table II Showing the Variables, Tests / Tools and the Unit of Measurement

S.No.	Variable	Test/tools	Unit of Measurement
1	Resting Heart rate	Digital Heart Rate Machine	No. of Beats
2	Blood pressure	Sphygmonameter	Mm/Hg

The following statistical techniques were used to find out the Influence of yoga rehearses on designated physiological variables among the antenatal women.

For the purpose of finding out any significant change in the variables due to training the data collected will be analyzed statistically using SPSS statistical package. After eliminating the influence of Pretest, the adjusted posttest means of single group was tested for significance using Mean, SD and Paired samples 't' test. The level of confidence is fixed at 0.05 levels as the number of subjects was limited.

RESULTS

COMPUTATION OF PAIRED SAMPLES t-test ON RESTING PULSE RATE

Table III

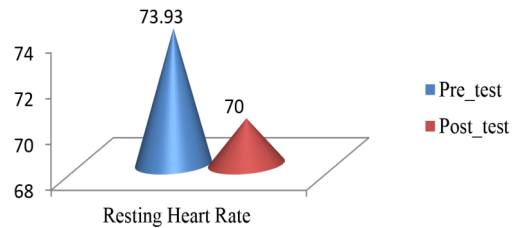
Variable	Pre-test		Post-test		Mean Deviation	SEM	t-ratio
	Mean	SD	Mean	SD			
Resting HeartRate	73.93	4.25	70.0	3.98	3.93	0.345	11.42*

*Significant at 14 df at 0.05 level 1.761

The Table III revealed that the obtained t-ratio between pre and post-test values of yoga training groups on physiological component of resting heart rate. The pre-test mean values of resting heart rate were 73.93 respectively. The post-test mean values of resting heart rate was 70.0 respectively. The obtained t-values of yoga training Group on resting heart rate was 11.42 with the required table value of 1.761. Since the obtained t-ratio was greater than the required table value of 1.761 at 0.05 level of confidence. It was observed that the mean gains statistically significant resulting that twelve weeks practice of yoga training showed positive sign as having the significant improvement in resting heart rate (3.93 P < 0.05). Hence this proved that there was significant difference on resting heart rate among antenatal women.

The mean value on resting heart rate was presented through bar diagram for better understanding of the results of this study in Figure I.

**FIGURE I
BAR DIAGRAM ON MEANS OF RESTING HEART RATE
(beats per minute)**



**TABLE IV
COMPUTATION OF PAIRED SAMPLES 't' test ON MEAN ARTERIAL BLOOD PRESSURE**

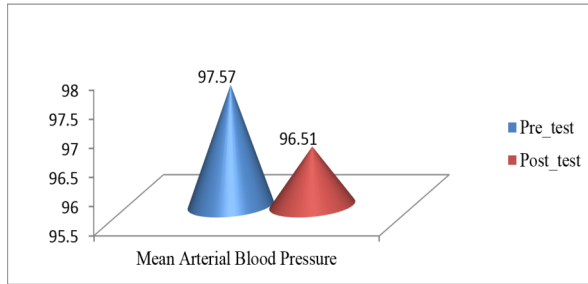
Variable	Pre-test		Post-test		Mean Deviation	SEM	t-ratio
	Mean	SD	Mean	SD			
Mean Arterial Blood Pressure	97.57	2.54	96.51	2.22	1.05	0.27	3.89

*Significant at 14 df at 0.05 level 1.761

The Table IV revealed that the obtained t-ratio between pre and post-test values of yoga training groups on physiological component of mean arterial blood pressure. The pre-test mean values of resting heart rate were 97.57 respectively. The post-test mean values of resting heart rate was 96.51 respectively. The obtained t-values of yoga training Group on mean arterial blood pressure was 3.89 with the required table value 1.761. Since the obtained t-ratio was greater than the required table value of 1.761 at 0.05 level of confidence, it was observed that the mean gains statistically significant resulting that twelve weeks practice of yoga training showed positive sign as having the significant improvement in resting heart rate (1.05 P < 0.05). Hence this proved that there was significant difference on mean arterial blood pressure among antenatal women.

The mean value on resting heart rate was presented through bar diagram for better understanding of the results of this study in Figure II.

FIGURE II
BAR DIAGRAM ON MEANS OF MEAN ARTERIAL BLOOD PRESSURE
(mm Hg)



DISCUSSIONS ON THE FINDINGS

RESTING HEART RATE

The study was in accordance to the study conducted by Telles, Set.al., (2004) who investigated that whether yoga reduces heart rate and whether the reduction would be more after 30 days of yoga training. Two groups (yoga and control, n = 12 each) were assessed on Day 1 and on Day 30. During the intervening 30 days, the yoga group received training in yoga techniques while the control group carried on with their routine. At each assessment the baseline heart rate was recorded for one minute. Both the baseline heart rate and the lowest heart rate achieved voluntarily during the six-minute period were significantly lower in the yoga group on Day 30 compared to Day 1 by a group average of 10.7 beats per minute (i.e., bpm) and 6.8 bpm, respectively. In contrast, there was no significant change in either the baseline heart rate or the lowest heart rate achieved voluntarily in the control group on Day 30 compared to Day 1.

ARTERIAL BLOOD PRESSURE

The study was in relation to the study conducted by Tejaswini D et al., (2016) which stated that the effects of yoga and pranayama on auditory and visual RT and on certain physiological parameters such as weight, body mass index, pulse rate, respiratory rate, systolic blood pressure, and diastolic blood pressure in normal and hypertensive subjects. It was carried on subjects between 30 and 60 years of age. Yoga and pranayama were more beneficial to hypertensive subjects. RT is an index of cortical arousal, and a decrease in it indicates an improved sensory-motor performance and an enhanced processing ability of the central nervous system.

CONCLUSIONS

Within the limitations, the results of present study seem to permit the following conclusion on antenatal women. The training effects of yogic practices evidenced significant influence over the physiological related variables of antenatal women. To mention in particular the Resting Heart Rate and Mean Arterial Blood Pressure levels were decreased.

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