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EFFECT OF YOGIC PRACTICES ON SYSTOLIC BLOOD PRESSURE AND STRESS AMONG MIGGLE-AGED WOMEN

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ABSTRACT:
The objective of the study is aimed to investigate the effects of yogic practices on Systolic blood pressure and Stress among middle-aged working women. 30 middle-age working women were selected from Chennai, between the age group of 35 and 55 years and they were divided into two groups I, and II with 15 subjects each. It was hypothesized that there would be significant differences among the middle-age women on Systolic blood pressure and Stress. Preliminary test was taken for two groups on Systolic blood pressure and Stress before the start of the training program. Group I subject were given yogic practices for 60 minutes, 6 days a week for a total period of twelve weeks. Group II (Control Group) were in active rest. After the experimental period, the two groups were retested again on the same selected dependent variable. Analysis of co-variance (ANCOVA) was used to find out the significant differences between the experimental group and the control group. The test of significance was fixed at 0.05 level of confidence. The results of the study proved that the experimental group showed significant differences on Systolic blood pressure and Stress than the control group due to yogic practices among middle-aged working women. The hypothesis was accepted at 0.05 level of confidence. Hence it is concluded that yogic practices are beneficial to the middle-aged working women to maintain beneficial Systolic blood pressure and reduction of Stress.

KEY WORDS: Yogic practices, Systolic Blood Pressure, Stress.

Middle-aged women face numerous challenges balancing work, family, and personal responsibilities, often leading to chronic stress and compromised health outcomes. Stress management interventions, such as yoga have gained attention for their potential to improve psychological and physiological well-being. Yoga, with its mind-body approach, promotes mindfulness, relaxation, improves flexibility, and reduces stress levels. (Brown & Ryan, 2003; Keng et al., 2011)

Systolic blood pressure indicates how much pressure the blood is exerting against the artery walls when the heart beats while diastolic pressure indicates how much pressure is exerted on the artillery walls in between beats. If the systolic blood pressure is less than 120/80 mm Hg, it is considered normal. As yoga is effective in activating the parasympathetic nervous system, it generally has a very healthy influence on the heart and the relaxation mechanisms of the body which further induces the healing processes. So, this is a very relevant parameter to study as a dependent variable. The breathing

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practices can be a great boon to stress management which is very vital for anyone and more for a middle-aged working woman who are juggling with several responsibilities.

OBJECTIVE OF THE STUDY

Due to Yogic practices among middle-aged working women the goal of this research was decided that if there exists a difference which has a meaning on physiological variable such as systolic blood pressure and psychological variable such as stress.

DECLARATION OF THE ISSUE

On middle-aged working women the effect of yogic practice on physiological variable such as systolic blood pressure and psychological variable such as stress which was the intention to determine.

HYPOTHESIS

Because of Yogic pursuits, it was speculated that there will be major variations in physiological variable such as systolic blood pressure and psychological variable such as stress among middle-aged working women than in the control group.

DELIMITATIONS

- The research was restricted only to women living in Chennai.
- The research was restricted only to middle-aged working women
- The subject age range was just between 35 and 55 years of age.
- The dependent variables are only Systolic blood pressure selected under the physiological component and Stress selected under the psychological component.
- The selected independent variable was only Yogic practices.

LIMITATIONS

- In this analysis, considerations such as social interactions were not considered.
- Factors such as family history and motivational factors were not considered in this analysis.
- Certain aspects were not considered into account such as environmental conditions, climate conditions, economic history, and even day-to-day jobs.
- Factors such as diet, medicine and personal habits were not considered in the study.

REVIEWS ON RELATED LITERATURE

Bhavanani et al. (2014) study found that regular participation in yogic practices significantly reduced systolic blood pressure and perceived stress in middle-aged women. The research emphasized the role of slow, controlled breathing exercises (pranayama) in enhancing parasympathetic nervous system activity, thereby promoting cardiovascular health and stress management.

Streeter et al. (2012) research suggests that yoga can act as a therapeutic intervention for stress reduction, which subsequently influences blood pressure regulation. Their findings indicated that yoga practices decrease cortisol levels, a biomarker of stress, and improve heart rate variability, indicating better autonomic control over cardiovascular function. This effect is particularly beneficial for middle-aged women, who often experience increased stress due to life transitions.

Cramer et al. (2014) meta analysis highlighted that yoga is an effective intervention for reducing systolic blood pressure in hypertensive patients, including middle-aged women. The analysis revealed that yoga, compared to no intervention, resulted in a moderate reduction in systolic blood pressure. The practice of yoga also led to improvements in psychological well-being by decreasing stress and anxiety

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levels, which are common issues in this demographic.

METHODOLOGY

60 were chosen, 45 were screened and 30 middle-aged working women were randomly selected from Chennai, between the age range of 35 and 55 years, and were split into two groups I and II, with 15 participants in each group, to accomplish the purpose of the random sample experimental sample. Before the start of the training, a preliminary evaluation for the two classes (I and II) on the selected dependent variables was performed.

For a cumulative duration of twelve weeks, Group I subjects were given Yogic practices for 60 minutes, six days a week. The training schedule of the experimental group are presented below in

Table1.YOGIC PRACTICES FOR THIRD 12 WEEKS – DURATION 60 MINUTES (6 DAYS A WEEK FROM 6:30 AM TO 7:30 AM)

SI NO	YOGIC PRACTICES	RATIO OF BREATH	REPETITION	DURATION OF PRACTICES (Min)	REST TIME (Min)
1	Stating Prayer	Normal Breathing	1	1	0
2	Pavanamuktasan Series – 1	Ujjayyi Breathing	5-8	15	2
3	Shashankasana	Normal Breathing	3	5	1
4	Setu Bandhasana	Normal Breathing	5-8	30 Sec	1
5	Marjariasana	Normal Breating	5-8	30 sec	1
6	Shavasana	Normal Breathing	NA	5	0
7	Anulom Vilom	Inhale: Exhale (1:1)	11	5	0
8	Bhramari Pranayama	Inhale: Exhale (1:1)	11	5	0
9	Yoga Nidra	Normal Breathing	NA	20	NA
10	Mantra Chanting	Normal Breathing	NA	5	0

Group II (Control Group) subjects were permitted to undergo their routine and normal lifestyle during experiment without any specific training. After twelve weeks, the two classes were retested on the same selected dependent variables, such as Systolic blood pressure and Stress.

To classify the significant differences between the control group and the study group, Co-Variance Analysis (ANCOVA) was used. At a degree of confidence of 0.05, the significance test was set.

RESULTS AND DISCUSSIONS

The statistical approach of Analysis of CoVariance (ANCOVA) was used to examine the variance between the 2 groups. Group I & group 2, 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 II represents the statistical values of systolic blood pressure.

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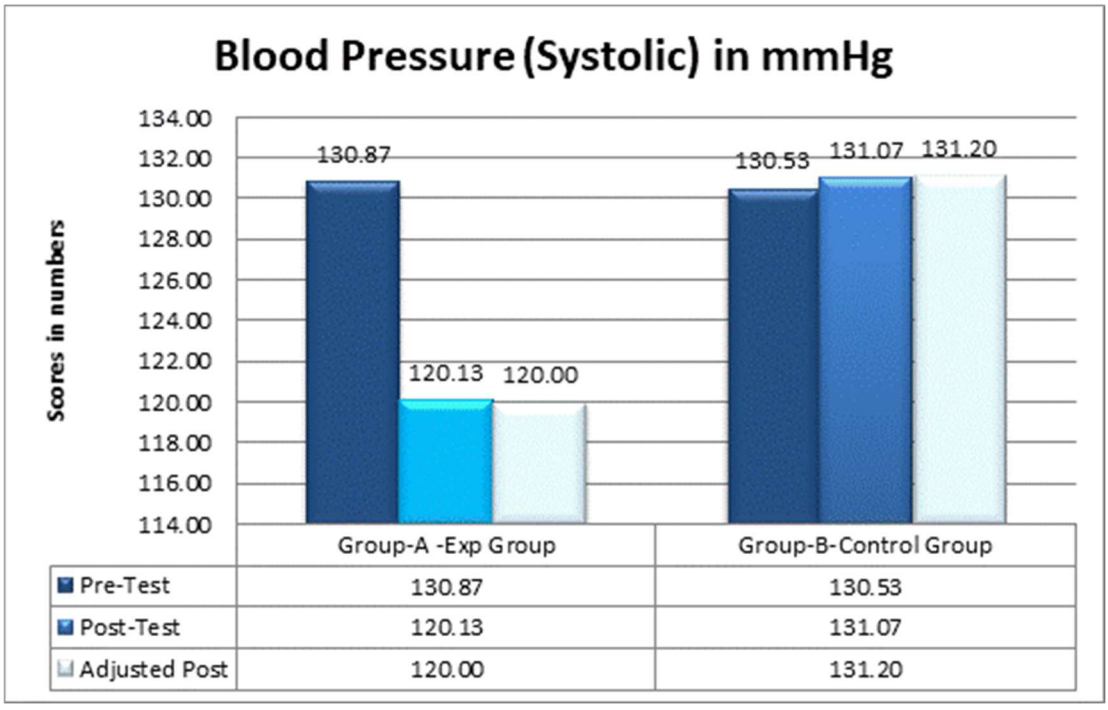
CALCULATIONS ON SYSTOLIC BLOOD PRESSURE (TABLE II)

Test	Group I	Control Group	Source of Variance	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio
Pre	130.87	130.53	Between	1	0.83	0.83	**0.01**
			With in	28	2887.87	103.12	
Post	120.13	131.06	Between	1	866.53	896.53	**8.05**
			With in	28	3116.67	111.31	
Adjusted Post	119.99	131.20	Between	1	942.13	942.13	**22.43**
			With in	27	1133.90	42.00	

The taken F value for pre, post and adjusted post are 0.01,8.05 and 22.43 respectively and the post and adjusted post scores of F ratio are greater than 4.2. This evidently shows the effectiveness of the workout for the systolic blood pressure among middle-aged women and studies are coherent with the study of **Bhavanani et al. (2014)** and **Streeter et al. (2012)**. The pictorial representation is presented below:



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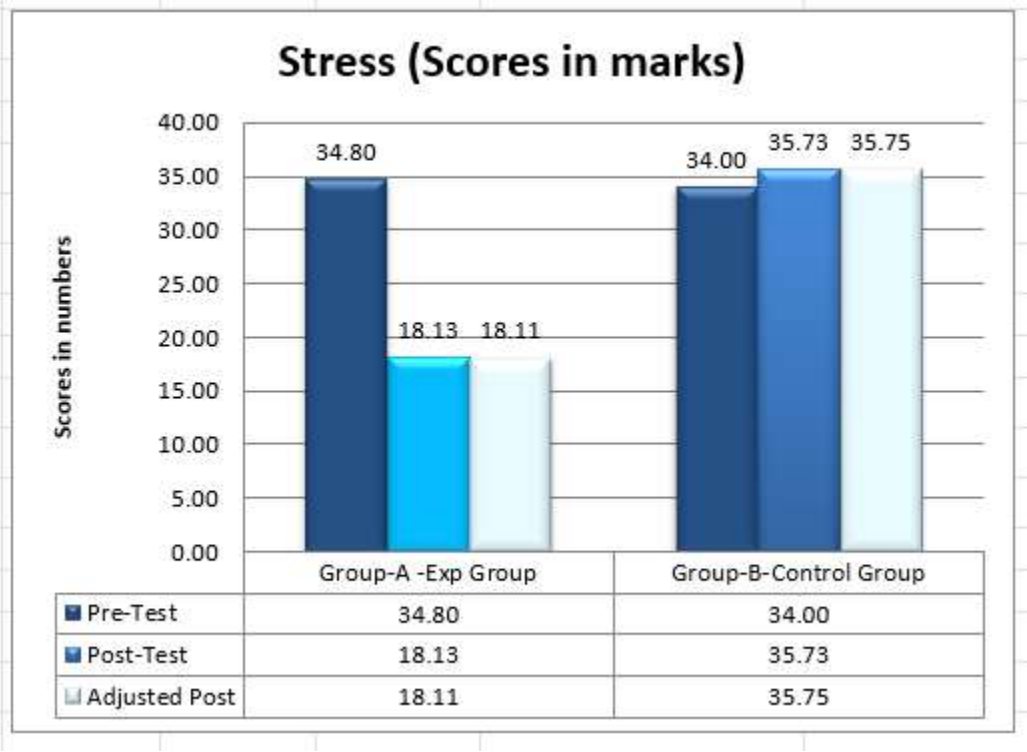
The Table III represents the statistical values of systolic blood pressure.

CALCULATIONS ON SYSTOLIC STRESS (TABLE III)

Test	Group I	Control Group	Source of Variance	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio
Pre	34.80	34.00	Between	1	4.80	4.80	**0.43**
			With in	28	312.40	11.16	
Post	18.13	35.73	Between	1	2323.20	2323.20	**356.11**
			With in	28	182.67	6.52	
Adjusted Post	18.11	35.75	Between	1	2297.64	2297.64	**340.85**
			With in	27	182.00	6.74	

The taken F values for pre, post and adjusted post are 0.43,356.11 and 340.85 respectively and the post and adjusted post scores of F ratio are greater than 4.2. This evidently shows the effectiveness of the workout for the Stress among middle-aged women and studies are coherent with the study of **Bhavanani et al. (2014)** and **Streeter et al. (2012)**. The pictorial representation is presented below:



DISCUSSION ON HYPOTHESIS

It was hypothesized that there would be significant differences on selected physiological variable such

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as systolic blood pressure and psychological variable such as stress to yogic practices among middle-aged working women than the control group. The results proved that there were significant differences on systolic blood pressure and stress (decreased) due to yogic practices than the control group among middle-aged working women.

CONCLUSION

It was concluded that yogic practices decreased systolic blood pressure and stress significantly among middle-aged working women. Hence, yogic practices are beneficial to middle-aged working women to maintain systolic blood pressure and reduce stress levels which promotes good physical and mental health and well-being

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