

# EFFECT OF YOGA PRACTICES ON SELECTED PHYSIOLOGICAL VARIABLES AMONG MIDDLE AGED WOMEN

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## ABSTRACT:

**Background:** One of the most profound health issues in the developing as well as developed countries middle aged women facing so many health related problems increasing obesity rate. Research has demonstrated that obesity leads to many health complications, such as heart disease, diabetes, cancer, hyperlipidaemia, and hypertension. We want to know long term benefits of regular yogic practices. **Purpose:** this study investigated the effect of yoga practices on selected physiological variables among middle aged women. **Materials and methods:** Therefore the purpose of the study was to examine sedentary middle aged women. The subjects and their age was ranged between 40 to 55 years. All the subjects were assigned to one experimental group and one control group each group consisting of 15 subjects. Yoga training was given to experimental group (Yogic practices). No training was provided to Control group. 12 weeks training was given to experimental group. The dependent 't' test was applied to determine the difference between the means of two groups. To find out whether there was any significant difference between the experimental and control groups. To test the level of significant of difference between the means 0.05 level of confidence was fixed. **Results:** The result of the study shows that, there was a significant improvement takes place on systolic blood pressure, diastolic blood pressure and body mass index of middle aged women. **Conclusions:** Improved of systolic blood pressure, diastolic blood pressure and body mass index after regular yogic practices is beneficial for middle aged women. Therefore yoga practices covered in this study are beneficial for the middle aged women.

## Keywords:

Yoga Practices, Middle Aged Women, Physiological Variables.

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## Introduction:

The Middle-age persons are more accepting of the differences in body shape and sizes; and for ladies who exercise, a progressive association has been found between body satisfaction, age and experience of greater self-esteem. (Paxton & Phytian, 1999; Wilcox, 1997) Similarly, it has been noted that women generally show larger weight-related concerns (i.e., physical appearance, eating, and body weight) across the life span compared to men.(Pliner. Chaiken. & Flett, 1990)The study involving 15,550 adults aged 53-57 years, found that regular yoga practice or more was associated with attenuated weight gain, especially among people who were overweight.(Kristal AR, 2005).

The intensive yoga course reduced the BMI as well as waist and hip circumference,

decreased total cholesterol, improved posture and stability.(Telles S, 2010). Long-term yoga practitioners showed that females over 45 years were declines in BMI (Moliver N, 2011).

The positive effect of YI clinical trials on weight-related outcome measures such as BMI, body weight, body fat% , FM, WC, HC waist-to-hip ratio, and LM have recently been reviewed. Concluded to be an appropriate and potentially successful lifestyle intervention for weight maintenance, prevention of obesity and risk reduction for obesity-associated diseases. Findings which are further supported by the data presented here and obtained from a reasonably large sample size of middle-aged and older people long study period (i.e., 1-year). (Rioux jg. 2013) As well, middle-aged women who express distress can be characterized as being disappointed with their

accomplishments, self-denigrating, ashamed of their body, demoralized by their appearance, and lacking the belief they are as important as others and deserve the life they wish to have.(McQuaide, 1990)

Thus, the aging process it self, which tend to become first noticeable in middle-age, can affect the way in which the body is viewed. While positive change does appear to be occurring for some women during middle-age, the influence of cultural pressures and stereotypes continue to affect women's thoughts and feelings about aging and their bodies. These eight paths of yoga are thought to result in a 'well-rounded' and healthy individual. It has been described as a fast emerging discipline allowing for the mind and body to become harmonized. (Harinath, Malhotra, Pal. Prasad, Kumar, Kain, Rai, & Sawhney, 2004)

An overview of clinical outcomes has outlined several positive benefits associated with yoga practice including: decreased BP, HR, sympathetic stimulation, carpal tunnel syndrome symptoms, and muscle stiffness; increased parasympathetic tone, range of motion, body strength/stamina/flexibility, and balance; better oxygenation and circulation of the blood; enhanced mental alertness, concentration, focus, and memory; and improved efficiency of breathing.(Ross a. a., 2001) To the best of our

knowledge, no previous research has investigated the effects of yoga practices on selected physiological variables among middle aged women.

### Methods:

The purpose of the study was to find out the effects of yoga practices on selected physiological variables among middle aged women. To achieve the purpose of the study, thirty middle aged women were selected from in and around Chennai city. The subjects were randomly assigned in to two equal groups namely, Yoga Practices group (YPG) (n=15) and Control group (CG) (n=15). A pilot study was conducted to assess the initial capacity of the subjects in order to fix the load. The respective training was given to the experimental group the 5 days per weeks (alternate days) for the training period of 12 weeks. The control group was not given any sort of training except their routine. **Design:** The Physiological variables such as systolic blood pressure, diastolic blood pressure and Body mass index were selected as dependent variables. systolic blood pressure, diastolic blood pressure was tested Citizen make digital B.P monitor unit measurement in mm Hg, Flexibility was tested by Sit and reach test unit of measurement in centimetres and BMI was tested by kg/m<sup>2</sup>.

**Table – I: MEAN, STANDARD DEVIATION AND MEAN DIFFERENCE OF THE GROUPS AND THE “t” TEST OF THE CONTROL GROUP AND THE EXPERIMENTAL GROUP FOR BLOOD PRESSURE (SYSTOLIC)**

| Group        | Test      | N  | Mean   | SD    | MD   | T     |
|--------------|-----------|----|--------|-------|------|-------|
| Control      | Pre Test  | 15 | 145.13 | 14.99 | 3.67 | 0.20  |
|              | Post Test | 15 | 141.46 | 16.36 |      |       |
| Experimental | Pre Test  | 15 | 159.46 | 12.19 | 24.4 | 7.69* |
|              | Post Test | 15 | 135.06 | 5.79  |      |       |

\*Significant at 0.05 level of confidence

‘t’ ratio at 0.05 level of confidence for the degree of freedom (df) at 28=2.048

The table I shows that the pre test means of control group and experimental group were

145.13 and 159.46 respectively. The pre test standard deviation of the control group and the

experimental group were 14.99 and 12.19 respectively. Table I shows that the post test means of the control group and the experimental group were 141.46 and 135.06 respectively. The post test standard deviation of the control group and the experimental group were 16.36 and 5.79 respectively. The mean difference between the control group and the experimental group were 3.67 and 24.4 respectively. Table I shows that the pre test mean and the post test mean of the

experimental group were 159.46 and 135.06 respectively. The standard deviation of the pre test and the post test of the experimental group were 12.19 and 5.79 respectively.

The obtained 't' value 7.69 of the experimental group with respect to the blood pressure(systolic) levels was significantly higher than the required 't' value (2.021) and it is proven that there is a significant difference in the blood pressure(systolic) levels of the experimental group

**Table - II**

**MEAN, STANDART DEVIATION AND MEAN DIFFERENCE OF THE GROUPS AND THE 't' TEST OF THE CONTROL GROUP AND THE EXPERIMENTAL GROUP FOR BLOOD PRESSURE (DIASTOLIC)**

| Group        | Test      | N  | Mean  | SD   | MD   | T     |
|--------------|-----------|----|-------|------|------|-------|
| Control      | Pre Test  | 15 | 80.6  | 6.67 | 1.74 | 0.02  |
|              | Post Test | 15 | 78.86 | 4.62 |      |       |
| Experimental | Pre Test  | 15 | 82.26 | 1.33 | 1.33 | 5.60* |
|              | Post Test | 15 | 80.93 | 1.74 |      |       |

\*Significant at 0.05 level of confidence

"t' ratio at 0.05 level of confidence for the degree of freedom (df) at 28=2.048

Table II shows that the pre test means of control group and the experimental group were 80.6 and 82.26 respectively. The pre test standard deviation of the control group and the experimental group were 6.67 and 1.33 respectively. Table II shows that the post test means of control group and the experimental group were 78.86 and 80.93 respectively. The post test standard deviation of the control group and experimental group were 4.62 and 1.74 respectively. The mean difference between the control group and the experimental group were 1.74 and 1.33 respectively, Table II shows that

the pre test mean and the post test mean of the experimental group were 82.26 and 80.93 respectively. The standard deviation of the pre test and post test of the experimental group were 1.33 and 1.74 respectively.

The obtained 't' value 5.60 of the experimental group with respect to the blood pressure (diastolic) levels was significantly higher than the required 't' value (2.048) and it is proven that there is a significant difference in the blood pressure (diastolic) levels of the experimental group.

**Table - III**

**MEAN, STANDARD DEVIATION AND MEAN DIFFERENCE OF THE GROUPS AND THE "t" TEST OF THE CONTROL GROUP AND THE EXPERIMENTAL GROUP FOR BMI (Body Mass Index)**

| Group              | Test      | N  | Mean  | SD   | MD   | T     |
|--------------------|-----------|----|-------|------|------|-------|
| Control Group      | Pre Test  | 15 | 27.4  | 2.07 | 1.06 | 0.77  |
|                    | Post Test | 15 | 26.34 | 2.00 |      |       |
| Experimental Group | Pre Test  | 15 | 31.85 | 2.17 | 5.51 | 5.97* |
|                    | Post Test | 15 | 26.34 | 3.48 |      |       |

\*Significant at 0.05 level of confidence

“t’ ratio at 0.05 level of confidence for the degree of freedom (df) at 28=2.048

The table III shows that the pre test means of control group and experimental group were 27.4 and 31.85 respectively. The pre test standard deviation of the control group and the experimental group were 2.07 and 2.17 respectively. Table III shows that the post test means of the control group and the experimental group were 26.34 and 26.34 respectively. The post test standard deviation of the control group and the experimental group were 2.00 and 3.48 respectively. The mean difference between the control group and the experimental group were 1.06 and 5.51 respectively. Table III shows that the pre test mean and the post test mean of the experimental group were 31.85 and 26.34 respectively. The standard deviation of the pre test and the post test of the experimental group were 2.17 and 3.48 respectively.

The obtained ‘t’ value 5.978 of the experimental group with respect to the BMI levels was significantly higher than the required ‘t’ value (2.048) and it is proven that there is a significant difference in the BMI levels of the experimental group.

### Discussion on Findings:

The result of this study on systolic blood pressure has in line with the study conducted by Peter Lang (1997). The result of this study on diastolic blood pressure has in line with the study conducted by R.K.Wallace (1992). The result of this study on BMI is in line with the study conducted by Bijalani, (2000).

### Conclusion:

It was concluded Systolic/Diastolic Blood Pressure of the experimental group showed considerable progress when compared to the control group. BMI ( Body mass Index) showed noteworthy improvement when compared to the control group.

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