

A STUDY TO ASSESS THE EFFECT OF PRANAYAMA ON LEVEL OF BLOOD PRESSURE AMONG MENOPAUSAL WOMEN IN NAMAKKAL DISTRICT.

*¹Mrs.T.Jayadeepa, ²Dr.P.Muthulakshmi, ³Dr.E.Kayalvizhi & ⁴ Dr.A.Malarvizhi

¹ Ph.D Scholar, MAHER University, Chennai, Tamilnadu, India & Vice Principal, Department of Obstetrics and Gynaecological Nursing, Dhanvantri College of Nursing, Pallakkapalayam, Namakkal(Dt), Tamilnadu, India.

²Principal, Department of Obstetrics and Gynaecological Nursing, PPG College of Nursing, Saravanampatti, Coimbatore, Tamilnadu, India.

³Associate Professor, Department of Physiology, Meenakshi Medical College Hospital and Research Institute, Kanchipuram, Tamilnadu, India.

⁴ Assistant Professor, Department of Microbiology, Vivekanandha College of Arts and Sciences for women, Tiruchengode, Tamilnadu, India.

ABSTRACT:

Hypertension is a major chronic lifestyle disease and an important public health problem worldwide. **Objectives:** To assess the effect of Pranayama on level of Blood pressure among menopausal women. **Materials and Methods:** A Pre experimental research where one group pre and post test design. **Samples:** Menopausal women with Blood pressure living in Namakkal (Dt). **Sampling Technique:** Purposive sampling technique was used to select the sample. **Tool:** Blood pressure Assessment Chart was used to assess the level of Blood pressure. **Results:** The study findings reveals that the pre test scores on level of blood pressure after Pranayama among menopausal women shows that 65% of the menopausal women had severe BP, 25% of them had moderate level of BP and in posttest, 70% of menopausal women had mild BP and 20% of the menopausal women had normal BP. Paired 't' test scores on level of blood pressure was 7.483. It was significant when compared to table value (2.093). **Conclusion:** There was no significant association between post test scores on level of Blood pressure among menopausal women. **It concluded that Pranayama was effective in reducing the Blood pressure among menopausal women.**

KEY WORDS: Pranayama, Blood pressure & Menopausal Women

INTRODUCTION:

Menopause means the natural and permanent stopping of the monthly female reproductive cycles, which is usually a manifest of a permanent absence of monthly periods and menstruation. Like menarche, menopause is an important development event in a woman's life having physical, psychological and facial implication for the women. Menopausal women suffers from many problems such as hot flushes, headache, profuse night sweating, BP, fatigue, hair loss, insomnia, weight gain, joint pain, muscle pain, dry skin, vaginal dryness and mood disorders and there is a need to overcome this unsatisfied life event, (Shaw's 2002).

Gimbel (2008) stated that Hatha yoga creates balance, physically and emotionally, by using postures, or asanas, combined with breathing techniques, or pranayama. Dhungel, et al., (2008) conducted a study to identify the effect of alternative nostril breathing exercise on cardio respiratory functions. Samples performed alternative nostril breathing exercise for 15 minutes in the morning for 4 weeks and the results showed that there was a significant increment in peak expiratory flow rate (PEFR)L/min, pulse pressure (pp), decrease in systolic blood pressure and respiratory rate(RR) and it concluded that Pranayama was very effective in decreasing the blood pressure.

Ne hadi et al. (2007) conducted a study to evaluate the outcome of yoga on physical and mental health who attended yoga classes for 6 months. There was a significant improvement in scores for all health items. It is concluded that yoga can improve physical and mental health and promotes well-being.

Several authors have reported significant reductions in resting BP in healthy participants after 4 weeks of practicing alternate nostril breathing (**Bhargava R, Gogate MG, 1988**). An 8-week study also reported similar significant reductions in resting BP after a single 15-minute session of alternate nostril breathing as well as progressive BP reductions with longer practice (**Srivastava RD, Jain N, 2005**) Additionally a recent 12-week study reported significant reductions in BP in normotensive participants studying *Mukh Bhastrika pranamyama* (**Veerabhadrapa S, Baljoshi V, 2011**).

Being it is a common problem, researcher showed much interest in treating the menopausal symptoms. Even in literature yoga was to be safe and effective to treat the menopausal symptoms. So, Researcher would like to undertake this project.

Objectives:

- ✓ To assess the level of blood pressure among menopausal women before and after Pranayama.
- ✓ To assess the effectiveness of Pranayama on level of blood pressure among menopausal women.
- ✓ To find out the association between post test score on level of blood pressure among menopausal women with their demographic variables.

MATERIALS AND METHODS:

3.1 Research Approach and Design:

It is an Evaluative research approach with Pre experimental research where one group pre and post test design. The setting for study was Mahalakshmi Nagar, Namakkal (Dt). The samples for the present study were menopausal women in Mahalakshmi Nagar, Namakkal (Dt), who fulfill the sampling criteria. The sample size was 20 menopausal women, and "Purposive sampling technique" was used to select the sample.

Scoring Procedure for Blood Pressure Assessment

Level Of Blood Pressure	Level of score	Category	Actual Score		Percentage of scores
			Systolic BP	Diastolic BP	
Normal BP	1	Normal	80 - 120 mm Hg	60 - 80 mm Hg	Below 20
Elevated (Pre Hypertension)	2	Mild	120 - 139 mm Hg	80 - 89 mm Hg	21 - 40
High BP (Hypertension Stage 1)	3	Moderate	140 - 159 mm Hg	90 - 99 mm Hg	41- 60
High BP (Hypertension Stage 2)	4	Severe	160 or Higher mm Hg	100 or Higher mm Hg	61 – 80
High BP Crisis (seek Emergency Care)	5	Very Severe	Higher than 180 mm Hg	Higher than 110 mm Hg	81 – 100

3.2 The inclusion criteria for the study were Menopausal women,

- ✓ Age group between 45- 60 years
- ✓ Who were in normal physiological process
- ✓ With Blood pressure.
- ✓ Who scored more than 20 – 80 in Blood Pressure Assessment Chart.
- ✓ Who gave consent to participate in this study
- ✓ Who were able to understand and speak Tamil

Along with Demographic variables, Blood Pressure Assessment Chart was used to identify the level of Blood pressure among menopausal women.

- ✓ Pre test screening was conducted by using Blood Pressure Assessment Chart to assess the level of Blood pressure.
- ✓ Pranayama (Duration of 10- 15 minutes) twice in a day for 1 week was demonstrated to menopausal women.
- ✓ Posttest was conducted with same pretest tool after 1 week.

3.3 Validity and Reliability:

- ✓ The content validity of the demographic variables and Blood Pressure Assessment Chart was validated in consultation with guide and field of experts. The tool was modified according to the suggestions and recommendations of the experts

- ✓ Split Half method (Cronbach's Alpha) was used to find out the reliability of the Blood Pressure Assessment Chart ($r^1 = 0.87$)
- ✓ The statistical analysis was done by Descriptive Statistics: Frequency & Percentage. Mean and Standard Deviation and Inferential Statistics by Mean and Standard Deviation, 't' test and Chi – square test

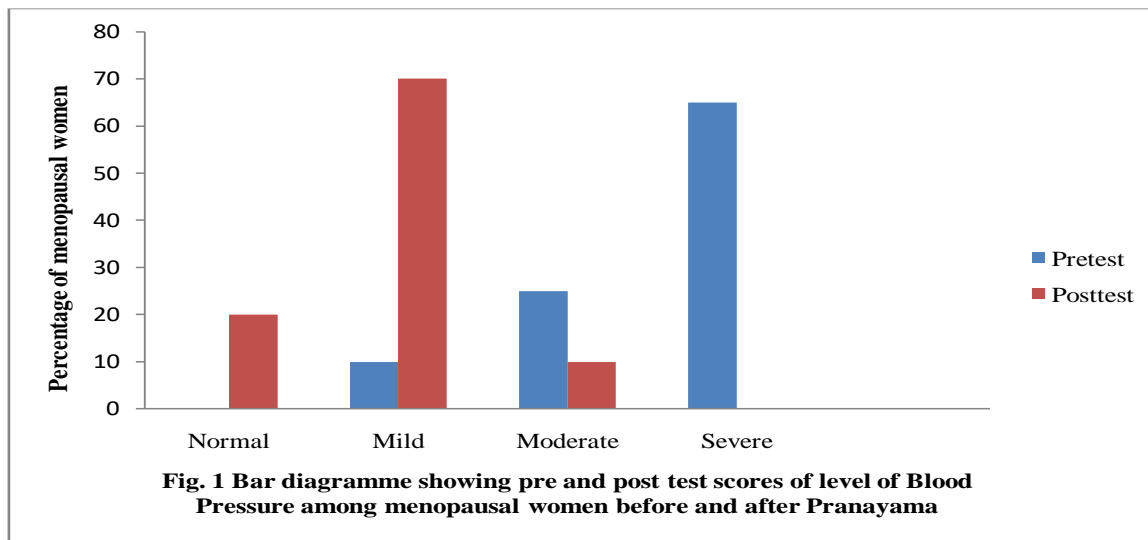
Results:**Table: 1****Section A: Frequency and percentage distribution of samples according to their demographic variables**

Demographic Variables	Menopausal women (N = 20)	
	Frequency	Percentage
Age in Years		
45 – 48	4	20
49 – 52	4	25
53 – 56	7	35
57 – 60	5	25
Socioeconomic status		
Rs.1000 – Rs. 2000	6	30
Rs.2001 – Rs. 3000	4	20
Rs.3001 – Rs. 4000	4	20
Rs.4001 and > above	5	25
Education		
No formal education	5	25
Primary education	6	30
Secondary education	6	30
Higher secondary education	1	5
Graduate	2	10
Occupation		
Housewife	6	30
Sedentary workers	6	30
Moderate workers	5	25
Heavy workers	3	15
Dietary pattern		
Vegetarian	5	25
Mixed diets	15	75

Section B:**Table: 2: Frequency and percentage distribution of pre and post test scores of level of Blood Pressure among menopausal women before and after Pranayama.**

Level of Blood Pressure	Menopausal women (N= 20)			
	Pre test score		Post test score	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
Normal	-	-	4	20
Mild	2	10	14	70
Moderate	5	25	2	10
Severe	13	65	-	-
Very severe	-	-	-	-

In pre & post test scores on level of Blood Pressure among menopausal women depicts that in pretest, majority 13 (65%) of them had severe BP and 5 (25%) of menopausal women had moderate BP and 2 (10%) of them mild BP whereas in post test, majority 14 (70%) of them had Mild BP, 4(20%) of them had normal BP and 2 (10%) of them had moderate BP. **It seems that Pranayama was effective in reducing the Blood Pressure among menopausal women.** The result was similar to a study conducted by (Satyanand V, Bhakthavatsala Reddy et.,al, Nellore, Andhra Pradesh, Tamilnadu, 2016) that After 3 months of Yoga and pranayama practice, the mean value of systolic blood pressure is 122.3 ± 4.3 mmHg and diastolic blood pressure is 81.7 ± 4.5 mmHg in yoga group. Whereas, in control group, the mean value of systolic blood pressure is 127.5 ± 5.9 mmHg and diastolic blood pressure is 84.4 ± 4.1 mmHg. There was significant difference observed in SBP and DBP levels between first and last visit in yoga and control group. But, DBP shows complete normal in yoga group than compare with control group.



Section C:

Table: 3: Mean and SD score of Pranayama on level of BP among menopausal women

S. No	Level of BP	Max. Scores	Menopausal women						Difference in Mean (%)
			Pretest			Posttest			
			Mean	SD	Mean (%)	Mean	SD	Mean (%)	
1.	Pranayama	5	3.613	1.297	58.13	1.54	0.653	34.69	23.44

Table: 4 Paired ‘t’ values of Pre and Post test scores of level of Blood Pressure among menopausal women Pranayama

S.No	Menopausal Symptoms	Menopausal women	
		Paired ‘t’ Value	Level of Significance
1	Level of Blood Pressure	7.483	Significant

df – 19 (n-1) Table Value = 2.093 (P < 0.05 Significant)

Paired ‘t’ test scores on level of blood pressure was 7.483. It was significant when compared to table value (2.093) and shows that Pranayama was effective in reducing the level of blood pressure among menopausal women.

Conclusion:

- ✓ Prior to implementation of Pranayama, menopausal women had severe and moderate level of blood pressure. The effectiveness was evaluated by post test scores; the mean post test score on level of blood pressure was reduced from 58.13 to 34.67 after Pranayama with the difference in mean % (23.44%). The study results shows that menopausal women showed significant reduction in the level of blood pressure (P<0.05).
- ✓ No significant association was found between post test level of blood pressure scores and their demographic variables.

DISCUSSION:

Highest percentage (35%) of women were in the age group of 53- 56 years ,30% of them were in the socioeconomic status of Rs. 1000 – 2000/- . 30% of them had secondary school education. Similar percentage (30%) was housewives and sedentary workers. Most of the menopausal women (75%) were vegetarian. The study findings reveals that the pre test scores on level of blood pressure after Pranayama among menopausal women shows that 65% of the menopausal women had severe BP, 25% of them had moderate symptoms and in posttest, 70% of menopausal women had mild BP and 20% of the menopausal women had normal BP . Paired ‘t’ test scores on level of Blood Pressure among menopausal women after Pranayama shows

significant difference and it revealed that the Pranayama was effective in reducing the level of blood pressure among menopausal women. There was no significant association between post test levels of blood pressure scores when compared to demographic variables.

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