

# “ EFFECTIVENESS OF STRETCH RELEASE RELAXATION EXERCISE ON BLOOD PRESSURE AMONG PATIENTS WITH HYPERTENSION IN SELECTED HOSPITAL AT CHENNAI”.

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## ABSTRACT

**Objective:** The aim of the study was to find out the effectiveness of stretch release relaxation Exercise (SRRE) on blood pressure and associate with demographic variables among patients with hypertension in selected hospital at Chennai. **Methods:** An experimental design was selected with a sample size of 60 patients (study group 30 and control group 30). After the Pre-test assessment of BP in both the groups, the study group patients alone performed the stretch release relaxation exercise for 30 days. Pre and post exercise effect was assessed for the both groups with the same tool and data was analyzed by using descriptive and inferential statistics. **Results:** There was an increased mean difference in the study group systolic/diastolic BP (15.2/7.3) than the mean difference in the control group systolic/diastolic BP (2.6/1.2) which was significant at  $p < 0.05$ . **Conclusion:** The findings of the study concluded that the stretch release relaxation exercise was effective in reducing the Blood pressure.

**Keywords:** stretch release relaxation exercise, effectiveness, blood pressure .

## **INTRODUCTION**

Hypertension is a common condition comprising a major health problem worldwide. Hypertension (HTN) is estimated to cause 4.5% of current global disease burden and is prevalent in many developing countries<sup>1</sup>. Blood pressure induced cardiovascular risk. But worldwide the majority of diagnosed hypertension is inadequately controlled. Hypertension is a condition that affects almost 1 billion people worldwide which is a leading cause and around half of all deaths from stroke and heart disease. In 2012, 28.6% of the U.S. population had hypertension. Hypertension prevalence has also been increasing in other countries, and an estimated 972 million people in the world suffer from this problem<sup>2</sup>. In India 23% of the people are hypertensive and one third of them are not even aware that they are hypertensive. Therefore, this disease is called as “silent killer.” It is the most prevalent chronic disease in India with increasing prevalence of 20-40% among urban adults and 12-17% among rural adults. The prevalence of hypertension ranges from the number of people with hypertension is projected to increase from

118 million in 2000 to 214 million in 2025, with nearly equal numbers of men and women. About 33% urban and 25% rural Indians are hypertensive, hence, 25% rural and 42% urban Indians are aware of their hypertensive status and 25% were on medication but their BP is above the safe level. Among 20.6% of global hypertensive patients, 20.9% are Indian men and women. In India (2015) WHO survey indicates that 75% of the people affected by hypertension.<sup>3</sup> WHO recommends for alternative therapies to control HTN. **Yung p, French, p. et al., (2015)** highlighted that the stretch release relaxation and the cognitive imagery relaxation Complementary therapies could reduce blood pressure in 9 mild hypertensive patients in Hong Kong, but stretch release relaxation therapies appeared to be more effective in lowering blood pressure compared to cognitive imagery relaxation<sup>3</sup>.

## **Materials and methods**

The study was conducted from October 2015 to November 2015 in a multispecialty hospital in Chennai, India. The Institutional Ethical Committee" approved the study. Experimental approach with two group, pre-posttest design was adopted. The study comprised of all patients diagnosed with mild hypertension aged between 35 – 65 years, 60 patients selected through a simple random sampling method. After the verbal explanation about this study written consent was taken from each patients. The demographic variables such as age, sex, religion, occupation, number of working hours per day, type of family, marital status, family history of hypertension, dietary pattern, personal habit and family income were assessed. The blood pressure was measured by mercury sphygmomanometer. Blood Pressure category; Systolic BP/ Diastolic BP: Mild hypertension, 140-159 /90-99 mm Hg, Moderate hypertension, 160-199/100-110 mm Hg and Severe hypertension > 199/110 mm Hg. The Investigator divided the study group with 5 patients in each group. The Stretch Release Relaxation Exercise (shoulder, neck, hands, feet, abdominal muscle, arms, and slow breathing exercise increases the joint passive range of motion and the blood circulation) was taught to the study group patients and every day the patients were instructed to do the exercise in the morning for 30 min with the investigator supervision for 30 days and the post exercise BP was measured. The control group continued the usual way of managing BP without Stretch Release Relaxation Exercise. Participants were asked to refrain from other forms of physical therapy during the study. They were not on any other anti-hypertension treatment. The investigator made sure that the patients

were comfortable during the Stretch Release Relaxation Exercise. The data was analyzed with descriptive and inferential statistical methods with significance level of  $p > 0.05$ .

### Result and Discussion

Demographic variables had not shown statistically significant association with blood pressure in posttest at  $p < 0.05$  (Table 1). The stretch release relaxation exercise was effective in reducing the Blood pressure among hypertensive patients with t value (systolic) 11 and (diastolic) 9.21 at  $p < 0.05$ . In the study group systolic and diastolic BP mean difference was 15.2 and 7.3 (Table 2). Which is in accordance with **Tarek Ammar** (2015)<sup>4</sup> who revealed that 12.27 (SBP) and 12.44 (DBP) mean difference in study group after aerobic exercise for three months among hypertensive postmenopausal women and that morning aerobic exercises were more effective in reducing the blood pressure. **Heartier Dickinson**, et al., (2008)<sup>5</sup> was in accordance with this study, who declared that, relaxation resulted in small, statistically significant reductions in SBP (mean difference: -5.5 mm Hg, 95% CI: -8.2 to -2.8) and DBP (mean difference: -3.5 mm Hg, 95% CI: -5.3 to -1.6) compared to the control clinical trial. **Gloria Y. Yeh**, et al (2008)<sup>6</sup> supported the present study findings with the study findings of The Effect of Tai Chi Exercise on Blood Pressure revealed that a statistically significant within-group reduction in mean BP after tai chi exercise, systolic BP (SBP) and diastolic BP (DBP) change in the tai chi group ranged from -7 to -32 mm Hg and -2.4 to -18 mm Hg, respectively. **Kathrotia R G et al** (2012)<sup>7</sup> was in accordance with this study, who highlighted the Effect Of Relaxation Technique On Blood Pressure In Essential Hypertension, that it reduces the systolic BP (pre 137.87 vs post 142.93 mm Hg).

### CONCLUSION

The findings showed that stretch release relaxation exercise significantly reduced the blood pressure and the demographic variables were not associated with blood pressure.

**Table-1. Distribution of demographic variables**

N=60

S. No	Items	Control Group		Study Group	
		n	%	n	%
1.	<b>Age ( In Years)</b>				
	a) 35-44Yrs	4	13.3	8	26.
	b) 45-54Yrs	17	56.7	12	7
	c) 55-65Yrs	9	30	10	40
				33.	3
2.	<b>Sex</b>				
	a) Male	17	56.7	13	43.
	b) Female	13	43.3	17	3
				56.	7

3.	<b>Religion</b> a) Hindu b) Christian c) Muslims	19 9 2	63.2 30 6.8	23 5 2	76. 7 16. 5 6.8
4.	<b>Occupation</b> a) Unemployed b) Government employed c) Private employed d) Retired e) Own business	6 2 10 1 11	20 6.7 33.3 3.3 36.7	7 0 16 0 7	23. 3 0 53. 4 0 23. 3
5.	<b>If Employed Number of Working Hours Per Day</b> a) 6 Hrs b) 8 Hrs c) 10 Hrs d) 12 Hrs	6 5 19 0	20 16.7 63.3 0	6 16 1 0	20. 1 53. 3 3.3 0
6.	<b>Marital Status</b> a) Married	30	100	30	100
7.	<b>Type of Family</b> a) Nuclear b) Joint	11 19	36.7 63.3	10 20	33. 3 66. 7
8.	<b>Family History of Hypertension</b> a) Yes b) No	5 25	16.7 83.3	7 23	23. 3 76. 7
9	<b>Dietary Pattern</b> a) Vegetarian b) Non vegetarian	2 28	6.7 93.3	0 30	0 100

10	<b>Personal Habit</b>				
	a) Smoking	5	16.7	4	13.
	b) Smoking and alcoholism	3	10	6	3
	c) None of the above	22	73.3	20	20.
					0
					66.
					7
11	<b>Family Income in Rs</b>				
	a) <5000	10	33.3	12	40
	b) 5001-10,000	19	63.4	18	60
	c) 10,001-20,000	1	3.3	0	0

**Table2.Comparison of blood pressure between control and study group**

N=60

Variable	Control group			Study group		
	Mean	Mean Difference	SD	Mean	Mean Difference	SD
<b>PretestBP</b>						
Systolic	144.6		5.71	145.6		6.26
Diastolic	90.6		3.65	91		4.02
		2.6			15.2	
<b>Posttest BP</b>		1.2			7.3	
Systolic			5.71	130.4		7
Diastolic	142		4.13	83.7		4.02
	89.4					

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