
An experimental study to assess the effectiveness of abdominal breathing exercise on regulation of blood pressure among patients with hypertension

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Abstract:

Objectives: I) to assess the level of blood pressure among patient with hypertension II) to evaluate the effectiveness of abdominal breathing exercise among patient with hypertension and III) to find out the association of level of blood pressure with selected demographic variables.**Method:** Experimental research design. Sample size was 30 in control and 30 samples in control group **Results:** the study findings revealed that Wilcoxon test value for systolic blood pressure was -4.344 and the Wilcoxon test value of Mean Arterial Pressure was -4.685 and the 'p' value was 0.000**. It was highly significant at $p < 0.001$ ** level. It implies that abdominal breathing exercise was effective for reducing blood pressure level among people in experimental group. There is significant difference between pre-test and post-test assessment of blood pressure. **Conclusion:** Abdominal breathing exercise is effective in maintaining normal blood pressure.

Keywords: Hypertension, Abdominal breathing exercise.

INTRODUCTION

It has been estimated that hypertension accounts for 6% of deaths worldwide. A report by WHO (World Health Organization) states that there are 42% people with pre-hypertension. Fifteen percent are newly diagnosed with hypertension and 31% of people are known case of hypertension. It has been reported that 26.4% of the overall global population had hypertension in 2000, a number that was projected to increase to 29.2% by 2025.

Blood pressure is a continuous physiologic trait, which when increases, is called "the silent killer" because people who have it are often symptom free.

Prolonged blood pressure elevation eventually damages blood vessels throughout the body. The high prevalence of hypertension in the general population makes the identification and treatment of affected patients, a top priority for clinicians.

OBJECTIVES

- To assess the level of blood pressure among patient with hypertension.
- To evaluate the effectiveness of abdominal breathing exercise on blood pressure among patient with hypertension.
- To find out the association of level of blood pressure with selected demographic variables.

HYPOTHESES:

H₀₁-There will be significant difference in the blood pressure of hypertensive patients before and after the implementation of abdominal breathing exercise.

H₀₂.There is significant association between blood pressure and selected demographic variables of patients with hypertension.

RESEARCH METHODOLOGY

Research approach used for the study was Quantitative research approach and research design was experimental design. The study was conducted in Pillaiyarkuppam, Puducherry. The sample size was 60(control group 30+Experimental group). The samples were selected based on the inclusion criteria; Non-probability purposive sampling technique was used to select sixty hypertensive patients. Every day, 6 persons or 10 persons who satisfied the inclusion criteria were selected for 5 days.

Blood pressure of the persons was assessed and abdominal breathing exercise was taught to the person.

The persons were asked to do the exercise, four cycles for a total of 5 deep breath at a rate of one breath every 10 seconds (or six breaths per minutes)twice daily for 10 days. The blood pressure was assessed daily for 10 days. The data were analysed by using descriptive and inferential statistics like frequency, percentage, mean, standard deviation, Mann- Whitney Test, Wilcoxon test.

DATA ANALYSIS

Table1:Comparisons of Mean, Median, Standard Deviation, And ‘P’ Values Of Abdominal Breathing Exercise Of Hypertension Patients In Experimental Group During Pre And Post Test

S.No.	Blood pressure		Mean	Median	Standard Deviation	Difference between means	Wilcoxon test	p-value
1	Systolic Blood Pressure	Pre test	141.07	140	8.45	16.74	-4.638	<0.001**
		Post test	124.33	125	3.88			
2	Diastolic Blood Pressure	Pre test	89	90	6.62	9.5	-4.344	<0.001**
		Post test	79.5	80	3.56			
3	Mean Arterial Pressure	Pre test	106.36	106.7	5.7	11.92	-4.685	<0.001**
		Post test	94.44	95	2.75			

****Highly Significant**

The obtained Wilcoxon test value for systolic blood pressure is -4.638 and the Wilcoxon test value for diastolic blood pressure is -4.344 and the Wilcoxon test value of mean arterial pressure is -4.685 and the 'p' value is 0.001**. It was highly significant at $p < 0.001^{**}$ level. It implies that abdominal breathing exercise was effective for reducing blood pressure level among people in experimental group. There is significant difference between pre-test and post-test assessment of blood pressure.

There was no significant relationship between the hypertension and selected demographic variables such as Family history and Alcohol consumption, Age, Gender, Religion, Marital status, Educational qualification, Occupation, Nature of occupation, Income, Dietary pattern, Smoking habits, Duration of hypertension, Medication. Hence the Hypothesis H2 was rejected.

It was inferred that the Abdominal Breathing Exercise was highly effective, which will reduce the blood pressure. Hence the Hypothesis H1 was accepted

RECOMMENDATIONS:

A study can be done with a larger number of samples to assess the effectiveness of dietary modifications on blood pressure among peoples with hypertension.

CONCLUSION:

This shows that the regular practice of Abdominal Breathing Exercise help to reduce hypertension and to maintain the

blood pressure. Since we were limited to the study period of 10 days. We can only able to bring mild reduction in blood pressure, if it is continued for longer period this will results in moderate or normal blood pressure. The study findings will enable the nurses to plan and implement Health education Programme regarding the prevention of hypertension and its various treatment modalities for the hypertension people at Puducherry, which will aid them to have a better quality of life.

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