



## Effect of Relaxation Exercise on Blood Pressure Among Hypertensive Patients Admitted in Sankers Hospital Kollam

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## ABSTRACT

### Introduction

Chronic diseases are the leading cause of deaths worldwide and their impact is steadily growing. Hypertension is an important public health challenge in the developing and the developed world alike and it is one of important non communicable chronic disease. If hypertension is not maintained it can lead to many complications. The main complication is cardio vascular diseases (CVD). A quasi experimental study was conducted to assess the effect of progressive muscle relaxation exercise in blood pressure among hypertensive patients in Sankers Hospital Kollam.

### Method

The present study was conducted among hypertensive patients admitted in Sankers Hospital Kollam. The sample consisted of 60 hypertensive patients, 30 in experimental group and 30 in comparison group. Samples were selected through purposive sampling. A quasi experimental research design was selected for the study. The intervention was given to each sample of experimental group, three times a day for three consecutive days.

### Results

The present study assessed the effect of progressive muscle relaxation exercise in blood pressure among hypertensive patients. On comparison the researcher observed there was a significant reduction observed between pre and post test score among experimental group at  $p < 0.05$  level of significance. On comparing the post test score between experimental and comparison group on blood pressure there was a significant difference observed at  $p < 0.05$  level of significance. The researcher associated the pre test score of blood pressure with selected demographic variables with experiment and comparison group. Out of 6 variables associated only meal pattern has found an association with blood pressure.

### Summary

The study assessed the effect of progressive muscle relaxation in blood pressure among hypertensive patients. It is quite clear that progressive muscle relaxation exercise is one of the best alternative therapies used to reduce the blood pressure of patient with hypertension. It is cost effective as all the nurses know to assess blood pressure and if progressive muscle relaxation exercise is taught to the patient it will reduce the complication of high blood pressure. It can be used in both hospital and community.

## KEYWORDS

*Relaxation Exercise, Hypertension, Blood Presssure, experimental study*

*"Scientific principles and laws do not lie on the surface of nature. They are hidden, and must be wrested from nature by an active and elaborate technique of inquiry"*

- John Dewey



## INTRODUCTION

Hypertension is a "neglected disease," according to a report released by the Institute of Medicine (IOM). Despite high blood pressure being the cause of death in one of six adults and the greatest single risk factor for death from cardiovascular disease, millions of people are developing, living with, and dying from hypertension. The decade from 1995 to 2005 saw a 25% increase in the death rate from high blood pressure, the report notes. The Institute of Medicine report also highlighted the financial barriers to lowering blood pressure. Studies have shown that the cost of medications to patients is significantly related to patient adherence; this is especially evident in patients with low income, chronic illness, and multiple prescriptions.

## NEED FOR THE STUDY

Coronary events such as a "heart attack" are still the most common result of hypertension. Increased blood pressure is related to increased severity of atherosclerosis, stroke, neuropathy, peripheral vascular diseases, aortic aneurysms, and heart failure. Nearly all people with heart failure have antecedent hypertension. If hypertension is left untreated, nearly half of hypertensive clients will die of heart disease, a third will

die of stroke, and the remaining 10% to 15% will die of a renal failure. Hypertension is also a "silent factor" in the aetiology of many deaths attributed to stroke or heart attacks. Changing life style is another important factor for increasing the number of hypertensive patients in our society. Taking tranquilisers like coffee and tea during lunch is a rising threat and will lead to severe cardiac problems. Another important factor is burden of job or educational work load leading to severe stress. Lack of physical activity will lead to obesity which will again aggravate hypertension. Smoking and alcoholism are other essential factor in increasing heart diseases among people.

The investigator observed that most of the hypertensive patients had inadequate knowledge about meaning, risk factors, signs and symptoms regarding hypertension and its related complications. The hypertensive patients do not adopt the non pharmacological measures like exercise, stress reducing activities like yoga and avoidance of diet which contains more cholesterol. These practices are not adopted by majority of the patients mostly because of unawareness and lack of emphasis by the health providers. Comparing to the increasing prices of hypertensive medicine relaxation exercises are cost effective. The investigator during



his clinical exposure in the community and hospital has observed that many older people are suffering from hypertension. Some hypertensive people are taking medications; some are not taking medication regularly. Those hypertensive patients do not adopt the non pharmacological measures like exercise and meditation. Also the patients are not getting proper training or guidance from nursing professional regarding the various non pharmacological measures to control and prevent hypertension. Based on the data showed on prevalence of hypertension, investigator recognized the felt need for relaxation therapy to the hypertensive people. Therefore this study was undertaken to assess the effect of relaxation on blood pressure among hypertensive patients.

## OBJECTIVES

1. Assess the pre intervention level of blood pressure among experimental and comparison group.
2. Assess the post intervention level of blood pressure among experimental group and comparison group.
3. Compare the pre and post intervention level of blood pressure among comparison group.

4. Compare the pre and post intervention level of blood pressure among experimental group.

5. Compare the post intervention level of blood pressure among experimental and comparison group.

6. Find out the association between the pre intervention score of experimental group and comparison group with selected demographic variables such as age, occupation...etc

## HYPOTHESES

H1 : There is a significant difference in post intervention score of blood pressure among experiment group as compared to the pre intervention score at  $p < 0.05$  level of significance.

H2 : There is a significant reduction in post intervention score of blood pressure among experiment group than that of control group at  $p < 0.05$  level of significance.

H3: There is a significant association of pre intervention score of blood pressure among experiment group and control group with selected demographic variable at  $p < 0.05$  level of significance.

## CONCEPTUAL FRAMEWORK

Conceptual frame work refers to interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme (Polit Hunger - 1997).



The development of a concept was model is a fundamental process required before conducting actual research. The framework influences each state of research process. The conceptual framework in nursing research can help to provide a clear concise idea of knowledge in the area Modified roy's adaptation model.

Theoretical model for this study was derived from Callista Roy's Adaptation Theory (1996). Roy employs a feedback cycle of input, throughput, and output. Input is identified as stimuli, which can come from the environment or from within a person. Stimuli are classified as focal (immediately confronting the person), contextual (all other stimuli, that are present) or residual (non specific such as cultural beliefs or attitude about illness).

## METHODOLOGY

### RESEARCH APPROACH

In view of the nature of the problem and to accomplish the objectives of the study an quantitative approach was considered to be most appropriate.

### RESEARCH DESIGN

The research design selected for this study was quasi experimental group design with a comparison group

### POPULATION

The population for the study were patients who were diagnosed with primary

Hypertension and admitted in Sankers Hospital Kollam, during the period of data collection.

### SAMPLING

a) **Sample** : Samples selected from the population who meets the inclusion criteria.

b) **Sample size** : In this study Sixty samples were selected among 60, 30 were assigned to experimental group and 30 were assigned as comparison group used for this study.

c) **Sampling technique** : The sampling technique used for the study was purposive sampling.

### Inclusion Criteria

Hypertensive patients who are above 35 yrs of age and blood pressure not less than 140/90mm of Hg. Patients who can speak Malayalam, English.

### Exclusion Criteria

Patients who are having complications like myocardial ischemia, heart failure, Cardio vascular accident and renal failure.

### DEVELOPMENT AND DESCRIPTION OF TOOL

Section I Structured Interview schedule for demographic data.

Section II Blood pressure measurement sheet by using sphygmomanometer

Section III Interventional Plan Blood Pressure Interpretation Scoring as per American Heart Association



	<b>Systolic blood pressure</b>	<b>Diastolic blood pressure</b>	<b>Level of blood</b>	<b>Score</b>
1	120 – 139mm of Hg.	80 – 89 mm of Hg		pre hypertension
2	140 – 159 mm of Hg	90 – 99 mm of Hg		stage I hypertension
3	>160 mm of Hg	>100 mm of Hg		stage II hypertension

### **ETHICAL CONSIDERATION**

After obtaining permission from Institution Review Board and ethical committee researcher proceeded for the study. Then permission from the institution and informed consent from samples were taken. Researcher maintained strict confidentiality throughout the study.

### **PLAN FOR DATA ANALYSIS**

The data obtained were analyzed in terms of the objectives of the study using descriptive and inferential statistics.

#### **Descriptive statistics**

Frequency and percentage distribution were used to analyze demographic variables and to assess the blood pressure. Mean and standard deviation were used to determine the difference in level of blood pressure.

#### **Inferential statistics**

The 't' test was used to determine the significance of the difference in level of blood pressure between the experimental and control group. The 'chi – square' test was used to check association of

demographic variables and level of blood pressure

### **RESULTS**

The present study assessed the effect of progressive muscle relaxation exercise in blood pressure among hypertensive patients. On comparison the researcher observed there was a significant reduction observed between pre and post test score among experimental group at 0.05 level of significance. Hence the hypothesis stated H1 that “There is a significant difference in post intervention score of blood pressure among experiment group as compared to the pre intervention score at 0.05 level of significance” is accepted. This is supported by the study, Park and Brown (2006) conducted a study on relaxation exercise training on treatment of 30 hypertensive patients showed a positive effect by reduction in systolic and diastolic blood pressure.

On comparing the post test score between experimental and comparison group on



blood pressure there was a significant difference observed at  $p < 0.05$  level of significance. Hence the hypothesis stated H2 that “There is a significant reduction in post intervention score of blood pressure among experiment group than that of comparison group at 0.05 level of significance” is accepted.

The researcher associated the pre test score of blood pressure with selected demographic variables with experiment and comparison group. Out of 6 variables associated only meal pattern has found an association with blood pressure. Hence the hypothesis stated H3 “There is a significant association of pre intervention score of blood pressure among experiment group and comparison group with selected demographic variable at 0.05 level of significance” was rejected except for the meal pattern. It may be due to the over consumption of junk and fast foods, sedentary life style, working men and women etc. It is supported by the study conducted by Bhargha and Sanghvi (2003) that prevalence of hypertension is greater among industrial workers, working parents, professional classes in Ludhiana, Punjab.

## CONCLUSION

The study assessed the effect of progressive muscle relaxation in blood

pressure among hypertensive patients. It is quite clear that progressive muscle relaxation exercise is one of the best alternative therapy used to reduce the blood pressure of patient with hypertension. It is cost effective as all the nurses know to assess blood pressure and if progressive muscle relaxation is taught to the patient to reduce, it will reduce the complication of high blood pressure. It can be used in both hospital and community settings.

## RECOMMENDATIONS

1. Every hospital must have room in the medical unit for teaching relaxation therapies to the patients.
2. In-service education should be conducted periodically.
3. Develop further research and Meta analysis on the same subject

## LIMITATIONS

1. It would have been better if the psychological aspect of patients was studied.
2. It would have been better if the researcher could use the true experimental study.
3. It would have been better if researcher could take large sample for generalization.



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