



Research Article

EFFECTIVENESS OF FOOT MASSAGE ON BLOOD PRESSURE

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ABSTRACT

Hypertension is one of the leading causes of disability or death, due to stroke, heart attack, and kidney failure. Expenses related directly or indirectly to the treatment and detection of hypertension in the United States are approximately \$10 billion annually. Heart disease and stroke remain the first and third leading causes of death around the world. **Aim of the study:** To assess the effectiveness of foot massage on blood pressure among hypertensive individuals. **Materials and Methods:** This was a quasi experimental research with a sample of 60 hypertensive patients residing in chikkabanavara area of Bangalore allocated 30 patients to experimental and control groups respectively. **Results:** There was significant difference in posttest scores of both systolic ($t=30.073$, $P<0.05$) and diastolic ($t=12.777$, $p<0.05$) blood pressure between to experimental and control groups. **Conclusion:** Foot massage is a very effective and simple non-pharmacological management for hypertension.

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INTRODUCTION

Hypertension also known as high blood pressure .It is a long term medical condition in which blood pressure in the arteries is persistently elevated. High blood pressure usually does not cause any symptoms. Normal blood pressure is 120 over 80 mm of mercury (mmHg). but hypertension is higher than 130 over 80 mm of Hg. Acute cause of blood pressure include stress.

Hypertension is classified as either primary (essential) hypertension or secondary hypertension; about 90–95% of cases are categorized as primary hypertension. The remaining 5–10% of cases are secondary hypertension. Many factor can affect blood pressure including the amount of water and salt , the condition of kidney, nervous system or hormone levels. Treatment plan may include heart healthy eating and exercise Conlin PR, et al. said about the Dietary Approaches to Stop Hypertension (2001). He finalizes that a diet low in saturated fat and high in complex carbohydrate is recommended (whole grains, fruits, vegetables, nuts, seeds, legumes, fish, soy products, onions, garlic) Foods rich in potassium, calcium, and magnesium (carrots, spinach, celery, alfalfa, mushrooms, lima beans, potatoes, avocados, broccoli, and most fruits). Lifestyle modification includes stress management (e.g: relaxation therapy, guided imaginary bio-feedback) avoidance of tobacco products and alcohol consumption, exercise, brisk walk.

Relaxation therapy is one of the complementary therapy that improves circulation, feeling of well being, relaxation of whole body and reduction in anxiety and pain.

The prevalence of hypertension in India is low compared to world figures. In India, 24.10 per cent men and 23.60 per cent women over 25 years old suffer from hypertension, says the world Health organization’s ‘global health statistics 2016. Hypertension was directly responsible for 7.5 Million deaths – (12.8 per cent of the total global deaths)

Hypertension is one of the leading causes of disability or death, due to stroke, heart attack, and kidney failure. Expenses related directly or indirectly to the treatment and detection of hypertension in the United States are approximately \$10 billion annually. Heart disease and stroke remain the first and third leading causes of death, respectively, in the United States. Despite the importance of these observations, for many people blood pressure is poorly controlled.

Stephenson, Dalton & Carlson (2003) states that, there has been little scientific evidence to support the claim that foot reflexology can reduce blood pressure and serum lipids and can improve the quality of life in patients with hypertension.

Park HS (2004) conducted a study on the effect of foot massage on essential hypertension patients. The result proved that foot massage was an effective nursing intervention to decrease systolic pressure and triglyceride and to improve life satisfaction.

The researchers have handled many individuals with hypertension and found the importance of non pharmacological therapies. so the

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researcher have decided to give complementary therapy like foot massage to reduce hypertension.

Statement of the Problem

A study to assess the effectiveness of foot massage on blood pressure among hypertensive individuals at Chikkabanavara area Bangalore.

Objectives

1. To assess the pre test level of blood pressure for individuals in the experimental and control group.
2. To assess the post test level of blood pressure for individuals in the experimental and control group.
3. To compare the post test level of blood pressure between the experimental and control group.
4. To determine the effectiveness of foot massage on blood pressure among hypertensive individuals.
5. To associate the post test level of blood pressure with selected demographic variables in the experimental group.

Hypotheses

H₁: There is significant difference in the post test level of blood pressure between the experimental and control group.

H₂: There is significant reduction in the level of blood pressure after foot massage therapy.

H₃: There is significant association of level of blood pressure with selected demographic variables in the experimental group.

Research Approach

The research approach chosen for this study was quantitative research approach

Research Design

Quasi Experimental time series design was chosen for this study

Variables

Independent Variables

The independent variable is Foot Massage Therapy.

Dependent Variables

The dependent variable refers to the blood pressure of hypertensive individuals.

Setting of the Study

The study was conducted at Chikkabanavara area, Bangalore.

Population

Hypertensive individuals in the age group of 30-70years

Sample Size

60 Patients were selected for the study based on the inclusion and exclusion criteria, among them 30 patients were selected as experimental group 30 patients as control group.

Sampling Technique

The sampling technique adopted for this study is non probability convenient time series sampling technique.

Criteria for Sample Selection

Inclusion Criteria

1. Individuals who have blood pressure 140/90 mm of Hg to 180/100 mm Hg.
2. Individuals who are able to communicate in Kannada & English.
3. Individuals aged between 30-70 years.

Exclusion Criteria

1. Individuals who have renal disorder and Hyperlipidemia.
2. Individuals who are not willing to participate in the study.

Description of Tool

The tool consists of two parts.

Section-1 Consist of Demographic variables such as age, gender, marital status, support system, monthly income, types of family, personal habits, types of food consumption, height and weight, body mass index, family history of hypertension and meditation

Section-2 Consist of blood pressure grid By using Sphygmomanometer, blood pressure was checked.

Score interpretation

Systolic blood pressure normal	(<130) mm Hg
High normal	(132 to 139) mm Hg
Stage 1	(140 to 159) mm Hg
Stage 2	(162 to 179) mm Hg
Diastolic blood pressure normal	(<85) mm Hg
Highnormal	(85 to 89) mm Hg
Stage 1	(90 to 99) mm Hg
Stage 2	(100 to 109) mm Hg

Reliability

The reliability of the tool was tested using inter rater reliability method. The reliability of the tool was $r = 0.88$ and hence the tool was considered highly reliable for proceeding with the main study.

Data Collection Procedure

60 samples were selected using non probability convenient time series sampling technique in which 30 were considered as experimental group and 30 were considered as control group. After explaining the purpose of the study consent was obtained from the samples.

Demographic variables and blood pressure were assessed from all the samples. Pre Test was conducted for both experimental & control group. In experimental group foot massage therapy was given for 10 to 15 minutes for both foot and post test was conducted for both group, changes in blood pressure was assessed with blood pressure grid. The same procedure was done continuously for 5 days. The individual's satisfaction regarding foot massage therapy was assessed using satisfactory questionnaire. There were no difficulties faced by the investigator during the data collection procedure individuals were well co-operative.

RESULTS

Assessment of Pretest Level of Systolic Blood Pressure in The Experimental And Control Group

In the experimental group the majority 14 (46.67%) had high normal level of systolic blood pressure, 13 (43.33%) had stage 1 level of systolic blood pressure, 3 (10%) had normal level of systolic blood pressure and none of them had stage 2 level of systolic blood pressure.

In control group majority 28 (93.33%) had stage 1 level of systolic blood pressure, 2 (6.67%) had stage 2 level of systolic blood pressure and none of them had normal and high normal level of systolic blood pressure.

Assessment of Pretest Level of Diastolic Blood Pressure in the Experimental And Control Group

In the experimental group majority 22 (73.33%) hypertensive individuals had high normal level of diastolic blood pressure, 6 (20.00%) had stage 1 level of diastolic blood pressure, 2 (6.67%) had normal level of diastolic blood pressure and none of had stage 2 level of diastolic blood pressure.

In the control group majority 24 (80%) had stage 1 level of diastolic blood pressure, 6 (20%) had stage 2 level of diastolic blood pressure and none of them had normal and high normal level of diastolic blood pressure.

Assessment of post test level of systolic blood pressure in the experimental and control group

In the experimental group the majority 14 (46.67%) had high normal level of systolic blood pressure, 13 (43.33%) had stage 1 level of systolic blood pressure, 3 (10%) had normal level of systolic blood pressure and none of them had stage 2 level of systolic blood pressure.

In control group majority 28 (93.33%) had stage 1 level of systolic blood pressure, 2 (6.67%) had stage 2 level of systolic blood pressure and none of them had normal and high normal level of systolic blood pressure.

Assessment of Post Test Level of Diastolic Blood Pressure In The Experimental And Control Group

In the post test in the experimental group, majority 22 (73.33%) had normal level of diastolic blood pressure, 8 (26.67%) had high normal level of diastolic blood pressure and none of them had stage 1 and stage 2 level of diastolic blood pressure.

In the control group majority 18 (60.00%) had stage 1 level of diastolic blood pressure and 12 (40.00%) had stage 2 level of diastolic blood pressure and none of them had normal ad high normal level of diastolic blood pressure.

Comparison of Post Test Level of Systolic Blood Pressure between the Experimental and Control Group

The mean systolic blood pressure score in experimental group was 114.17 with S.D 10.0 and the mean systolic blood pressure score in the control group was 185.97 with S.D 8.42. The calculated ‘t’ value of 30.073 was found to be statistically highly significant at $p < 0.001$ level. This clearly shows that there was significant difference in their systolic blood pressure level between the experimental and control group after foot massage therapy

Comparison of Post Test Level of Diastolic Blood Pressure Between The Experimental and Control Group

The posttest level of mean diastolic blood pressure score in experimental group was 85.03 with S.D 1.92 and the post test mean score in the control group was 98.50 with S.D 5.44. The calculated ‘t’ value of 12.777 was found to be statistically highly significant at $p < 0.001$ level.

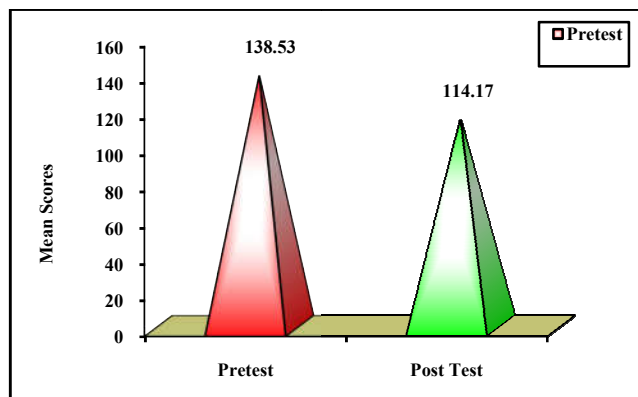
This clearly shows that there was significant difference in their diastolic blood pressure level between the experimental and control group after the administration of foot massage to the hypertensive women in the experimental group.

Comparison of Pretest and Post Test Level of Systolic Blood Pressure in the Experimental Group

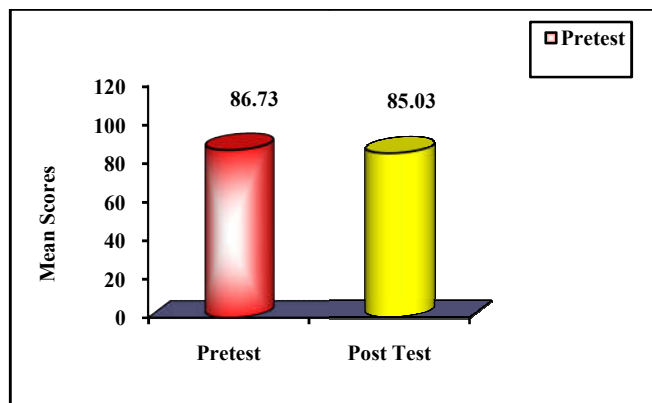
In the experimental group, the pretest level of mean systolic blood pressure score was 138.53 with S.D 8.77 and the post test mean score was 114.17 with S.D 10.0. The calculated ‘t’ value of 48.570 was found to be statistically highly significant at $p < 0.001$ level. This clearly shows that the foot massage on hypertension given to the hypertensive women has significant change in their systolic blood pressure level.

Comparison of pretest and post test level of diastolic blood Pressure in the experimental group

In the experimental group, the pretest level of mean diastolic blood pressure score was 86.73 with S.D 2.07 and the post test mean score was 85.03 with S.D 1.92. The calculated ‘t’ value of 7.215 was found to be statistically highly significant at $p < 0.001$ level. This clearly shows that the foot massage on hypertension given to the hypertensive women has significant change in their diastolic blood pressure level.



Comparison of pretest and post test systolic blood pressure score in the experimental group



Comparison of pretest and post test diastolic blood pressure level in the experimental group

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