

EFFECTIVENESS OF GARLIC INTAKE AMONG HYPERTENSIVE PATIENTS: A QUASI EXPERIMENTAL STUDY

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Abstract

Hypertension is called the 'silent killer', because most patients with high blood pressure have no symptoms to alert them to elevated pressure. But over time, high blood pressure increases the risk of serious problems such as stroke, congestive heart failure, heart attack, and kidney failure. Garlic is an herb. It is the best known as a flavouring food. But over the years garlic has been used as a medicine to prevent or treat a wide range of diseases and condition. Garlic [*Allium sativum*] has played an important dietary as well as medicinal role in human history. Blood pressure reducing properties of garlic have been linked to its hydrogen sulphide production and allicin content -liberated from allin and the enzyme allinase which has angiotensin II inhibiting and vasodilating effects, as shown in animal and human studies.. Traditionally, it has been employed to treat high blood pressure, infections, high cholesterol, fungal skin infections wounds, rheumatism heart disease, diabetes, and many other disorders. Garlic is used for many other conditions related to the heart and blood system. Garlic may be effective in the development of atherosclerosis and moderately to reduce blood pressure. The objectives of the study is to determine the effect of garlic intake in experimental group than in control group. The researcher adopted a quasi experimental research design with multiple time series design. The clients were selected in Joynagar, based on inclusion criteria using purposive sampling techniques. Thirty samples were allotted to experimental group and thirty allotted to the control group. Garlic 30 gms are given experimental group to reduce for hypertension. Whereas control group was receiving regular anti hypertensive treatments. post test was conducted in experimental and control group using Vaughn's blood pressure chart. The study identified that the blood pressure was reduced in experimental group, after garlic administration. The 't' value shows there is effectiveness of garlic intake to control and reduce high blood pressure.. The study findings indicate that the garlic is effective non pharmacologic measure to reduce blood pressure. Garlic was found to have no side effects when compared with other treatments.

Keywords: Garlic, Hypersensitive, blood pressure, quasi experiment

INTRODUCTION

Hypertension awareness, treatment and control status is low, with only half of the urban and a quarter of the rural hypertensive individuals being aware of its presence. It has been seen that only one in five persons is on treatment and less than 5% are controlled. Rural location is an important determinant of poor hypertension awareness, treatment, and control. It has been said that in India the rule of halves is not valid and only a quarter to a third of subjects are aware of hypertension.

BACKGROUND

The World Health Statistics 2012 estimated 57 million global deaths in 2008, of which 36 million (63%) were due to non-communicable diseases (NCDs). The largest proportion of NCD deaths is

caused by cardiovascular diseases (48%). In terms of attributable deaths, raised blood pressure is one of the leading behavioral and physiological risk factor to which 13% of global deaths are attributed. Hypertension is reported to be the fourth contributor to premature death in developed countries and the seventh in developing countries.

OBJECTIVES

1. To assess the blood pressure of both experimental and control group before garlic intake.
2. To determine the effect of garlic on blood pressure in experimental group after intake of heated garlic.
3. To compare the mean difference in the blood pressure in experimental and control group.
4. To find association between the hypertension of the people with their selected demographic variable.

HYPOTHESIS

H1: There will be significant reduction in the blood pressure with the garlic intake among the patients in the experimental group than in control group in 0.05 level of significance.

H0: There will no significant reduction in the blood pressure with the garlic intake among the patients in the experimental group than in control group in 0.05 level of significance.

VARIABLES

Dependent variable – Hypertension

Independent variable –Garlic

ASSUMPTIONS

A.The study assumes that the garlic is an accepted mode of intervention for the hypertensive clients.

B.The intake of garlic may reduce blood pressure.

DELIMITATIONS

A. Study is delimited to the clients with hypertensive patients. The intervention is delimited to one month duration of time.

CONCEPTUAL FRAME WORK

The conceptual frame work of this study is based upon Betty Neumann's [1980] system model which focuses person is a complete system the sub part of which are inter related physiological , psychological, socio cultural, spiritual and developments factors are inter related. In this model, the person maintains balance harmony between internal and external environments by garlic. The primary goal of nursing is to assist in the attainment and maintenance of client system stability. Nursing Intervention include activities to strengthen flexible line of defence and blood pressure level is maintained.

METHODOLOGY

Research Approach: Quantitative Approach was used.

Research Design: Quasi-experimental, Time series design.

Settings of the Study: Agartala Tripura.

Variables

Dependent variable - Hypertension

Independent variable - Garlic

Target Population:

The target population of the study was hypertensive patients in selected area Agartala.

Sample Size:60 no.

Sampling technique: Purposive Sampling Technique.

SAMPLE SELECTION CRITERIA

Inclusion Criteria

1. Hypertensive clients who are in Agartala.
2. The clients who are hypertensive and on medication for hypertension.
3. Hypertensive clients in the age group of 41-60 years male and female clients.
4. Clients willing to participate in this study.

DATA COLLECTION TOOL

Data collection tool used for this study was demographic questionnaire and Vaughn's blood pressure chart.

DESCRIPTION OF THE TOOL

Section A: Demographic Questionnaire: This section deals with demographic variables such as age, sex, education, occupation, habits, and duration of illness.

Section B Blood Pressure Chart: The blood pressure chart adopted for this study is made by Vaughn data analyse. The blood pressure chart consists of two separate scales for measuring blood pressure. Systolic blood pressure ranging from 50 to 220mm Hg and Diastolic blood pressure ranging from 10 to 140mm Hg. The blood pressure chart is used to make the reading of blood pressure of the patient on day 1 and 12th day.

DATA COLLECTION PROCEDURE

Data collection period was 1 month. The study was conducted in Joynagar Agartala among 60 samples, 30 clients were in the experimental group and 30 clients were in the control group. Before starting the study, the investigator obtained permission from health centre for conducting the study. The subjects were explained about the study and consent was taken. Pre test was conducted for both the experimental and control group. After pre test the experimental group was given a small introduction about garlic and patients in reduction of blood pressure. The investigator gave 30 gms heated garlic daily in the morning at empty stomach. Post test was conducted daily morning after intake heated garlic. Day 12th blood pressure measurement was taken for both experimental and control group.

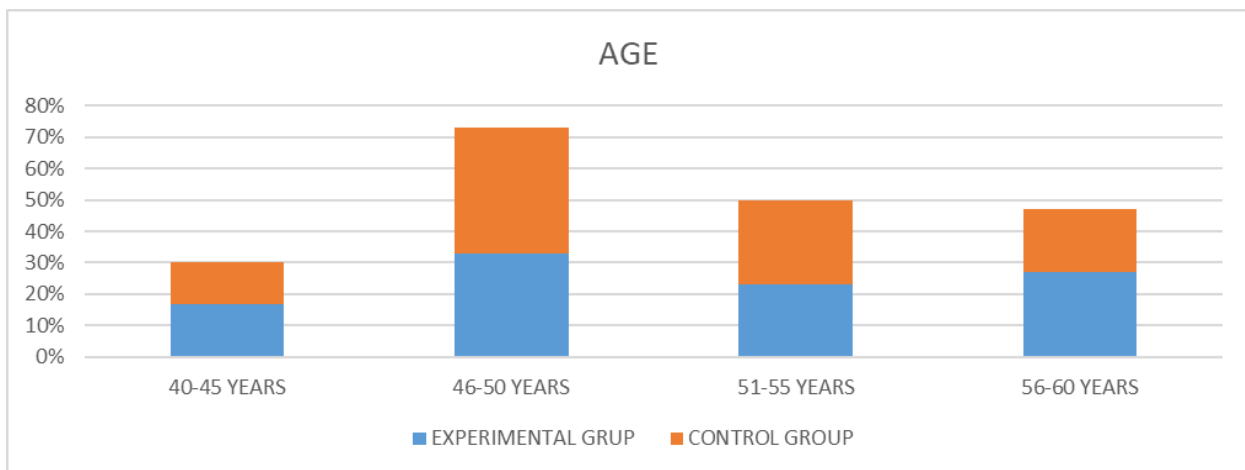
PLAT FOR DATA ANALYSIS

The data analysis was done by using inferential and Descriptive statistics. Descriptive statistical methods like percentage, mean and standard deviation were used, Inferential statistical methods unpaired 't' test was used to find out the effectiveness of garlic on reduction of blood pressure and chi-square test was used to find out the association with the demographic variables.

DATA ANALYSIS

SECTION: A: Demographic variables of the sample

Sl No	Demographic Variables	Experimental Group		Control Group	
		Frequency	Percentage	Frequency	Percentage
1.	Age				
	(a) 40- 45	5	17%	4	13%
	(b) 46 – 50	10	33%	12	40%
	(c) 51 – 55	7	23%	8	27%
	(d) 56 – 60	8	27%	6	20%
2.	Gender				
	(a) Male	14	47%	17	57%
	(b) Female	16	53%	13	43%
	(c) Other	-		-	
3.	Education				
	(a)Primary	4	14%	4	14%
	(b) Secondary	10	33%	12	40%
	(c)HS and higher	16	53%	14	46%
4.	Occupation				
	(a) Private	7	23%	9	30%
	(b) Govt	9	30%	12	40%
	(c) Business	14	47%	9	30%
5.	Marital Status				
	(a) Married	20	67%	25	83%
	(b) Unmarried	9	30%	4	14%
	(C) Other	1	3%	1	3%



Section B: This section deals with - Effect of garlic in reducing hypertension in the Experimental group and control group.

Group	1 st Observation		End Observation		Mean deviation	t test
	Mean	SD	Mean	SD		
Experimental Group	126.6	5.86	123.16	3.14	3.44	2.77

Table: Description of mean, standard deviation, mean deviation, t values of differences of blood pressure before and after intervention

Group	1 st Observation		End Observation		Mean deviation	t test
	Mean	SD	Mean	SD		
Control Group	126.17	5.94	126.13	5.98	0.04	0.87

Table: Description of mean, standard deviation, mean deviation values of differences of blood pressure on control group without intervention

Group	Experimental Group		Control Group		Mean deviation	t test
	Mean	SD	Mean	SD		
	123.16	3.14	126.13	5.98	2.97	2.40

Table: Description of mean, standard deviation, mean deviation, t values of experimental and control group after end observation

Table: Association between the Hypertension and selected demographic variables.

Sl No	Demographic Variables	Experimental Group Frequency	Control Group Frequency	X ²	df	Table Value
1.	Age			0.66	1	3.84
	(a) 40- 45	5	4			
	(b) 46 - 50	10	12			
	(c) 51 - 55	7	8			
	(d) 56 - 60	8	6			
2.	Gender			0.60	1	3.84
	(d) Male	14	17			
	(e) Female	16	13			
	(f) Other	-	-			
3.	Education			0.26	1	3.84
	(a) Primary	4	4			
	(b) Secondary	10	12			
	(c) HS and higher	16	14			
4.	Occupation			1.76	1	3.84
	(c) Private	7	9			
	(d) Govt	9	12			
	(c) Business	14	9			
5.	Marital Status			2.22	1	3.84
	(c) Married	20	25			
	(d) Unmarried	9	4			
	(D) Other	1	1			

STUDY FINDINGS

The pre-test of experimental and control group revealed that there was no significant difference. Both experimental and control group were similar in all respect of demographic variables and thus it was observed that they were identical. The study identified that the blood pressure was reduced in experimental group. It was found that there was a significant reduction in the blood pressure of experimental group, after garlic administration.

CONCLUSION

The conclusion drawn from the findings of the study are as follows;

1. Garlic found to be an effective nursing intervention in reducing hypertension among adult patients.
2. There is no side effects of garlic when comparing with other pharmacological treatment.
3. Patients satisfaction is very much higher in this intervention.
4. The finding of the study enlighten the fact that garlic can be used as a cost-effective nursing intervention in reducing the hypertension among the hypertensive clients.

BIBLIOGRAPHY

1. Al-Qattan KK, [2003] "Mechanism of garlic induced reduction of hypertension in 2k-1c; mediation of Na/H exchanger isoform-1 . 217- 222.
2. Alter, A., Rosenthal., [2001]. TM Reduce blood pressure.American Journal of Hypertension,14 [1],77.
3. Anderson J W , Liu C , [2008] ' American Journal of Hypertension , vol [3] 310 -316.
4. Bergland,G., Wiredorn., [1976]. Prevalence of primary and secondary hypertension; studies in a random sample population sample.British Medical Journal 2,554.
5. Chen Q . [2006] "Methodology for the study of pharmacology of Chinese medicine ; Beijing; peoples Medical Publising House.
6. Gupta. T.,[2004]. Trends in hypertension epidemiology in India, Journal of Human Hypertension,18 [2],7308.
7. Gupta., [1997]. Meta analysis of prevalence of Hypertension India. Indian Heart Journal ,49 [1],43.
8. He J, Bazzano L.A [2000] "Effects of Life style Modifications on treatment and prevention of hypertension. Vol [9] 267-271.
9. Manoj Sharma [2012] Journal of Evidence Based complementary and Alternative Medicine , vol no [17] 199-205.
10. Mrs.Suchana Roy Bhowmik [2011] . Nightingales Journal of Nursing Nov .volume 1 .page No.10.