IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG

An International Open Access, Peer-reviewed, Refereed Journal

IMPACT OF DRUMSTICK LEAVES EXTRACT ON BLOOD PRESSURE

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Abstract

Recently people get health advice from the social media and they started understanding of the pathology of the disease. The easily available plants like drumstick leaves have control over blood pressure. Drumstick medical studies identified an extract from drumstick lower the blood pressure within 3 hours of ingestion. Regular intake of drumstick leaves powder prevents 300 diseases. It is believed to have stabilizing effect on blood pressure and it has higher iron content. The present study aimed to assess the effectiveness of drumstick leaves on blood pressure. The subjected were selected based on inclusion criteria by purposive sampling techniques and divided into experimental and control group. The intervention was carried out for the period of 6 months, the subjects were followed up via phone call. The present study proven the evidence of the Muringa leaves has the best control over blood pressure on human samples. On constant consumption of Muriga leaves has benefit among the hypertensive clients over a period of time. Further study required to detailed follow up of the samples throughout the study period. The personal factors like loss in the family, business or any other crisis condition, hospital admission during the study period due to any other reason, changes in the work status or family structure and additional responsibilities like marriage, school/college admission also affect the general condition of the samples.

Keywords: hypertension, muringa leaves extract.

INTRODUCTION

Health is good for mankind. Urbanization, industrialization and cultural changes have greatly influenced way of living. In other hand food habits also changed. These devasting changes leads to high morbidity rates all over the world, especially chronic diseases. Among all chronic diseases, Hypertension is on number one position. There were many contributing factors for hypertension like heredity, obesity, personal habits, life style and diet[(1)]. Only about 12% people with hypertension in India have their blood pressure under control[(4)].

As Hippocrates states, "Let food be thy medicine and medicine be thy food", people follow country medicine for long term treatment[(2-3)]. Recently people get health advice from the social media and they started understanding of the pathology of the disease. The easily available plants like drumstick leaves have control over blood pressure. Drumstick medical studies identified an extract from drumstick lower the blood pressure within 3 hours of ingestion. Regular intake of drumstick leaves powder prevents 300 diseases. It is believed to have stabilizing effect on blood pressure and it has higher iron content.

Even though patients know that they have hypertensive, most of the patients are unaware of complementary and alternative therapies to reduce blood pressure, not many studies have been made to revel what patients know about. The investigator believes that alternative therapy would help to reduce blood pressure level. In turn these will help the health personnel to educate the public to bring and modify their dietary pattern in pre hypertensive state at the primordial prevention and primary prevention level.

RESEARCH STATEMENT

A study to evaluate the effectiveness of drumstick leaves extract on blood pressure among subjects with Hypertension at selected areas of Puducherry**.**

OBJECTIVES

1. To assess the blood pressure among the subjects with Hypertension before and after intervention in experimental and control group.
2. To Compare the effectiveness Drumstick Leaves extract between Experimental group with Control Group

METHODOLOGY

Qasi-experimental research design was adopted for this study. In this design, a pretest with multiple posttest were conducted with experimental group and control group. The samples were the subjects with hypertensive in Villianur PHC during the study period and those met inclusion criteria which were mentioned below. Total 60 samples were selected. (experimental group – 30 samples and control group – 30 samples) were selected based on criteria.

DATA COLLECTION

The data collection tool consisted of three sections Section A and B. Section A consist of questions to assess the demographic and clinical characteristics of the samples. The blood pressure was assessed in section B. The samples were divided into two groups after obtained written consent from them. Both the groups were undergone pre assessment of parameters including demographic and clinical characteristics. The experimental group was instructed regarding the intervention and post test was conducted after 2nd month, 4th month and 6th month from the pretest. The follow-up was done by phone call.

INTERVENTION – Drumstick leaves extract

In this study Drumstick leaves boiled extract prepared. Take 100 ml of water in the vessel and add 10 grams of drumstick leaves and boil it for 10 minutes and filter the extract discard the leaves. The hypertensive client instructed to consume this water in morning on alternate day for 6 months.

RESULTS

Out of 60 samples, majority 62% of them were above 50 years of age. Regarding gender, majority of samples were male. In account of marital status, majority 94% and 92% of them were married in experimental group and control group respectively. Most of the samples were Hindus. Each 92% of them were nuclear family. In account of educational status, majority 65% and 58% of them were studied up to primary school level in control group. In view of occupation, majority each 46% and 48% of them were secondary workers among experimental group and control group. In experimental group majority 52% of them were having habit of alcoholism where as In control group majority 40% of them were having habit of alcoholism.

Out of 60 samples, majority of them were non vegetarian like 80% and 96% in experimental group and control group respectively. In account of family history of hypertension, majority of them had family history of hypertension. Majority, 48% and 53% of samples had hypertension for past one year.

Table 1: Comparison of mean score of blood pressure among the subjects with hypertension of research group in pretest.

(N=60)

Variables	Research groups	Mean	SD
Systolic blood pressure (SBP)	Experimental group (n=30)	152.73	13.07
	Control group (n=30)	147.77	10.32
Diastolic blood pressure (DBP)	Experimental group (n=30)	98.28	6.958
	Control group (n=30)	95.60	6.001

Table 1 explains the comparison of mean score of blood pressure among the subjects with hypertension of experimental group and control group. The mean systolic blood pressure of the subjects in experimental group was 152.73±13.07 mm of Hg, control group was 147.77±10.32 mm of Hg. The mean diastolic blood

pressure of the subjects in experimental group was 98.28±6.958 mm of Hg and in the control group was 95.60±6.001 mm of Hg.

Table 2: Effectiveness of drumstick leaves extract on blood pressure among experimental group.

N=30

	Assessment	Mean	SD	F value	p-value
Systolic blood pressure (SBP)	Pre test	152.73	13.072	69.863	**0.000** S**
	Post test 2nd month	149.83	13.760		
	Post test 4th month	143.55	12.948		
	Post test 6th month	140.38	11.457		
Diastolic blood pressure (DBP)	Pre test	98.28	6.958	54.199	**0.000** S**
	Post test 2nd month	95.50	8.108		
	Post test 4th month	92.33	7.135		
	Post test 6th month	89.78	5.231		

S – Significance, NS – Non-Significance, * Significant, **highly significant

Table 2 shows the effectiveness of drumstick leaves extract on blood pressure among subjects with hypertension in experimental group. The mean SBP was 152.73, 149.83, 143.55 and 140.38 correspondingly at pre test, post test 2nd, 4th and 6th month. The p value indicates there is significant changes in the post test, that is the given intervention has improved benefit in systolic blood pressure. The repeated contrast test ensures the intervention was effective while comparing pre and post tests. As like systolic, diastolic mean value further decreased from the pretest to post test 6th month. The p value indicates the intervention for the experimental group was effective in controlling diastolic blood pressure.

The unpaired 't' test results revealed that, there is no significant association between the post test scores of control and experimental group.

DISCUSSION

The effectiveness of muringa leaves extract was assessed on control blood pressure. As concerns the results exhibit that, the intervention was effective in reducing blood pressure. The ANOVA values signifies that the Muringa leaves can effectively reduces the systolic and diastolic blood pressure were reduced also F level was showed significance.

Marie chan san et.sl., (2019) conducted a clinical study to moniter the effect of eating cooked *Moringa oleifera* leaves on the blood pressure (BP) of healthy participants in view of the perception that consumption of Moringa is associated with an increase in blood pressure. This study found that a significant difference between diastolic at baseline and 2 hours postprandial in the case group (p = 0.013)[9].

The present study proven the evidence of the Muringa leaves has the best control over blood pressure on human samples. On constant consumption of Muriga leaves has benefit among the hypertensive clients over a period of time. Further study required to detailed follow up of the samples throughout the study period. The personal factors like loss in the family, business or any other crisis condition, hospital admission during the study period due to any other reason, changes in the work status or family structure and additional responsibilities like marriage, school/college admission also affect the general condition of the samples.

CONCLUSION

Nowadays people think about the healthy lifestyle, after COVID pandemic. Their more interest on the search of modern medicine and healthy lifestyle has been ended up in the traditional native medicine which should be less cost. The current research study can help public as an answer for their search. These reduces the universal aim of WHO, i.e., reduces the out of packet expenditure. The researchers encourage performing more studies related to alternative therapies for non-communicable diseases in future.

ETHICAL ISSUES & ITS IMPLICATION

A formal permission was obtained from ethical committee, Health and Family welfare department, Pondicherry. Written consent from the subjects with hypertension who were involved after detailed explanation was given regarding intervention and investigations.

CONFLICT OF INTEREST: Nil significance

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