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Original Article

A Study to Assess the Effectiveness of Beetroot Juice On Blood Pressure Among Patient with Hypertension in Selected Rural Area of Buldana City

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Abstract

Introduction: The prevalence of hypertension is a silent killer disease, is rapidly increasing all over the world at an alarming rate over the recent years. Hypertension affects the majority of population worldwide. The increase incidence of hypertension in developing countries follows the life style changes, low socio economics, dietary habits, etc. The consumption of beetroot juice is an influencing factor inreducing blood pressure among hypertensive patients.

This study was done to identify the effectiveness of be etroot juice on blood pressure among patient with hypertension in selected rural area of buldana, city. The main objective of the study was to compare the pre and post blood pressurelevelinrelationtointakeofbeetrootjuiceamongclientsinexperimentalgroup.

Materials & Methods: An experimental study with pre test, post test research design was used and a sample of 30hypertension patient were selected by using purposive sampling technique. 200 ml of beetrootjuice was given to the clients in experimental group after breakfast daily for 14 days. The conceptual frame work was based on modified mode lcon text input process and product evaluation model helping Art of clinical nursing theory. The tool used for the study includes Question naires and observation methodusing sphygmomano meter monitor.

Results: The obtained data was analyzed by using descriptive and inferential statistics. The findings of the study showed that there was asign ifi cant($p<0.05$)level with confidence interval of 95% reduction in blood pressure level after administering be etroot juice inex perimental group.

Conclusions: The study reveals that greater significance of beetroot juice was observed in younger, less duration of illness whencomparedtoothers.Beetrootjuiceiscosteffective,improvesthegeneral well being of the clients, prevents them from developing complications and reduces the dosageof drugs.

Keywords: Effectiveness; Beetroot Juice; Hypertension.

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Introduction

We have the strong mind to be healthy in body, mind and spirit, but some Circumstances in life leads to the incidence of some incredible diseases. Hypertension is the major hill point in those aspects. Hypertension (HTN) or high Pressure is a chronic cardiac medical condition in which the systemic arterial Blood Pressure is elevated.

Blood pressure is the force of blood pumped from your heart into the Vessels known as arteries which delivers blood throughout your body. Each time Your heart beats, blood is forced along the wall of the arteries and the impact is Measured in millimeters of mercury (mmHg). This process is known as systole. When the heart rests between beats, blood pressure decreases, a process known as Diastole. Normal blood pressure is a systolic pressure less than 120 mmHg and a Diastolic pressure less than 80 mmHg and is expressed as 120/80 mmHg.

Hypertension is defined by the National Heart Lung and Blood Institutes (NHLBI) as a blood pressure greater than 139/89 mmHg. Individuals with a Pressure between 120/80 mmHg and 139/89 mmHg are considered "pre-Hypertensive" and are likely to develop hypertension in the future. Today, Hypertension is a disease which is listed as a primary or contributing cause of death for more than 270,000 Americans annually. According to the Centers for Disease Control and Prevention, over 40 percent of the entire African-American population has high blood pressure. The most alarming news overall is that many people are unaware they have hypertension. This disease which can lead to stroke, heart attacks, heart failure and kidney disease is often termed the "silent killer", because the disease is usually present without symptoms.

Hypertension is fast emerging as a modern epidemic in the world. Developed countries are considering it as a leading cause of death but even developing countries do not lag behind in being affected by it. In early stages of blood pressure, there are no symptoms.

Many who are afflicted feel no discomfort until a medical crisis- a heart attack, the rupture of a blood vessel in the brain or a stroke-strikes. Therefore, high blood pressure is often called the "Silent Killer". Over the past, several decades extensive research, wide spread patient education and a concerned effort on the part of the health care professionals have led to decreased mortality and morbidity rates from the multiple organ damage arising of years of untreated hypertension.

In India, the prevalence of hypertension is reported to be increasing rapidly in the urban areas and the same trend is spreading gradually to rural areas. It is estimated that there were about 66 million hypertensives in India (32 million rural and 34 million urban). Lack of knowledge about the morbidity, complications and the method of control of hypertension contributes to a large percentage of undetected and untreated hypertensive subjects in the community. Therefore, health care professionals must not only identify and treat patients with hypertension but also promote a healthy lifestyle and preventive strategies to decrease prevalence of hypertension in the general population.

The people with hypertension are taking many modes of health measures to control the disease process once they get some noticed changes, like antihypertensive drugs as prescribed by the physician, exercises and salt restricted diet. Dietary and home management remains the key element in the control of Hypertension. So the management of the Hypertension should take place by the people themselves in their home environment with the available resources at their easiest manner which can reduce the risk of cardio vascular diseases.

Risk factors for hypertension are majorly divided into two classifications. First one is non modifying risk factors and second one is modifying risk factors non modifying risk factors are age, sex genetic factors and ethinicity. Modifying risk factors are density, increased salt intake, increasing cholesterol, decreasing factor intake, and decreasing physical

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activity, higher level blood pressure is low socio-economic groups. Other factors includes noise, vibration, temperature and humidity. Majority of risk factors are prevented by healthy life style factors.

Hypertension factors are mostly the life style factors, such as obesity, lack of exercise diet, stress, the use of certain medication, smoking, excessive alcohol intake, excessive weight and even modest adult weight gain substantially increase the rest of hyper tension. Weight loss reduces the risk for hypertension.

Materials and Methods

Research Approach: There search approach adopted for this study is anexperimental approach.

Research Design: One group pre-testpost-test research design

Sample: Patient with Hypertension those who are drawn from the selected rural area shall be the sample for the proposed research study.

Sample size: Sample size considered for the study was 30Patient with Hypertension working from the selected rural area during the time of data collection.

Sampling technique: Sampling technique was Purposive Sampling which is a type of non-probability sampling.

Research Setting: The study was conducted in selected rural area of bandana city.

Results

The analysis of the demographic data of the study samples gave an idea about the general character istics of the patients with hypertension at selected rural area.

The following are the major findings of the study.

1. According to age of frequency and percentages distribution of the patient with hypertension at selected rural area according to Age 48% from the age group 40-50 years.
2. According to educational status of the patients with hypertension at selected rural area 55% of patients were primary education.
3. According to religion of the patient with hypertension at selected rural area according of 43% are belonging from others religion.
4. According to family monthly income in terms of 37% were from below1500 rs.
5. According to occupational status of patient with hypertension at selected rural area, in the study 37%from business.
6. According to dietary of the patient with hypertension at selected rural area, in the study 46.00% of they are non-vegetarian.
7. According to habit of taking nonveg dietary of the patient with hypertension at selected rural area, in the study 40.00% of they have alternate day.
8. According to types of salty diet of the patient with hypertension at selected rural area, in the study 49.00% of they have taken pickle.
9. According to types of body weight of the patient with hypertension at selected rural area, in the study 46.00% of they are from 40-50 kg.
10. Highly significant difference found in the pre-test and post-test knowledge regarding B.P. among Patients with hypertension at selected rural area.
11. Beetroot juice was found effective on knowledge regarding B.P. among Patients with hypertension at selected rural area.

The discussion is the most interesting part of the dissertation. The finding of the study was discussed in the light of previous studies. The discussion section is devoted to a thoughtful and insightful analysis of the finding, leading to a discussion of their clinical and theoretical utility.

This chapter deals with the discussion of the study with appropriate literature review, statistical analysis and findings of the study based on objectives and hypothesis. The present study was done to assess the effectiveness of planned teaching programme on knowledge B.P. among patients with hypertension at selected rural area.

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Table No 1: Frequency & percentage distribution of patient with hypertension in selected rural area in terms of frequency and percentage.

Sr. No.	Variable	Groups	Frequency	Percentage
1	Age(in years)	30–45years	3	9.00
		46–60years	16	48.00
		61–65years	6	18.00
		Above65years	5	15.00
2	Educational status	Graduate	7	21.00
		Primary Education	15	45.00
		Secondary education	8	24.00
3	Religion	Hindu	8	24.00
		Christian	5	15.00
		Muslims	6	18.00
		Others	11	33.00
4	Monthly income	Lessthan1500	9	27.00
		1500-6000	7	21.00
		6000-12000	6	18.00
		Above12000	8	32.00
5	Occupational status	Homemaker	4	12.00
		Government service	9	27.00
		Private service	8	24.00
		Business	9	27.00
		Vegetarian	10	30.00
		Non-veg	8	24.00
		Mixed	12	36.00
		Daily	6	18.00
		Alternate a day	10	30.00
		Once a week	8	24.00
		Once a month	6	18.00
		Pickle	13	39.00
		Dry fish	4	12.00
		Appalus	6	18.00
		Chips	7	21.00

Table No2: -General assessment sof Knowledge in–Pre-Test & Post Test

Experimental Group	Groups		Pre Test		Post Test	
			Frequency	Percentage	Frequency	Percentage
	Poor	0-10.	12	40.00	1	3.33
	Average	11-20.	16	53.33	13	43.33
	Good	21-30.	2	6.67	16	53.33
Knowledge	Minimum		5		12	
	Maxim		17		25	
	Average(SD)		8.63(2.52)		16.48(2.98)	

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Figure No 1: -General assessments

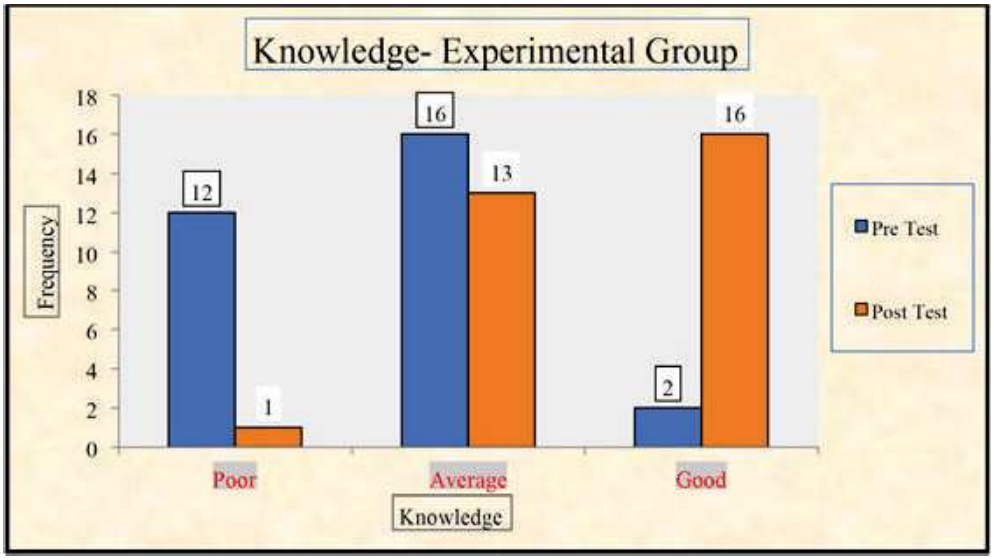
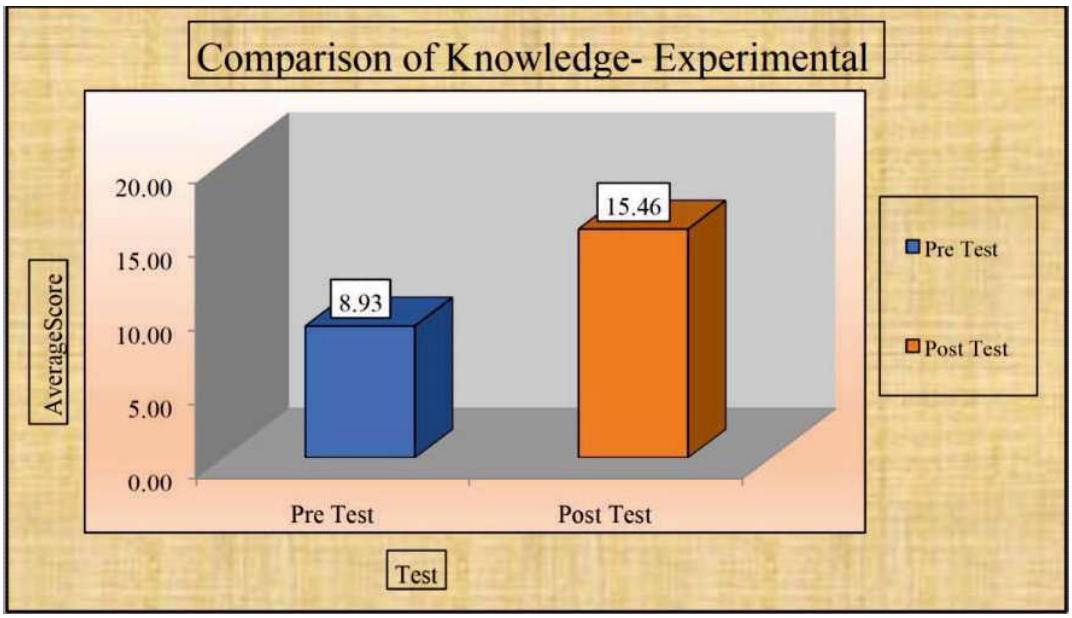


Table No 3: Comparison of pre and post-test Knowledge regarding B.P among patient with hypertension at selected rural area.

Groups	N	Mean	S.D.	tvalue	Pvalue
Pre-Test	30	8.63	2.52	11.55	0.000
Post-Test	30	16.48	2.98		

Figure No. 2: - Comparison of pre and post-test Knowledge regarding B. P. among patient with hypertension at selected rural area.



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TableNo4: Association of Knowledge Score in Relation to Demographic Variables.

Sr. No.	Variable	Groups	Knowledge		P value	Significance
			Poor	Average		
1	Age(in years)	30–45years	13	18	0.45	Not Significant
		46–60years	1	7		
		61–65years	4	5		
		Above65years	5	7		
2	Educational status	Graduate	5	8	0.41	Not Significant
		Primary Education	3	9		
		Secondary education	5	11		
3	Religion	Hindu	8	7	0.41	Not Significant
		Christian	5	7		
		Muslims	7	13		
		Others	3	10		
4	Monthly income	Lessthan1500	4	15	0.18	Not Significant
		1500-6000	6	4		
		6000-12000	6	10		
		Above12000	7	8		
5	Occupational status	Homemaker	11	29	0.014	Significant
		Government service	2	4		
		Private service	10	4		
		Business	2	4		
6	Dietary Pattern	Vegetarian	13	21	0.98	NotSignificant
		Non-veg	6	8		
		Mixed	10	16		
7		Daily	5	2	0.025	Significant
		Alternate day	2	4		
		Once a week	2	13		
	Habit of taking Non-Veg	Once a month	4	2		
8	Types of salty diet	Pickle	4	15	0.18	Not Significant
		Dry fish	6	4		
		Appalus	6	10		
		Chips	7	8		
9	Body weight	*40-50kg*	*5*	2	0.025	Significant
		50-60kg	*2*	4		
		60-70kg	*2*	13		
		Above 70 kg	*4*	2		

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The chi-square test was conducted to see the association of knowledge regarding B.P. among patient with hypertension at selected rural area of buldana city.

The chi-square test was conducted at 5% level of significance.

Conclusions

Knowledge regarding B. P. among patients with hypertension at selected rural area. The present study assessed the effectiveness of beetroot juice on knowledge regarding B. P. among patients with hypertension at selected rural area. The results revealed that beetroot juice is very effective in increasing the level of knowledge. From the findings of the study, the investigator concluded that planned teaching programme has an important role in increasing level of knowledge regarding B. P. among patients with hypertension at selected rural area.

Conflict of Interest: No

Financial Support: No

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