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A Study to Assess the Effectiveness of Amla Juice with Honey to Reduce the Blood Pressure Level among Hypertension Patients in Selected Urban Area

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ABSTRACT

BACK GROUND: The present study aim to effectiveness of Amla Juice with Honey to reduce the blood pressure level among hypertensive patients in selected urban area. **METHODS AND MATERIALS:** The quantitative approach with One group pretest posttest experimental research design was used for the present study. A total 100 samples were collected using non probability purposive sampling technique. The demographic data and clinical variables were gathered using self-administered questionnaire, followed by that data was gathered and analyzed. **RESULTS:** In the pretest, 37(37%) had systolic BP less than 120 mmHg, 31(31%) had 121 – 139, 28(28%) had 141 – 159 mmHg and 4(4%) had ≥160 mmHg of systolic BP whereas in the post-test, 62(62%) had less than 120 mmHg and 38(38%) had 121 – 139 mmHg of systolic BP.37(27%) had diastolic BP less than 80 mmHg, 30(30%) had 80 – 89 mmHg, 26(26%) had 90 – 99 mmHg and 7(7%) had ≥100 mmHg of diastolic BP whereas in the post-test, 57(57%) had less than 80 mmHg and 43(43%) had 80 – 89 mmHg of diastolic BP. **CONCLUSION:** Thus, the present despites that reduce the blood pressure level among hypertensive patients.

KEYWORDS: *Hypertension, Amla juice, Honey, Blood Pressure Level*

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INTRODUCTION

Hypertension is a condition in which blood pressure is abnormally high when the average of at least two accurate blood pressure measurements obtained at least twice in two visits is equal to or higher than 140 mmHg for the systolic blood pressure (SBP) and/or 90 mmHg for the diastolic blood pressure (DBP), the condition is known as hypertension. [1]

More than 41 million people worldwide pass away each year from non-communicable diseases (NCDs), accounting for 71% of all fatalities. Of the 15 million people who pass away between the ages of 30 and 70, many of them do so prematurely. [2]Untreated hypertension is one of the major issues in developing nations since it can result in serious and perhaps fatal illnesses. According to the statistics data, hypertension is thought to be the cause of 7.5 million fatalities worldwide each year, but the actual number is closer to 12.8%. Nearly 40% of people worldwide who are 25 years of age or older have hypertension; this is an increase from the 600 million cases reported in 1980 to roughly 1 billion cases reported in 2008 [3].The leading cause of preventable illnesses and deaths in India is hypertension. It is a significant contributor to the risk of cardiovascular disease, which contributed to 32% of adult fatalities and 23% of all deaths between 2010 and 2013. In order to achieve the Sustainable Development Goals (SDG) aim of lowering premature mortality from noncommunicable diseases (NCDs) by one-third by 2030, India has pledged to implement a number of initiatives [4].HTN is the most prevalent non-communicable disease in the majority of African nations, and in Cameroon in particular[5].According to various evaluations, the prevalence of HTN in the

Middle East and eastern Mediterranean countries ranged from 17 to 39%, and recent social and economic changes in these regions contributed to the high prevalence of the condition [6].One of the main causes of the rising prevalence of hypertension in India is a lack of awareness. Many people are unaware of their hypertension condition, and in some cases the cause of death is still unknown because most people with hypertension remain healthy and are only identified when cardiovascular disease or a stroke manifests. According to the estimate of the global burden of diseases from 2015, hypertension is one of the leading causes of death[7].Both urban and rural populations are now more likely to have HTN. In India, the prevalence of hypertension has increased over the past 60 years from 2% to 25% in urban areas and from 2% to 15% in rural areas. [8]

This includes weight loss by food intervention, quitting smoking, and engaging in physical activity. Comprehensive hypertension care should prioritise lowering cardiovascular risk as well as blood pressure through lifestyle changes, cholesterol control, quitting smoking, and regular exercise. [9]

It is a silent killer since very few early symptoms are ever noticed before a serious medical emergency like a heart attack, stroke, or chronic renal disease occurs. Only through measures may elevated blood pressure be found since people are not aware of it. Although the majority of hypertension patients experience no symptoms, some HTN sufferers report headaches, dizziness, vertigo, blurred vision, or fainting episodes. [10]

Thiazide diuretics and beta blockers are examples of medications used to treat high blood pressure. ACE drugs, or angiotensin-converting enzyme inhibitors. Blockers of the angiotensin II receptor (ARBs) Blockers of calcium channels Vasodilators and Renin Inhibitors. This study supports non-pharmacological interventions for the management of high blood pressure, including weight loss, increased physical activity, moderate alcohol consumption, reduced salt intake, fish oil supplementation, behavioural techniques like meditation and yoga, herbal remedies, and garlic. Indian gooseberry, fish oil, and omega-3 fatty acids can lessen the effects of hypertension. The most popular herb in ayurveda is amla; it balances the three Doshas of vayu, pitta, and kapha, aids with cardiac and digestive issues, strengthens the immune system, enhances vision, provides a healthy glow to the skin and hair, and is a rich source of vitamin C. [11] Its antibacterial, carminative, hypoglycemic, stomachine hypotensive, and astringent activity also controls hyperacidity and prevents infection, aids in ulcer healing, and treats jaundice, dyspepsia, and cough. Alma is a good cardio tonic, and its modest heart stimulating activity aids in blood pressure regulation. Gooseberry continues to be a widely used tonic. The fruit of the gooseberry contains 81.2% water, making it an excellent source of moisture for the skin. The highest natural source of vitamin C is found there. About 700 mg of vitamin C may be found in 100 g of amla, which is thirty times more than in an orange. Additionally, it contains tannic acids, calcium, iron, protein, carbs, sugar, and phosphorus. [12]

MATERIAL AND METHODS:

Study design: The quantitative approach with one group pre-test post-test experimental design was designed to investigate the effectiveness of Amla Juice with Honey to reduce the blood pressure level among hypertensive patients in selected urban area.

Study Setting: This study was conducted for 1 month from 1st March 2022 till 30th march 2022 in the Nerkundram.

Ethical Approval: After obtaining ethical clearance from the Institutional Ethical Committee (IEC) of Urban Primary Health Centre(UPHC) and formal permission from the medical officer the main study was conducted.

Study participants: A total 100 reproductive women aged between 40 to 60 years identify the hypertensive patients. The inclusion criteria for the study, Clients with hypertension who are willing to participate, Clients who are in the age group of 40 to 60 years of age, Clients who are having hypertension above 140/90 mmHg, Clients with hypertension who had no other co morbidities, exclusion criteria for the study are, Clients with hypertension not willing to participate in the study, Clients with hypertension with other comorbid conditions were excluded,Clients who are sensitivity to amla juice, Clients who are having hypertension above 180/110 mmHg.

Sampling Technique: A total of 100 hypertensive patients were recruited based on the inclusion criteria by using convenience sampling technique.

Informed Consent: The purpose of the study was explained by the investigator to each of the study participants and a written informed consent was obtained from them.

RESULTS AND DICUSSION

DESCRIPTION OF THE DEMOGRAPHIC VARIABLES OF THE CLIENTS WITH HYPERTENSION

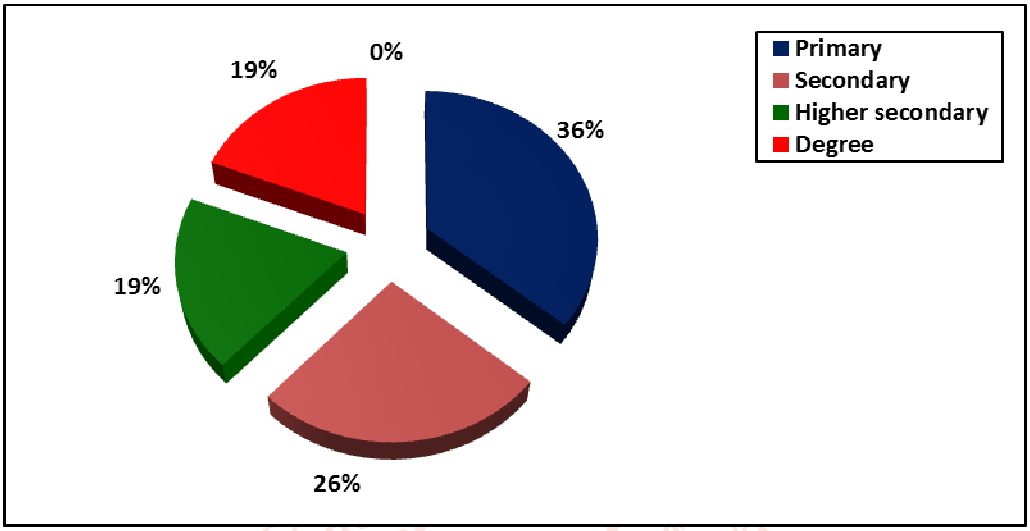
Table 1: Frequency and percentage distribution of demographic variables of clients with hypertension

n = 100

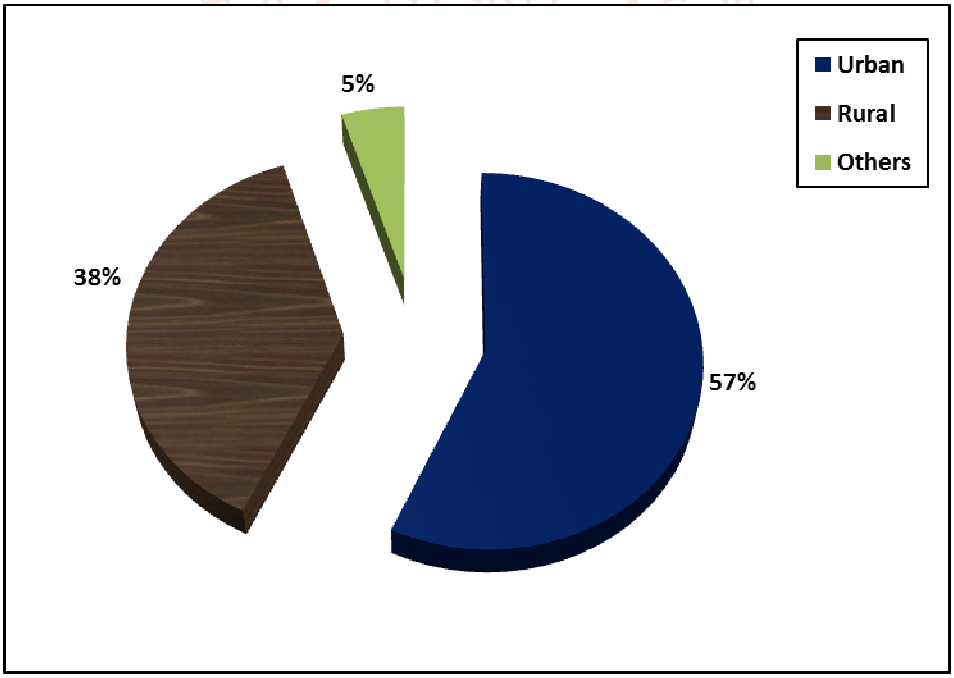
Demographic Variables	F	%
Age in years		
26 – 35	29	29.0
36 – 45	33	33.0
46 – 55	22	22.0
>55	16	16.0
Marital status		
Married	74	74.0
Unmarried	12	12.0
Widow	5	10.0
Divorce	9	18.0
Religion		
Hindu	55	55.0
Muslim	20	20.0
Christian	25	25.0
Others	0	0
Educational status		
Primary	36	36.0
Secondary	26	26.0
Higher secondary	19	19.0
Degree	19	19.0
Illiterate	-	-
Occupational status		
Employed	38	38.0
Unemployed	16	16.0
Business	31	31.0
Labourer	15	15.0
Income		
Rs.3000 – 4999	27	27.0
Rs.5000 – 9999	41	41.0
Rs.10,000 – 14,999	10	10.0
Rs.15,000 and above	22	22.0
Type of family (composition of family)		
Nuclear	78	78.0
Joint	22	22.0
Extended	-	-
Type of diet		
Vegetarian	29	29.0
Non-vegetarian	22	22.0
Mixed	49	49.0
Mode of delivery		
Normal vaginal delivery	55	55.0
Caesarean delivery	31	31.0
Instrumental delivery	14	14.0
Area of residence		
Urban	57	57.0
Rural	38	38.0
Others	5	5.0

Socio economic status		
Lower	7	7.0
Middle	73	73.0
Upper	20	20.0

The table 1 shows that most of the clients with hypertension, 33(33%) were aged between 36 – 45, 74(74%) were married, 55(55%) were Hindus, 36(36%) had primary education, 38(38%) were employed, 41(41%) had an income of Rs.5000 – 9999, 78(78%) belonged to nuclear family, 49(49%) were mixed diet, 55(55%) had normal vaginal delivery, 57(57%) were residing in urban area and 73(73%) belonged to middle class.



Percentage distribution of educational status of the clients with hypertension



Percentage distribution of area of residence of the clients with hypertension

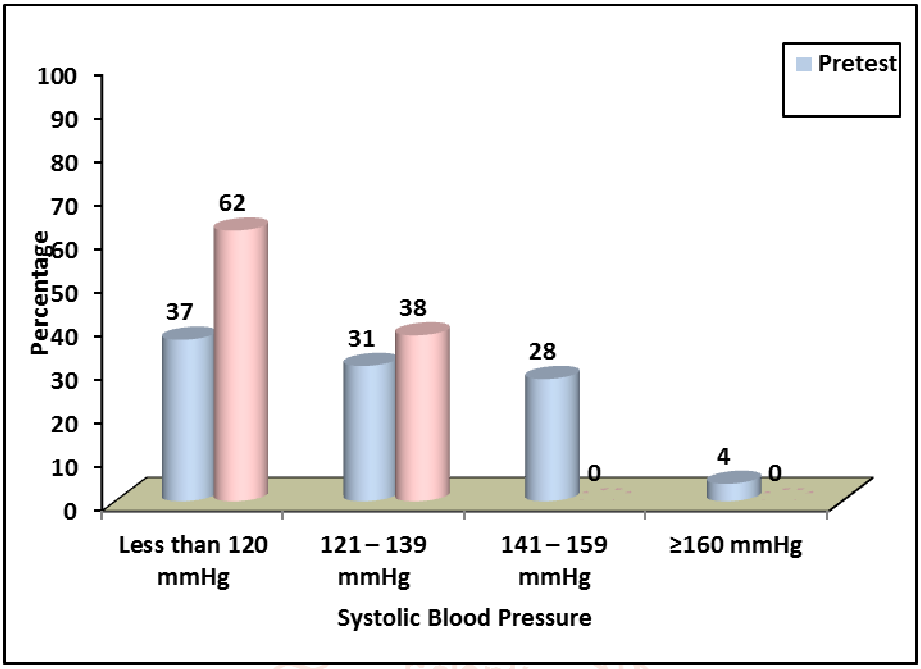
ASSESSMENT OF BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION

Table 2: Frequency and percentage distribution of pretest and post-test level of systolic BP among clients with hypertension

n= 100

Systolic BP	Pretest		Post-test	
	F	%	F	%
Less than 120 mmHg	37	37.0	62	62.0
121 – 139 mmHg	31	31.0	38	38.0
141 – 159 mmHg	28	28.0	-	-
≥160 mmHg	4	4.0	-	-

The above table shows that in the pretest, 37(37%) had systolic BP less than 120 mmHg, 31(31%) had 121 – 139, 28(28%) had 141 – 159 mmHg and 4(4%) had ≥160 mmHg of systolic BP whereas in the post-test, 62(62%) had less than 120 mmHg and 38(38%) had 121 – 139 mmHg of systolic BP.



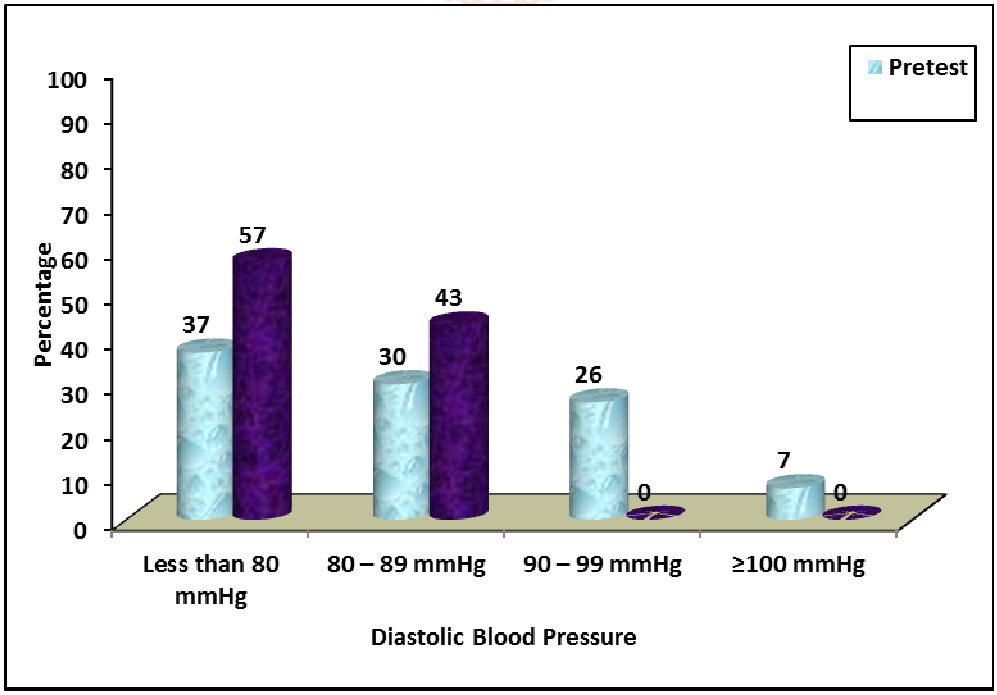
Percentage distribution of pretest and post-test level of systolic BP among clients with hypertension

Table 3: Frequency and percentage distribution of pretest and post-test level of diastolic BP among clients with hypertension

n= 100

Diastolic BP	Pretest		Post-test	
	F	%	F	%
Less than 80 mmHg	37	37.0	57	57.0
80 – 89 mmHg	30	30.0	43	43.0
90 – 99 mmHg	26	26.0	-	-
≥100 mmHg	7	7.0	-	-

The above table shows that in the pretest, 37(27%) had diastolic BP less than 80 mmHg, 30(30%) had 80 – 89 mmHg, 26(26%) had 90 – 99 mmHg and 7(7%) had ≥100 mmHg of diastolic BP whereas in the post-test, 57(57%) had less than 80 mmHg and 43(43%) had 80 – 89 mmHg of diastolic BP.



Percentage distribution of pretest and post-test level of diastolic BP among clients with hypertension

EFFECTIVENESS OF AMLA JUICE AND HONEY TO REDUCE THE BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION

Table 4: Comparison of pretest and post-test level of blood pressure among clients with hypertension

n = 100

Variables	Pretest		Post-test		Mean Difference score	Paired 't' test & p-value
	Mean	S.D	Mean	S.D		
Systolic BP	126.60	18.43	113.50	10.48	**13.10**	**t = 7.662 p=0.0001, S*** **
Diastolic BP	79.70	10.87	73.40	6.39	**6.30**	**t = 5.096 p=0.0001, S*** **

***p<0.001, S – Significant

The table 4 shows that the mean score of systolic BP was 126.60±18.43 and the post-test mean score was 113.50±10.48. The mean difference score was 13.10. The mean score of diastolic BP was 79.70±10.87 and the post-test mean score was 73.40±6.39. the mean difference score was 6.30. The calculated paired 't' test value for systolic BP (t=7.662) and diastolic BP (t=5.096) was found to be statistically significant at p<0.001 level which clearly infers that the administration of Amla juice with Honey among clients with hypertension was found to be effective in reducing the level of blood pressure in the post-test.

ASSOCIATION OF POST-TEST LEVEL OF BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION WITH SELECTED DEMOGRAPHIC VARIABLES

Table 5: Association of post-test level of blood pressure among clients with hypertension with selected demographic variables

n = 100

Demographic Variables	Chi-square and p-value	
	Systolic BP	Diastolic BP
Age in years	χ^2=3.953 d.f=3 p=0.267 .N.S	χ^2=4.206 d.f=3 p=0.240 .N.S
26 – 35		
36 – 45		
46 – 55		
>55		
Marital status	χ^2=0.884 d.f=3 p=0.829 .N.S	χ^2=3.595 d.f=3 p=0.309 .N.S
Married		
Unmarried		
Widow		
Divorce		
Religion	χ^2=1.570 d.f=2 p=0.456 .N.S	χ^2=0.909 d.f=2 p=0.635 .N.S
Hindu		
Muslim		
Christian		
Others		
Educational status	χ^2=2.882 d.f=3 p=0.413 .N.S	**χ^2=9.755 d.f=3 p=0.021 .S***
Primary		
Secondary		
Higher secondary		
Degree		
Illiterate		
Occupational status	χ^2=1.412 d.f=3 p=0.703 .N.S	χ^2=0.632 d.f=3 p=0.889 .N.S
Employed		
Unemployed		
Business		
Labourer		
Income	χ^2=2.679 d.f=3 p=0.444 .N.S	χ^2=2.153 d.f=3 p=0.541 .N.S
Rs.3000 – 4999		
Rs.5000 – 9999		
Rs.10,000 – 14,999		
Rs.15,000 and above		

Type of family (composition of family)	χ^2=0.665 d.f=1 p=0.415 .N.S	χ^2=0.069 d.f=1 p=0.792 .N.S
Nuclear		
Joint		
Extended		
Type of diet	χ^2=1.975 d.f=2 p=0.372 .N.S	χ^2=1.596 d.f=2 p=0.450 .N.S
Vegetarian		
Non-vegetarian		
Mixed		
Mode of delivery	χ^2=0.038 d.f=2 p=0.981 .N.S	χ^2=0.024 d.f=2 p=0.988 .N.S
Normal vaginal delivery		
Caesarean delivery		
Instrumental delivery		
Area of residence	**χ^2=6.353 d.f=2 p=0.042 S**	χ^2=1.336 d.f=2 p=0.513 .N.S
Urban		
Rural		
Others		
Socio economic status	χ^2=0.662 d.f=2 p=0.718 .N.S	χ^2=0.653 d.f=2 p=0.721 .N.S
Lower		
Middle		
Upper		

*p<0.05, S – Significant, N.S – Not Significant

The table 5 shows that the demographic variable area of residence **(χ^2=6.353, p=0.042)** had shown statistically significant association with post-test level of systolic BP among clients with hypertension at p<0.05 level and the other demographic variables had not shown statistically significant association with post-test level of systolic BP among clients with hypertension.

The table 5 shows that the demographic variable area of educational status2 **(χ^2=9.755, p=0.021)** had shown statistically significant association with post-test level of diastolic BP among clients with hypertension at p<0.05 level and the other demographic variables had not shown statistically significant association with post-test level of diastolic BP among clients with hypertension.

CONCLUSION:

Therefore, it was concluded effectiveness of Amla Juice with Honey to reduce the blood pressure level among hypertensive patients in selected urban area. Based on statistical findings, it is evident that Amla Juice with Honey administration among the clients with hypertension was found to be more effective in reducing the level of blood pressure. So, In order to contain and reduce the hypetension among clients with hypertension the Amla Juice with Honeycan be administered at hospital setting to promote early recovery by the patients.

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CONFLICT OF INTEREST:

Authors declare no conflict of interest.

FINDING SUPPORT:

None

REFERENCE:

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