

# Heart Smart Diet among Hypertensive Patients

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## ABSTRACT

Health is the level of functional or metabolic efficiency of a living being. In general, it is a condition of a person's mind and body, usually meaning to be free from illness, injury or pain. Heart Smart Diet looked at the effects of an overall eating plan in adults with normal to high blood pressure. Researchers found that in just eight weeks, people following the Heart Smart Diet saw their blood pressure decrease.

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## INTRODUCTION

Hypertension is the condition of having high blood pressure, systolic pressure above 140 mm Hg and diastolic above 90 mm Hg consistently for more than six months.

Blood pressure changes from minute to minute and is affected not only by activity and rest, but also by temperature, diet, emotional state posture and medications.

High blood pressure adds to the workload of the heart and arteries. The heart must pump harder and the arteries must carry blood that is moving under greater pressure.

If the blood pressure is too high, the heart has to work harder to pump which would lead to organ damage and several illnesses such as heart attack, stroke, heart failure, aneurysm, renal failure, vision loss.

A critical step in preventing and treating high blood pressure is healthy lifestyle.

Lifestyle modification that effectively lower blood pressure are losing weight if patients are over-weight or obese. For people who are obese or high cholesterol levels, changes in diet (to a diet rich in fruits, vegetables, and low-fat dairy products with reduced saturated and total fat content) are important for reducing the risk of heart and blood pressure.

## Problem statement

**"An Evaluative study to assess the effectiveness of structured teaching programme on heart smart diet among clients with hypertension in selected urban area of HaridwarUttarakhand"**

## Objectives of the Study

- To assess the pre-test level of knowledge regarding Heart Smart Diet among hypertensive patient.
- To assess the effectiveness of Heart Smart Diet among hypertensive patient.
- To find association between pre-test level of knowledge with selected socio demographic variables.

## Hypothesis

- H<sub>1</sub>:** There is a significant difference between pre-test and post-test knowledge scores of hypertensive patients regarding Heart Smart Diet.
- H<sub>2</sub>:** There is a significant association between knowledge scores of hypertensive patients regarding Heart Smart Diet and selected ,socio-demographic variables.

## Operational Definitions

- **Effectiveness:** In this study the effectiveness refers to the capability of producing a desired result among hypertensive patients measured by structured Knowledge Questionnaire.
- **Structured Teaching Programme:** It refers to systematically developed instructional programme using instructional aides, provide information regarding Heart Smart Diet measured by structured Knowledge Questionnaire.
- **Knowledge regarding Heart Smart Diet:** Dietary approaches to stop hypertension refers to diet rich in fruits, vegetables, whole grains and low-fat dairy foods which includes meat, fish, and poultry and are limited in sugar-sweetened foods and beverages measured by structured Knowledge Questionnaire.

- **Hypertensive patients:** It refers to people who have been medically diagnosed with high blood pressure more than 140/90 mmHg living in selected urban area in Haridwar.

## Research methodology

### Research Approach

Research approach indicates the basic procedures for conducting the research. The selection of the approach depends upon the purpose of the study. This research approach adopted to assess the effectiveness of Information Guide Sheet on knowledge regarding Heart Smart Diet among Hypertensive patients

### Research design

The research design selected for the present study was Pre-experimental one group pre-test and post-test design in which pre-test was conducted followed by Information Guide Sheet and then conducting post-test for the same group after 8 days

### Setting of the study

The study subjects were selected from the urban area Haridwar. The study conducted in urban area Haridwar, Uttarakhand. The selection of the area was done on the basis of:

- Geographical proximity
- Feasibility of conducting study
- Availability of sample

### Population

The population is any group of individual that has one or more common characteristics that are of interest to the researcher Population in the study consists of Hypertensive patients at urban area Haridwar, UK.

### Sample Size and Sampling Technique

The sample is portion of the population that has been selected to represent the study population. The sample of the current study consisted of the hypertensive patient in selected urban area of Hridwar Dist.

### Sampling technique

Sampling is a process of selecting a portion of the population to represent the entire population. Selection of the subjects for present study was done by using consecutive sampling technique. In this sampling technique investigator did not drop even a single subject during the study period. The entire subject who fulfilled the inclusion criteria were selected for the study.

### Sample size

Out of defined population, the researcher had selected the sample size for the present study was 60 hypertensive patient, who fulfilled the selection criteria of the study were included.

### Criteria for Selection of Sample

**Inclusion Criteria** – the samples were included who fulfilled the following criteria

- Hypertensive patients who were clinically diagnosed and were known case of hypertension past 5 years.
- Hypertensive patients who were willing to participate in the research study.
- Hypertensive patients who were available at the time of data collection.

- Hypertensive patients who can communicate in Hindi or English languages

### Exclusion Criteria -

- Hypertension with other co- morbid disorders

### Research tool

Based on the objectives of the study, a structured questionnaire was prepared in order to assess the knowledge of hypertensive patients on Heart Smart Diet. The structured questionnaires are of two parts:

**Part I:** Consists of 10 demographic characteristics of respondents seeking information such as age, gender, religion, dietary pattern, educational status, occupation, monthly family income, source of information regarding Heart Smart Diet and duration of disease.

**Part II:** Consists of 34 items pertaining to knowledge regarding Heart Smart Diet.

### Validity

Content validity of the tool was established by obtaining the suggestions from experts. The tool was validated by 10 experts in the field of Community Health Nursing, Medical Surgical Nursing, General Physician, Statistician, Dietician, English language expert, Hindi Language expert, Psychologist and sociologist. Modifications were made on the basis of recommendations and suggestion of the experts. After consulting guide and statistician, the final tool was reframed. Tool was found to be valid and suitable for hypertensive patients.

### Reliability

The tool after the validation was subjected to test for its reliability. The reliability of the tool was computed by split half Karl Pearson's correlation formula (raw score method). The reliability co-efficient of knowledge found to be 0.93 revealing the tool is feasible for administration for the main study. Since the reliability co-efficient for scale  $r > 0.70$ , the tool was found to be reliable and feasible. ( $r = 2r / 1+r$ ) Brown s prophecy formula was used.

### Data collection Procedure

#### A. Permission from the concerned authority

Formal permission was obtained from the medical officer in Haridwar Urban area UK.

#### B. Period of data collection

The data was collected from 7/01/2019 to 15/01/2019 for a period of 1 weeks at Haridwar Urban area UK.

#### C. Pre-test (O<sub>1</sub>)

The structured questionnaire was used to collect the data by conducting structured interview schedule from the hypertensive patients at Haridwar Urban area, UK. After obtaining permission from the authority and consent from the subjects, the investigator collected data from 60 hypertensive patients at their houses that took 35-40 minutes for each patient to complete the structured questionnaires.

#### D. Implementation of Information Guide Sheet (X)

Followed by pre-test, on same day structure teaching program was conducted in Hindi by the investigator for a period of 50 minutes by using appropriate visual aids.

**E. Post-test (O<sub>2</sub>)**

The same structured interview schedule was used to collect the post test data. Post test data was collected on 8<sup>th</sup> day after Information Guide Sheet.

**Analysis and Interpretation**

1. Frequency distribution of demographic variables.
2. Comparison of pretest and posttest knowledge score.
3. Effectiveness of Planned Teaching Programme on prevention of Hypertension.
4. Association between level of knowledge score with their selected Demographic Variables.

**Section A: Distribution of samples according to demographic variables**

Demographic variables	Frequency (f)	percentage
Age		
35-45	10	16.70
46-55	32	53.30
56-75	18	30.00
Gender		
Male	47	78.30
Female	13	21.70
Dietary Pattern		
Vegetarian	2	03.30
Mixed	58	96.70
Education		
No formal education	8	13.33
Primary education	7	11.68
Secondary Education	20	33.33
Higher Secondary	20	33.33
Graduation and above	5	08.33
Occupation		
Coolie	6	03.30
House Wife	2	10.00
Agriculture	24	40.00
Private	27	45.00
Government employ	1	01.70
Income		
1000-10000	48	80.00
10001 and above	12	20.00
Source of Information		
Health Personal	29	48.30
Friends and mass media	0	00.00
No Information	31	51.70
Duration of Hypertension		
<1	19	31.70
1-3	20	35.00
4-5	21	33.30

**SECTION-B Comparison of pretest and posttest knowledge score**

Knowledge Level	Classification of samples			
	Pre-test		post test	
	Frequency (f)	Percentage (%)	Frequency(f)	Percentage (%)
Inadequate 35-45	39	65	0	0
Moderate 46-55	20	33.33	13	21.66
Adequate 56-75	1	1.66	47	78.33
Total	60	100	60	100

**Section B:** Reveals that majority (65 %) of samples had inadequate knowledge, 33.33% had moderate knowledge and 1.66% had adequate knowledge regarding dietary approaches to stop hypertension in the pre-test. In the post-test, majority (78.33%) of the respondents had adequate knowledge and 21.66% of the samples had moderate knowledge about the topic.

**Section-C Effectiveness of Planned Teaching Programme**

Aspect Wise	Pre test	Post test	T value (paired)	DF	P Value Inference
	Mean ± SD	Mean ± SD			
Hypertension	3.83±1.48	7.51±1.12	15.53	59	** <0.001
Heart Smart Diet	7.51±2.87	18.75±1.72	24.96	59	** <0.001
Overall	11.35±3.6	26.26±2.30	26.58	59	** <0.001

**Note:** \*: Significant (P≤0.05); \*\* highly significant (P≤0.001)

**Section C:** The above table summarizes that the difference between the pre-test and post-test mean knowledge score in the aspect of Hypertension is  $t=15.53$  followed by HEART Smart Diet  $t=24.96$ , were found to be highly significant. The calculated "t" value 26.58 is greater than the table value 2.106 at 0.05 level of significance. As there is increase in knowledge scores among hypertensive patients in all the aspects of Dietary approaches to stop hypertension after administering the structured teaching programme, the teaching programme on Dietary approaches to stop hypertension was effective in terms of gain in knowledge among Hypertensive patients.

#### Section-D Association between level of knowledge score with their selected demographic variables

S. no	Demographic variable	≤Median	>Median	Total	χ <sup>2</sup> Value
1	Age				1.845
	50-55	25	17	42	
	55-90	14	4	18	
	Total	39	21	60	
2	Gender				0.495
	male	30	17	47	
	female	9	4	13	
	Total	39	21	60	
3	Dietary pattern				0.581
	Vegetarian	1	1	2	
	Mixed	38	20	58	
	Total	39	21	60	
4	Education				1.790
	No formal/primary	9	6	15	
	Higher secondary Graduates	16	5	21	
	Total	39	21	60	
5	Occupation				0.781
	Agriculturists	14	10	24	
	Others (Govt, Private, Coolie, House Wife)	25	11	36	
	Total	39	21	60	
6	Income				0.007
	1001-5000	20	11	31	
	>5000	19	10	29	
	Total	39	21	60	
7	Source of Information				1.356
	Health Personnel	18	13	31	
	No Information	21	8	29	
	Total	39	21	60	
8	Duration of HTN				2.592
	<1	15	4	19	
	1-3	13	8	21	
	>3	11	9	20	
	Total	39	21	60	

Not significant ( $P>0.05$ ); Significant ( $P\leq 0.05$ )

**Section D:** The analysis of association between the selected demographic variables and the overall knowledge score of hypertensive patients during pre-test reveals the following information. The  $\chi^2$  value was computed to find association between the pre-test knowledge level of hypertensive patients on Dietary approaches to stop hypertension and selected demographic variables. The calculated  $\chi^2$  value is less than the critical value for all demographic variables such as age, gender, religion, dietary pattern, educational status, occupation, income, duration of hypertension and source of information were not significant at 0.05 level. Thus, research hypothesis (**H2**) was rejected for all the demographic variables. Thus, there is no significant association between pre-test knowledge scores of hypertensive patients regarding Heart Diet and selected socio-demographic variables.

**Results:** The overall pre-test knowledge scores of hypertensive patients on Heart Smart Diet was found to be 33.38% and the overall post-test knowledge scores was found to 77.23% and enhancement in the mean percentage knowledge score (131.36 %) was found to be significant at 5% level of all the aspects under study. There was no significant association between pre-test knowledge scores and selected demographic variables

#### Implication of study

**Nursing education:** Teachers need to be aware of their role in Heart Smart Diet. Nurse educators conduct health education programme on Heart Smart Diet for hypertensive patients.

**Nursing practice:** Health professionals, especially community health nurses should be motivated to give health teaching aspects of hypertension. They should regularly conduct health education programmes regarding healthy diets

**Nursing administration:** the nurse administrators need to organize continuing nursing programmes for nursing personnel and motivate them to conduct health education programmes which are beneficial to the community.

**Nursing research:** Nurses can contribute to the profession to accumulate new knowledge regarding different aspects of health education programme and can educate and motivate the community towards health promoting activities.

### Recommendations

On the basis of the findings of the study following recommendations have been made:

- The study could be replicated in a larger sample in different settings.
- A similar study may be conducted in other back ward districts, taluks, villages etc.,
- Manuals, information booklets and self-instruction module may be developed.
- A long-term study can be done to assess the impact of Heart Smart Diet.
- A comparative study can be undertaken to compare the findings of the rural and urban community

### References

- [1] Cleveland clinic journal of medicine Njeri karanja, PhD et al The Heart Smart Diet for high blood pressure: From clinical trial to dinner table volume 71, number 9 September 2004: 745. Available from: URL: [ccjm.org/content/71/9/745.full.pdf](http://ccjm.org/content/71/9/745.full.pdf)
- [2] MridulChaturvedi, SaurabhJindal, RajeevKumar, Lifestyle Modification in Hypertension in the Indian Context, Journal, Indian Academy of Clinical Medicine, Vol-10, No.1&2. January- June 2009. Available from: URL: [medind.nic.in/jac/t09/i1/jact09i1p46.pdf](http://medind.nic.in/jac/t09/i1/jact09i1p46.pdf)

- [3] American journal of Hypertension 2010; 23 4, 347-350. Doi: 10.1038/ajh.2009.276. Available from: URL: [www.nature.com](http://www.nature.com) > Journal home.
- [4] R.Savitha et al; "prevalence of essential hypertension in early and mid-adolescents"; Indian journal of pediatrics; 2007 March; 74(11); 1007-1011. Available from: URL: [www.rguhs.ac.in/cdc/onlinecdc](http://www.rguhs.ac.in/cdc/onlinecdc).
- [5] Gupta R: Trends in hypertension epidemiology in India; Journal of Human Hypertens; 2004 Feb; 18(2):73-8.
- [6] Sobrino J, Domenech M, Camafort M, Vinyoles E, Coca A. Prevalence of masked hypertension in a cohort of controlled hypertensive patients in Spain. Med Clin (Barc) 2011 May 21; 136(14):607-12.
- [7] Giday A, Tadesse B. Prevalence and determinants of hypertension in rural and urban areas of southern Ethiopia. Ethiop Med J 2011 Apr; 49(2):139-47.
- [8] Singh RB, Beegom R, Ghosh S, Niaz MA. Epidemiological study of hypertension and its determinants in an urban population of North India. J Hum Hypertens 1997 Oct; 11(10):679-85.
- [9] Forman JP, Stampfer MJ, Curhan GC. Diet and lifestyle risk factors associated with incident hypertension in women. JAMA 2009 Jul 22; 302(4):437-9.
- [10] Harrington J, Fitzgerald AP, Layte R, Lutomski J, Molcho M, Perry IJ. Sociodemographic, health and lifestyle predictors of poor diets. Public Health Nutr 2011 Jun 13:1-10.
- [11] Uzun S, Kara B, Yokusoglu M, Arslan F, Yilmaz MB, Karaeren H. The assessment of adherence of hypertensive individuals to treatment and lifestyle change recommendations. 2008 Jul-Aug; 48(4): e92-9; quiz e100-2.