A Cross Sectional Study to Assess the Dietary Habits, Body Mass Index and Blood Pressure among Hypertensive Clients Residing at Muthialpet, Puducherry, India

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Introduction

Hypertension is a medical condition in which blood pressure is chronically elevated. According to World Health Organization (WHO) criteria, the systolic blood pressure (SBP) of a person equals 140 mmHg or above and diastolic blood pressure (DBP) 90 mmHg or above is considered a case of hypertension. According to WHO World Health Report 2002, there are approximately 600 million people suffering from hypertension in the world. It causes an estimated 50 million premature deaths and 13% of global fatalities worldwide. High blood pressure contributes 10.9% of disability-adjusted life years (DALYs) in developed countries, whereas 5% in developing countries with low mortality rates. Cardiovascular disease is one of the major leading causes of deaths in developed countries. In a day, a young adult in the age group of 20 to 45 years is expected to shed 1,000 calories on work-related activities. Poor physical activity coupled with high calorie food, high salt content and fatty food intake, serve as drawbacks. Thus this study was carried out to assess the dietary habits, body mass index and blood pressure among Hypertensive clients residing at Muthialpet, Puducherry, India

Statement of the Problem

A cross sectional study to Assess the Dietary Habits, Body Mass Index and Blood Pressure among Hypertensive clients residing at Muthialpet, Puducherry".

Objectives

1. To describe the socio-demographic characteristics of hypertensive patients
2. To describe the body mass index (BMI) of hypertensive patients
3. To determine the relationship between dietary habits, BMI and blood pressure.

Methodology of the Study:

A Quantitative Non experimental Descriptive Cross-sectional Survey design was used in this study. The population of the study were hypertensive patients (patients with a confirmed diagnosis of hypertension for at least six months or with current blood pressure ≥ 140/90 mmHg). 30 hypertensive patients was selected by purposive sampling technique. Data were collected using Semi structured Questionnaire consists of Demographic variables, BMI Assessment, Dietary habit during the past month.

Results of the Study:

The results revealed that, 36.67% were aged above 60 years, while 6.667% of participants were aged between 31 - 40 years, 73.3 % of all participants were home maker, about 16.7% of the participants were not aware of hypertension and 40% reported that no history of Hypertension.

n=30

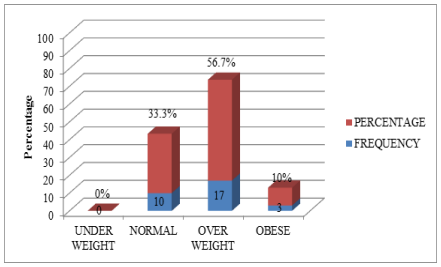

Fig 1: Distribution of Hypertensive Patients according to their Body Mass Index.

n=30

Blood pressure	Min	Max	Mean	S. D.
SBP	110	180	136	14.04
DBP	60	110	87.3	10.15

Table 1: Descriptive statistics for Systolic Blood pressure and Diastolic Blood pressure n=30

S. No	Dietary habits	Frequency	Percentage
1	Fatty food intake (Days per week)		
	less than 3 days per week	13	43
	3 to 5 days per week	12	40
	6 days or more per week	1	4
	Never	4	13
	Fatty food intake (Times per Day)		
	Only once a day	26	86.7
	Two or more times per day	0	0
	Never	4	13.3
2	Fruits intake (Days per week)		
	less than 3 days per week	16	53
	3 to 5 days per week	7	23
	6 days or more per week	4	13
	Never	3	10
	Fruits intake (Times per Day)		
	Only once a day	27	90
	Two or more times per day	0	0
	Never	3	10
3	Vegetables intake (Days per week)		
	less than 3 days per week	13	43
	3 to 5 days per week	7	23
	6 days or more per week	9	30
	Never	1	3.3
	Vegetables intake (Times per Day)		
	Only once a day	27	90
	Two or more times per day	2	6.7
	Never	1	3.3
4	Salty food intake (Days per week)		
	less than 3 days per week	12	40
	3 to 5 days per week	12	40
	6 days or more per week	0	0
	Never	6	20
	Salty food intake (Times per Day)		
	Only once a day	27	90
	Two or more times per day	0	0
	Never	3	10

Table 2: Frequency and Percentage distribution of Hypertensive Patients according to Fatty food, Fruits intake, Vegetable and Salty Food intake

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Alcohol consumption

One participant 3.3% found consuming alcohol reported drinking beer, once a week ranged from 1 bottle to 2 bottles.

Correlation coefficient of SBP and DBP with dietary habits.

Dietary Habits & BMI	Blood pressure (mmHg) Correlation coefficient (ρ)	
	SBP	DBP
Fatty foods Days per week Time Per day	-0.368* 0.0059	-0.418* -0.237
Fruits Days per week Time Per day	-0.346 0.154	-0.305 0.396*
Vegetables Days per week Time Per day	-0.35 -0.02	-0.392* -0.021
Salty foods Days per week Time Per day	-0.24 0.18	-0.26 0.06
BMI	0.334	0.653*

* p-value < 0.05

Table 3 : Analysis of relationship between dietary habits and increase blood pressure

Conclusion

The study aimed to ascertain the extent and nature of hypertensive patients and their dietary habits. Its objective was to examine the relationship of dietary Habits and BMI with Blood Pressure.

The minimum and maximum values of BMI were 19 and 31.5 kg/m2 respectively with mean value 26 kg/m2 and standard deviation 3.04 kg/m2. A majority of participants were found to be either overweight 56.7% or obese 10%, 33.3% of the participants were found to be normal, and none of them underweight.

With regard to the assumption of this study, a statistically significant relationship was found between Fatty foods consumption, Fruits, Vegetable and diastolic blood pressure (DBP). There no significant relationship of salty food consumption was demonstrated with hypertension.

BMI also had a statistically significant relationship was found with Diastolic Blood pressure at $p<0.05$.

It can therefore be concluded that lifestyle related risk factors such as excess body weight and consumption of unhealthy diets were evident in hypertensive patients in Muthialpet, Puducherry, India. The nature and extent of hypertensive patients and their dietary habits were not effective and satisfactory.

Recommendations

• Consumption of diets rich in fruit and vegetables has been proven effective in promoting good health and preventing disease, and produces a potent antihypertensive effect. Programmes encouraging healthy dietary habits should be promoted at community level, as well as in clinical practice.

• Weight reduction should be promoted and facilitated at both community level and in clinical practice.

• Blood pressure screening programmes for early detection and effective management of hypertensive patients should be organized in order to prevent later complications associated with hypertension.

• Health education and counseling programmes for both patients and the public should be developed in order to increase awareness regarding causes, consequences, prevention and control of hypertension.

References

1. World Health Organization. Diet and physical activity: a public health priority [Online]. Available from: http:// www.who.int/dietphysicalactivity /en/ [Accessed Nov 15]

2. World Heart Federation Fact-Sheet, 2002 [Online]. Available from: ttp:// www.wrongdiagnosis.com/h/hypertension/stats.htm [Accessed Oct 15]