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A Study To Assess The Knowledge On DASH Diet Among Hypertensive Patients Residing In Koravallimedu, Puducherry

Abstract: A Descriptive study was conducted to assess the knowledge of the DASH diet among hypertensive patients residence in Koravallimedu village, Puducherry. A total of 100 hypertensive patients were selected by using the convenience sampling technique. The data was collected by using a structured questionnaire on the DASH diet among study participants from 08/03/2024 to 13/03/2024. The collected data were analyzed through descriptive and inferential statistics. The results revealed that nearly half of the hypertensive patients (47%) had moderate knowledge, 45% had inadequate knowledge, and only 8% had adequate knowledge regarding the DASH diet. There was a significant association found between knowledge levels with education & dietary patterns and also a significant association between blood pressure & drug intake with health profiles. These findings emphasized that there is a need for an awareness program about the DASH diet among community people.

Keywords: Hypertension, hypertensive patients, DASH diet, knowledge, Puducherry

1.INTRODUCTION:

Hypertension is a major risk factor for cardiovascular diseases and stroke. It remains a significant public health concern, contributing to the onset of cardiovascular diseases, stroke, and premature death. Hypertension is a serious public concern that demands immediate attention. It's often referred to as the "silent killer. According to the World Health Organization (WHO) global report (2024), Hypertension affects over one billion people worldwide. Only 54% of adults were diagnosed, 42% received treatment, and 21% of hypertension controlled [(1)]. The prevalence of hypertension in the Southeast Asia Region was more than 294 million people [(2)]. In India, the prevalence of hypertension was 220 million people in India living with hypertension, and only 12% have their blood pressure under control (WHO-2024) [(3)]. The 2019-2020 National Family Health Survey (NFHS-5) reported that the prevalence of hypertension in Puducherry was 24% was men and 21% was women [(4)].

Non pharmacological interventions are often the first line of defense in managing hypertension. Lifestyle changes can help lower high blood pressure. These include eating healthy, sodium reduction, potassium-rich foods, weight management, balanced diet, regular exercise, stress management, sufficient sleep, limiting alcohol, smoking cessation, and regular blood pressure monitoring.

The DASH eating plan requires no special foods and instead provides daily and weekly nutritional goals. This plan recommends Eating vegetables, fruits, and whole grains.

Need for the study;

Hypertension is a major non-communicable disease (NCD) and affects about 20% of the population in most communities. Hypertension is a major and causation of coronary artery disease, stroke, various other vascular complications, and renal disorders. Major risk factor for cardiovascular mortality, which accounts for 20% - 50% of all deaths, making it a silent killer [(5)]

Hypertension is a widespread issue affecting millions worldwide. Many factors contributing to high blood pressure, such as poor diet and lack of exercise, are modifiable through lifestyle changes. The DASH diet has been clinically proven to lower blood pressure effectively without medication for many people. Beyond blood pressure control, the DASH diet promotes overall heart health and weight management.

Reni Prima Gusty (2023) estimated that the six components of knowledge about the DASH diet showed an increase in knowledge level after education at intervention among hypertensive elderly with a p-value of <0.05. The elderly hypertensive health education model I was effective in increasing the knowledge, attitudes, and adherence of elderly hypertensive patients to the DASH diet [(6)].

NanikHandayani (2023) found that there was an increase in knowledge (p=0.000), attitude (0.000) and adherence (0.000) to the DASH diet among elderly hypertensive patients [(7)].

M.YagaJeyanthi (2019) stated that 40% had adequate knowledge, 55% had moderate knowledge, and 5% had inadequate knowledge of the DASH diet and also found there is a need to promote the awareness program on the DASH diet [(8)].

2.MATERIALS & METHODS:

Design: A descriptive non-experimental design was adapted for the present study.
Sample Size: A total sample of 100 hypertensive patients both male and female residing in Korvallimedu village, Puducherry.
Sampling Technique: A convenience sampling technique was used to select the sample.
Data collection Procedure: Formal written permission was obtained from Principal A.G. Padmavathi College of Nursing for conducting the main study.The main study was conducted from (08.03.2024 to 14.03.2024). A total of 100 hypertensive patients were selected by convenience sampling technique. The investigators established good rapport with the hypertensive patients by an informal talk. The purpose of the study was explained to the participants to ensure their co-operation. The structured interview was conducted by the investigators to collect data regarding demographic variables, health profile and knowledge level. The time spent for each sample was 20 minutes. Then completed data was compiled for data analysis.

3.RESULTS:

The present stud revealed that 25% of hypertensive patients were in the age group of 56-60 years, (24%) between 51-55 years, and half of hypertensive (54%) patients were males and (45%) were females. Most hypertensive patients (98%) were living in rural areas, and they belong to (63%) Hindu religion and Christians (25%). Education, 34% had no formal education, and only 28% and 23% of them had education up to middle and primary school levels, respectively. Regarding income, 59% were earned < Rs.6,323, and 36% were earned between Rs.6,323-18,949./. The majority (77%) of hypertensive patients were married, and 80% were taking Non-vegetarians.

Regarding their health profile nearly half (48%) of hypertensive patients had pre-hypertension, (35%) were Hypertension stage-1 patients. Half of their (50%) hypertensive patients had Normal BMI, (33%) were Overweight. 50% of Hypertensive patients had Normal WHR, and 27% were Underweight. Only half (58%) between 1-5 years. 51% of Hypertensive patients had a Family history of Hypertension, and 49% of Hypertensive patients had no history of Hypertension. The majority (61%) of them take medicine regularly. FFifty-four percent (54%) of Hypertensive patients had Alcohol and smoking habits, and 22% had poor sleeping patterns. And 47% of hypertensive patients had Diabetes mellitus, and 26% had Heart disease.

Regarding their knowledge level nearly half of the 47% had moderately adequate knowledge, 45% of the hypertensive patients had inadequate knowledge, and only 8% had adequate knowledge about the DASH diet (table1). The level of knowledge about the DASH diet has a significant association with the demographic variables such as Educational status and dietary pattern at p<0.05 significance (Table 2) and the level of knowledge about the DASH diet has a significant association with health profiles and lifestyle practices such as Blood pressure and Drug intake at p<0.05 significance (table 3).

Table 1: Distribution of Hypertensive patients by their level of knowledge about the DASH diet

SI. No.	Knowledge level	No. of patients	Percentage
1.	Inadequate	45	45%
2.	Moderate	47	47%
3.	Adequate	8	8%
	Total	100	100%

Table 2 : Association between levels of knowledge of the DASH diet with selected demographic variables (n=100)

Demographic variables		Numbers	Knowledge score					KW/MW test	p-value
			Mean	SD	Median	Percentile 25	Percentile 75		
Age in years	30-35	8	8.88	2.47	9	6.5	10.5	3.496	0.745 NS
	36-40	14	9.43	3.65	9.5	6	11		
	41-45	13	9.08	2.22	10	8	11		
	46-50	12	10.17	4.17	10.5	6.5	14		
	51-55	24	10.5	2.95	10.5	9	12.5		
	56-60	25	9.88	3.46	11	8	12		
	60 and above	4	9.75	3.4	9	7	12.5		
Gender	Male	54	10.28	2.93	10.5	8	12	2.702	0.259 NS
	Female	45	9.22	3.48	9	7	11		
	Transgender	1	11	--	11	11	11		
Residence	Urban	2	8.5	2.12	8.5	7	10	0.480	0.787 NS
	Rural	98	9.84	3.23	10	8	12		
Religion	Hindu	63	9.63	3.54	10	7	12	2.103	0.551 NS
	Muslim	11	9.82	2.36	10	9	11		
	Christian	25	10.08	2.6	10	8	12		

	Others	1	14	--	14	14	14		
Education	No formal education	34	9.68	2.77	10	8	12	12.620	0.049
	Primary school	23	10.74	2.96	11	9	13		
	Middle school	28	9.96	3.2	10	7	12.5		NS
	High school	9	10.44	3.91	10	8	12		
	higher secondary	2	3	2.83	3	1	5		
	Diploma	3	6.67	1.15	6	6	8		
	Graduates	1	6	--	6	6	6		
Monthly income	Rs: < 6,323	59	9.47	3.05	10	7	12	4.846	0.089
	Rs: 6327 - 18,949	36	10.03	3.53	10	8	12		NS
	Rs: 18,953 - 31,589	5	12.2	0.84	12	12	13		
Marrital status	Married	77	9.91	3.23	10	8	12	0.140	0.932 NS
	Unmarried	6	9.67	3.39	9.5	6	13		
	Widowed	17	9.41	3.2	10	8	11		
Dietary pattern	Vegetarian	15	7.47	3.16	6	5	9	12.729	0.002 **S**
	Non-vegetarian	80	10.4	2.91	10	8.5	12		
	Eggetarian	5	7.4	4.22	6	6	10		

Table 3 :Association between level of knowledge about DASH diet with health profiles and lifestyle practices

Health profile and association		No	Knowledge score					KW/MW test	p-value
			Mean	SD	Median	Percentile 25	Percentile 75		
BP	Normal	14	7.71	3.24	7.5	6	9	10.146	0.017
	Pre-Hypertensive	48	9.92	2.83	10	8	12		
	Hypertensive satge-1	35	10.26	3.46	10	8	13		**S**
	Hypertensive satge-2	3	12.67	1.15	12	12	14		
BMI	Underweight	6	9.17	1.83	9	9	11	4.328	0.228
	Normal	53	9.4	3.18	9	7	12		
	Over weight	33	10.64	3.12	11	9	13		NS
	Obese	8	9.62	4.31	8.5	6	13		
WHR	Underweight	27	9.7	3.39	10	7	13	0.114	0.945
	Normal	50	9.86	3.16	10	8	12		NS
	Obese	23	9.83	3.21	9	7	12		
Onset of hypertension	Less than a year	6	11.17	2.64	10.5	9	12	2.505	0.474
	1 - 5 years	58	10.09	3.08	10	8	12		NS
	6 - 10 years	27	9.11	3.53	9	6	12		
	Above 10 years	9	9.22	3.27	10	6	12		
Family history of hypertension	Yes	49	9.2	3.4	9	6	12	3.655	0.056
	No	51	10.39	2.92	11	9	12		NS

Take drugs regularly	Yes, as prescribed by physician	61	10.41	3.1	11	8	12	6.835	0.033 **S**
	No	27	9	3.33	9	7	10		
	Where blood pressure arise	12	8.58	2.97	8.5	6	11		
Harmful habits	Alcohol and smoking	54	9.52	3.23	10	7	12	3.675	0.299 NS
	Eating poorly	11	9.91	3.81	11	6	12		
	Not getting enough sleep	22	9.55	3.19	9	8	11		
	Others	13	11.38	2.36	11	10	13		
Other problem	Diabetes mellitus	47	10.66	3.25	11	8	13	6.594	0.086 NS
	Heart disease	26	8.58	3.36	9	6	10		
	Asthma	6	9.33	3.08	8.5	7	12		
	Others	21	9.57	2.5	10	9	11		

4.DISCUSSION:

A descriptive design was used to select the sample. A total of 100 hypertensive patients were selected by a convenience sampling technique. The aim of the study was to assess the level of knowledge on DASH diet amon hypertensive patients residing in Koravallimedu villae, Puducherry.

The first objective of the present study was to assess the level of knowledge among the hypertensive patients :

The study findings show that 45% of hypertensive patients had inadequate knowledge, 47% hadmoderately adequate knowledge, and only 8% had adequate knowledge about the DASH diet. The supported study, conducted by Aiswarya Thomas (2023) revealed that the majority, 30 (75%), had moderate knowledge, and 10 (25%) had inadequate knowledge of the DASH diet [(9)] and M.Yagajeyanthi (2019), revealed that the 40% had adequate knowledge, 55% had moderate knowledge, and 5% had inadequate knowledge [(8)].

The second objective of the present study was to find an association between the level of knowledge of the DASH diet and their selected demographic variables

The study findings show that the level of knowledge about the DASH diet has a significant association with demographic variables such as Educational status and dietary pattern and level of knowledge about the DASH diet has a significant association with health profiles and lifestyle practices such as Blood pressure and Drug intake at $p<0.05$ significance. In contrast to AnziyaN, Nishana Nousand (2020) reported that there was a significant association between knowledge and demographic variables like sex and education. There is no significant between age, food habits, occupation, ill habits, and family type [(10)] and Suneesh P.M (2019), reported that there was a significant association between the level of knowledge and their selected demographic variables such as educational status and occupation [(11)].

5.CONCLUSION:

The study concluded that transgender people had a Nearly half of hypertensive patients had moderate and inadequate knowledge about the DASH diet. The level of knowledge about the DASH diet is significant with the educational status and dietary pattern. Blood pressure and drug intake were significant with knowledge level.

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