

Knowledge and Attitude Regarding Dash Diet Among Hypertensive Patients

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Abstract - Background: Hypertension, one of the leading non-communicable diseases, causes a considerable number of fatalities worldwide, including 17.9 million each year. Based on a descriptive cross-sectional study conducted in India across all state and union territories on 2024 to assess the prevalence and associated risk factors of hypertension, it was stated that India has a 22.6% overall prevalence of hypertension, with a greater prevalence among males (24.1%) than among women (21.2%). Prevalence increased with age, reaching 48.4% in individuals aged 60 and above. Hypertension is often described as a “silent killer” because it may not show obvious symptoms until significant organ damage has occurred. Early intervention, particularly through non-pharmacological approaches such as dietary modification, is vital in preventing the progression of the disease. Studies suggest that dietary habits significantly influence blood pressure levels. Among various dietary strategies, the DASH diet has been consistently associated with reductions in both systolic and diastolic blood pressure.

Objectives: The study’s objectives were Multifaceted, encompassing the evaluation of knowledge and Attitude levels of DASH diet among hypertensive patients in a selected community, identification of Associations between knowledge and Attitude scores and socio-demographic variables, and the Development of an informative booklet on DASH Diet.

Methodology: Study design: Descriptive study, Setting: community Health, vellanikara, Thrissur Participants: 60 Hypertensive patients.

Results showed that 60% had adequate knowledge, 40% had moderate knowledge, and none had inadequate knowledge. Regarding attitude, 38.33% showed a very good attitude, 43.34% good attitude, 18.33% moderate attitude, and none showed poor or fair attitudes. A significant association was found between knowledge and attitude and their selected demographic variables.

The findings reveal good awareness of the DASH diet but also highlight a substantial proportion with only moderate knowledge, indicating a need for continued

educational efforts. The information booklet proved valuable in improving knowledge and promoting better dietary self-management among hypertensive individuals.

Key words: Hypertensive patients, Hypertension, Knowledge, Attitude, DASH diet.

I. INTRODUCTION

Hypertension, the silent killer, is defined as a condition, where the blood pressure is at 140/90 mm Hg or higher in two or more measurements. It is a non-communicable epidemic disease and increasingly important medical and public health issue. ^2

According to the global health data published by World Health Organization on the previous year 2024, approximately 1.28 billion adults between the ages of 30 and 79 around the globe are affected by hypertension, with the majority (two-thirds) residing in low and middle-income nations. 46% of patients with hypertension are thought to be ignorant about their disease and only 42% of patients with hypertension receive a diagnosis and treatment. Of patients with hypertension, almost 1 in 5 (21%) have it under control. Reducing the prevalence of hypertension by 33% between 2010 and 2030 is one of the global goals by WHO.

The Dietary Approaches to Stop Hypertension (DASH) diet is one of the most extensively studied and evidence-based dietary interventions recommended for hypertensive patients. Developed by the National Institutes of Health (NIH), the DASH diet emphasizes the consumption of fruits, vegetables, whole grains, lean proteins, and low-fat dairy while reducing intake of saturated fat, cholesterol, and sodium.

II. MATERIALS AND METHODS

STATEMENT OF THE PROBLEM

A study to assess the knowledge and attitude regarding DASH diet among hypertensive patients in a selected community, Thrissur, with a view to develop an information Booklet.

OBJECTIVES OF THE STUDY

1. To assess the level of knowledge and attitude regarding DASH diet among hypertensive patients.
2. To find out the association between the level of knowledge and attitude towards DASH diet among hypertensive patients with their selected demographic variables.
3. To develop and distribute an information booklet on DASH diet.

III. OPERATIONAL DEFINITIONS

Knowledge: Refers to the information and understanding that hypertensive patients have regarding the DASH diet, including its components, benefits, and role in controlling blood pressure

Attitude: Refers to the beliefs, perceptions, and feelings of hypertensive patients towards the DASH diet and its implementation in daily life.

DASH Diet: A dietary pattern designed to lower blood pressure, emphasizing fruits, vegetables, whole grains, low-fat dairy, lean proteins, and a reduction in sodium intake.

Hypertensive Patients: Individuals aged 30-70 years diagnosed with primary hypertension and currently under medical care at a selected tertiary hospital in Thrissur district.

Information Booklet: A printed educational material developed based on the results of this study to improve awareness and encourage healthy eating patterns among hypertensive patients.”

Assumption of the study

Hypertensive patients may have varying levels of knowledge and attitude regarding the DASH diet.

Educational materials such as booklet can improve understanding and encourage dietary changes.

Demographic variables such as age, education, occupation, and dietary habits may influence the level of knowledge and attitude.

Research approach and design

Quantitative Research Approach and Descriptive Design.

Setting of the study

Community Health centre , Thrissur.

Sample and sampling technique

The 60 samples were selected by convenient sampling technique.

Sampling criteria

Following criteria were used in selection of sample for the study.

► **Inclusion criteria**

Patients diagnosed with hypertension.

Age group between 30 to 70 years.

Patients who are willing to participate in the study.

Those who can read, understand and communicate in Malayalam.

► **Exclusion criteria**

Those who are cognitively impaired.

Patients who are critically ill or mentally unstable.

Patients who are healthcare professionals or on a special therapeutic diet other than DASH

Variables

Research variable

In this study, the research variable is the structured knowledge questionnaire and attitude tool.

Study variable/demographic variable

In this study, the study variable is the demographic variables such as age, gender, type of family, religion,

education, occupation, marital status, dietary habits, social habits, monthly income, previous source of information and any family member working in health care field.

Description of the Tool

The tools used in this study are structured knowledge questionnaire and attitude scale which was developed based on extensive review of literature of relevant topics from books, journals and internet. Suggestions from guide and experts in the field of medical surgical nursing were utilized. t

Tool 1: Structured knowledge questionnaire

Structured knowledge questionnaire used in this study consist of 3 sections

SectionA: Socio Personal variables

It consists of 12 items such as age, gender, type of family, religion, education, occupation, marital status, dietary habits, social habits, monthly income, previous source of information and any family member working in health care field.

Section-B: Clinical profile

It consist of 4 items about the present and past clinical condition of the patient.

Section-C: Structured Knowledge Questionnaire

Structured Knowledge Questionnaire is to assess the knowledge of patients regarding DASH diet. It consists of 30 questions in which there are 2 general items to assess the participants' basic awareness of human anatomy, 9 items on hypertension to evaluate the participants' understanding of the condition, 19 items on DASH diet, that focuses on the principles and components of the DASH diet. Each correct alternative has a score of 1. The total score is 30. The technique used was interview method.

Methods

The study was conducted according to the following steps:

Approval from the ethical committee was obtained followed by administrative permission for conducting the Study.

The tool was developed by the researcher, after a review of recent relevant literature.

After obtaining content validity from experts, the study was conducted among Hypertensive patients in community Health centre (NCD clinic) by following the Inclusion and exclusion criteria.

The collected data were analyzed by descriptive statistics.

IV. RESULTS

The analysis of the study is presented in 5 sections:

Section A: Distribution of demographic profile of hypertensive patients

On the basis of age, 1 (1.67%) of sample belonged to less than 40 years, 5 (8.33%) of sample belonged to the range of 41-50 years, 15 (25%) of sample belonged to the range of 51-60 years, 24 (40%) belonged to the range of 61-70 years, 15 (25%) of sample belonged to greater than 70 years.

On the basis of gender, 18 (30%) are males, 42 (70%) are females.

On the basis of type of family 44 (73.33%) belongs to nuclear family, 16 (26.67%) belongs to joint family.

On the basis of Religion, 39 (65%) were Hindu, 18 (30%) were Christian, 3 (5%) were Muslim.

On the basis of educational status, 50 (83.33%) of sample is illiterate, 34 (56.67%) have primary education, 13 (21.67%) have secondary education, 4 (6.6%) have higher secondary education.

In the view of occupation status, 2 (3.3%) were private employees, 3 (5%) were government employees, 12 (20%) were self-employee, 13 (21.67%) were homemakers, 12 (20%) were retired, 18 (30%) were unemployed.

On the basis of marital status, 53 (88.33%) is married, 2 (3.33%) is unmarried and 5 (8.33%) is widow/widower.

On the basis of Dietary habits, 4 (6.67%) are vegetarians, 56 (93.36%) are non-vegetarians.

On the basis of social habits, 58 (96.66%) of samples has no social habits, 2 (3.33%) are alcoholic.

On the basis of family income, 41 (68.33%) have a family income of less than Rs:10000, 16 (26.67%) have a family income between Rs:10001-20000 and 3 (5%) have a family income of greater than Rs:20000.

In the perceptive of previous source of information on DASH diet, 40 (66.67%) having no knowledge, 16 (26.67%) having some knowledge, 4 (6.67%) having knowledge from mass media.

In the view of family members working in health care field, 48 (80%) are not working in health care filed and 12 (20%) were working in health care field.

Section B: Distribution of level of knowledge regarding DASH Diet among hypertensive patients

SLNO. VARIABLES FREQUENCY PERCENTAGE

1	Inadequate knowledge.	24	40%
2.	Moderate knowledge.	36.	60%
3.	Adequate knowledge.	0.	0%

The table shows the frequency and percentage distribution of level of knowledge regarding DASH diet among hypertensive patients. Out of 60 sample 24(40%) patients are having inadequate knowledge regarding DASH diet, 36(60%) patients are having moderate knowledge regarding DASH diet

Section C: Description of level of attitude regarding DASH Diet among hypertensive patients

SLNO. VARIABLES FREQUENCY PERCENTAGE

1.	Poor attitude.	0	0%
2.	Fair attitude	0.	0%
3.	Moderate attitude	11	18.33%
4.	Good attitude.	26.	43.33%
5.	Very good attitude.	23.	38.33%

The table 5 shows the frequency and percentage distribution of level of attitude regarding DASH diet among hypertensive patients. Out of 60 samples 11(18.33%) patients are having moderate attitude regarding DASH diet, 26(43.33%) of patients having good attitude and 23(38.33%) of patients having very good attitude regarding DASH diet.

Section D: Association of knowledge regarding DASH Diet among hypertension patients with their selected demographic variables χ^2 calculated value of Age in

years, Gender, Type of family, Religion, Educational status, Occupational status, Marital status, Dietary status, Social. Habits, Family income per month and Family members working in the health care field is less than table value. There is significant association between the previous source of information regarding DASH diet among Hypertensive patients because previous knowledge reduces the illiteracy.

Hence H1 is Accepted.

Section E: Association of attitude regarding DASH Diet among hypertensive patients with their selected demographic variable

χ^2 calculated value of Gender, Type of family, Religion, Educational status, Marital status, Dietary habits, Social habits, Family income per month, Previous source of Information regarding DASH diet, and Family members working in health care field is less than table value. There is significant association between the Age and the Occupational status, because Advancing age and Occupational status elevates the knowledge level as well as the Attitude also.

Hence H1 is accepted.

V. DISCUSSION

Objective: 1- To assess the level of knowledge and attitude regarding DASH diet among hypertensive patients in a selected community, Thrissur with a view to develop an information booklet.

In-depth analysis of the study findings revealed that among 60 hypertensive patients of selected community, 24(40%) were having inadequate levels of knowledge, 36 (60%) of them were having moderate knowledge.

The research findings of the present study are in accordance with the research findings of another study conducted in Tamil Nadu by Josephine et al, to evaluate knowledge and dietary behavior related to DASH among hypertensive patients. The study recruited 100 patients through convenience sampling from the medical outpatient department. A structured interview tool was used to assess DASH-related knowledge. Results showed that 70% of participants had inadequate knowledge, 25% had moderate knowledge, and only 5% had good knowledge. Among food habits, Only 19% consumed low-fat dairy, 28%

ate fruits 23 times a week, and 57% reported High salt intake. The study concluded that awareness campaigns and patient education programs are essential to improve dietary behavior in line with DASH guidelines 20.

The present study findings were supported by another hospital-based descriptive study carried out by Ravindran and Meera (2021) in Trivandrum, Kerala, to explore the attitude of hypertensive patients towards adopting the DASH diet. The study enrolled 100 hypertensive patients through purposive sampling from the outpatient department of a private hospital. A Likert-scale based structured questionnaire was used to measure three domains: perceived benefit, readiness to change, and cultural compatibility. The findings revealed that 28% had a highly favourable attitude, 47% moderately favourable, and 25% unfavourable attitude. Though many participants expressed willingness to try the DASH diet, cost of fruits and dairy products and lack of family support were cited as barriers. The researchers emphasized the importance of community diet educators in improving patient attitude and compliance."^5

Objective: 2 To find out the association between the level of knowledge and attitude towards DASH diet among hypertensive patients with their selected demographic variables.

The findings of the study were concordant with a descriptive cross-sectional study by Das et al. (2023) was carried out in a rural community of West Bengal, to assess knowledge on DASH diet and its role in hypertension prevention. A total of 250 hypertensive adults were selected using random sampling from community health records. A pre-tested semi-structured interview schedule was administered to gather data on diet knowledge and food choices. The results showed that only 14% had heard of the DASH diet, while 65% reported high salt intake, and 40% regularly consumed processed foods. Participants with higher education had significantly better knowledge ($p < 0.001$), and females demonstrated better adherence to DASH principles than males. The study suggested that lack of knowledge was the primary barrier to adopting healthy dietary patterns."^6

Objective: 3-To develop and distribute information booklet on DASH diet

The booklet distribution, will enhance the knowledge regarding DASH diet and this was supported by comprehensive information booklet on hypertension and DASH diet which was developed by the investigators, encompassing detailed information on the Hypertension and it's causes, signs and symptoms, Treatment, DASH diet, Foods included and excluded in DASH diet. To ensure accessibility and understanding, the booklet was prepared in the regional language, catering to the specific needs of the target population in CHC, Thottapadi, vellanikkara, Thrissur District. During the data collection period, the investigators were readily available to address any queries or concerns raised by the participants, providing pertinent information and clarification as needed. The booklet was systematically distributed to all participants, serving as an educational resource to improve the knowledge regarding DASH diet among hypertensive patients.

VI. CONCLUSION

Hypertension is one of the most prevalent non-communicable diseases among individuals aged 40 and above. Dietary pattern plays a significant role in the development and management of hypertension. There is an effective dietary pattern known as DASH diet for the control and management of hypertension. But many of the hypertensive patients are unaware about the importance of following DASH diet. The findings of the present study revealed that majority of the hypertensive patients had inadequate knowledge 24(40%) and 36(60%) have moderate knowledge, but none of them had adequate knowledge. So awareness regarding DASH diet is important to improve the health condition of hypertensive patients. Thus the investigators identified that an information booklet would be really an effective tool and asset in the future for creating an awareness among the hypertensive patients.

REFERENCE

- [1] 1 Gupta R, Xavier D. Hypertension: The most important non communicable disease risk factor in India. *Indian Heart J.* 2018;70(4):565-72
- [2] 2. World Health Organization. Hypertension [Internet]. 2021 [cited 2025 Jun 17]. Available from: <https://www.who.int/news-room/fact-sheets/detail/hypertension>

- [3] World Health Organization. Hypertension [Internet]. 2024 [cited 2025 Jun 17]. Available from: <https://www.who.int/news-room/fact-sheets/detail/hypertension>
- [4] Appel LJ, Moore TJ, Obarzanek E, et al. A clinical trial of the effects of dietary patterns on blood pressure. *N Engl J Med.* 1997;336(16):1117-24.
- [5] Ravindran R, Meera M. Attitude of hypertensive patients towards DASH diet in Trivandrum, Kerala. 2021.
- [6] 6.Das S, et al. Knowledge of DASH diet and its role in hypertension prevention in rural West Bengal. 2023.