Nutritional knowledge and dietary adherence among hypertensive patients in Lalitpur

Anusha Acharya
Purbanchanl University, Nepal

Presented by:

Ms. Anusha Acharya

Background and Objectives

- Hypertension concern is growing globally due to its association with increased rates of illness, death, disability, and financial burden.
- It is considered the most significant and easily adjustable risk factor for heart problems, strokes, kidney problems, and eye disease.
- A population-based study conducted in Nepal found 44.2% prevalence of hypertension among Nepalese individuals over the age of 18 (Muhammed *et al.*, 2018).

Background and Objectives

- The Multi-Sector Action Plan for NCDs aims to reduce hypertension prevalence by 25% by 2025, with a national target of 19.3 in 2025.
- The most successful way to manage hypertension is through lifestyle changes, particularly dietary changes and increased exercise (Borjesson *et al.*, 2016; Challa, Ameer and Uppaluri, 2020).
- Research has shown that the Dietary Approach to Stop Hypertension (DASH) diet is an effective method for both preventing and treating hypertension (Siervo *et al.*, 2015; Challa, Ameer and Uppaluri, 2020).

Background and Objectives

- The NCDs risk factors: STEPS Survey Nepal 2019 also showed that 96.7% of adults had an inadequate intake of fruits and vegetables and consumed more salt than the recommended daily amount.
- Despite it’s rising incidence in Nepal, research on knowledge and adherence to the DASH diet is limited.
- This study evaluated the knowledge and adherence to the DASH diet among hypertensive patients in Lalitpur and the factors influencing them.

Study Variables

Independent Variables

- Age, sex, marital status, family type, religion, education, occupation
- Hypertension duration, awareness of blood pressure level, drug therapy, family history, habit/history of smoking, habit/history of alcohol, daily walk for 30-60 minutes (at least 4-5 days a week)
- Counselling by medical personnel, nutritionist

Study Variables

Independent Variables

- Barriers: poor knowledge to prepare right food, feeling of tasteless food, difficulty in changing old dietary habit, poor family support, availability of food, affordability of food, lack of time to prepare food

- Self-efficacy: Limit salt intake, control overeating, eating adequate fruits and vegetables, limit saturated fat, limit sweetened beverages and sweets, limit intake of processed food, reduced intake of oily food, not eating restaurant food

Study Variables

Dependent Variables

- Knowledge of DASH diet
- Adherence to DASH diet

Background and Objectives

General objective

To find out the knowledge, adherence, and associated factors of the DASH diet among hypertensive patients

Background and Objectives

Specific objective

- To assess the level of knowledge of hypertension among hypertensive patients
- To determine factors associated with the level of knowledge of hypertension among hypertensive patients
- To assess the level of knowledge of the DASH diet among hypertensive patients
- To determine factors associated with the knowledge of the DASH diet among hypertensive patients
- To find out the level of adherence to the DASH diet among hypertensive patients
- To determine factors associated with adherence to the DASH diet among hypertensive patients

Methodology

Study design : Cross-sectional descriptive and analytical

Study Method: Quantitative method

Study Area: Outpatient Department of KIST Medical College and Teaching Hospital.

Study Population: Hypertensive patients aged 20-59 years old, and visiting KISTMCTH OPD from 6th November 2022 to 18th January 2023.

Sampling method and Technique: Systematic random sampling method with a Sampling interval of 2

Methodology

Sample Size: The calculated sample size was 308, but after 18 refusals, the final size was 290.

Inclusion Criteria: All hypertensive patients aged 20 to 59 years old, who visited OPD of KIST Hospital, who had been diagnosed with hypertension for at least 1 year, and who gave written consent to participate in the study.

Exclusion Criteria: Hypertensive patients those who had the comorbid condition (diabetes, ESRD, psychotic disorder, pregnant).

Methodology

Validity

- The questionnaire was adopted from previous study (16,37,38), and need-based modification was done.
- Consulted with a practicing cardiologist and nutritionist.

Reliability

- Structured questionnaire was used
- Modification of the instrument based on pretesting
- Cronbach’s alpha was used to test internal consistency which was 0.76

Methodology

- **Data Collection Technique/ Methods**: Face-to-face interviews were conducted using a structured questionnaire to collect participants' sociodemographic information, knowledge of hypertension and the DASH diet, and diet adherence.

- **Data Management:** After data cleaning, editing, and processing, it was entered and analyzed using the Statistical Package for Social Science (SPSS) version 25

Methodology

Scoring Technique:

- One point was given for every correct answer
- Adherence to the DASH diet was checked by using a 5-point Likert scale from never to nearly always, which was scored from 0 to 4. Reversed coding was done on need.
- Marks scored related to knowledge and adherence were changed to percentages.
- After that, based on the operational definition, the level of knowledge was ranked as low, average and high. Similarly, adherence to diet was ranked as adherence and non-adherence.

Methodology

Descriptive analysis: Frequency, percentage, mean and standard deviation.

Bivariate analysis: Pearson's chi-squared test, odds ratio and 95% corresponding interval (CI) were applied to test the significance of association. Factors with p-value < 0.05 were considered statistically significant.

Multivariate analysis: Multivariate binary logistic regression was used. Hosmer and Lemeshow test was used to test the goodness-of-fit for regression model. Model was considered fit if p-value was > 0.05.

Methodology

Limitations of the study

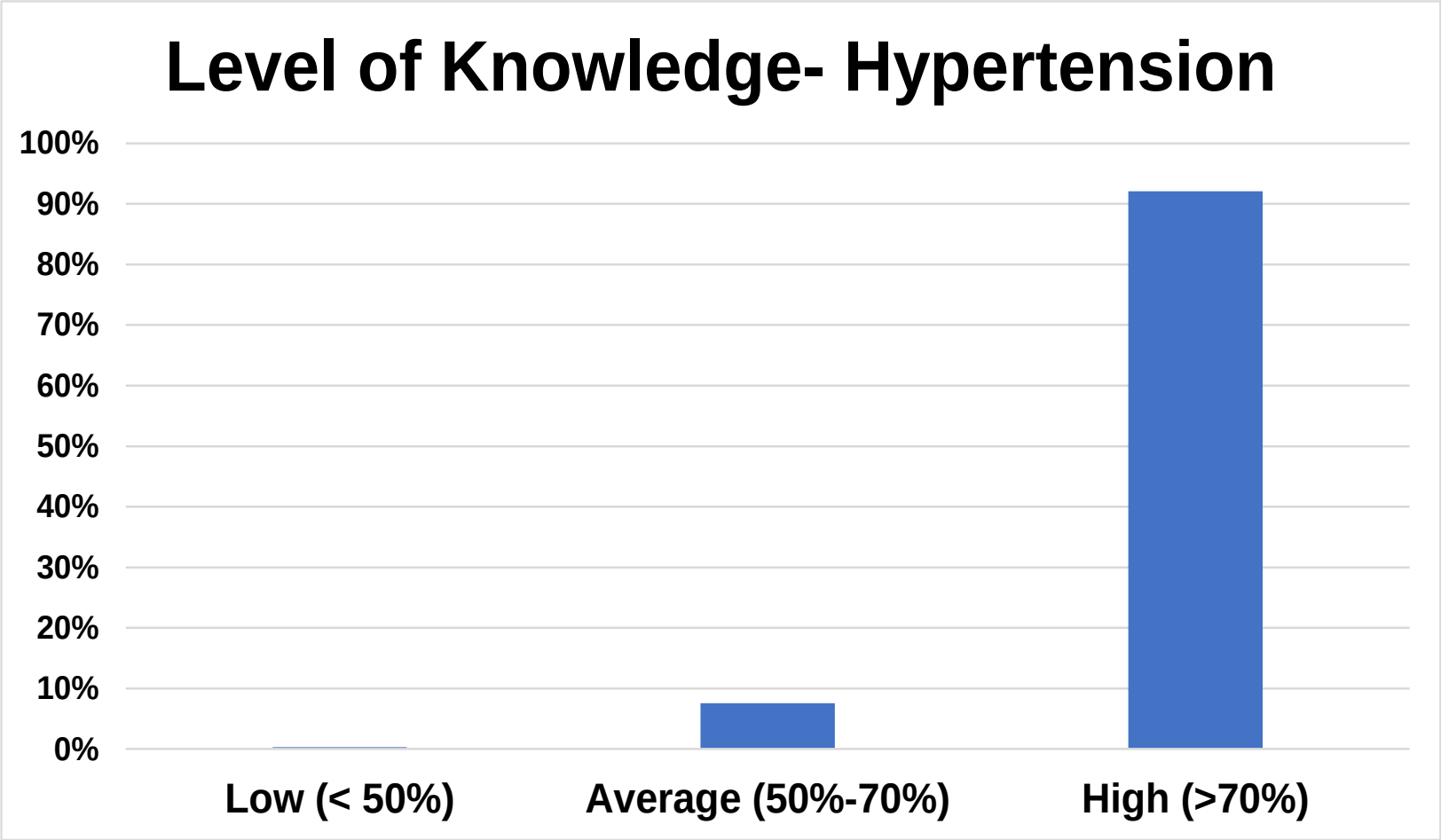
- As the study is cross-sectional, a cause-effect relationship cannot be ruled out.
- There were chances of modification of dietary practice by participants due to the study design (cross-sectional).
- Food amount and serving frequency completely relied on individual subjective concepts.

Methodology

Ethical Consideration

- Ethical approval for the study was taken from the Institutional Review Committee of KIST Medical College and Teaching Hospital.
- Informed voluntarily written consent was taken
- Participants were informed of their right to withdraw from the study at any time.
- Confidentiality of the participants was maintained.

Result



Majority (92.1%) of respondents had a high level of knowledge and only an insignificant number of respondents had a low level of knowledge.

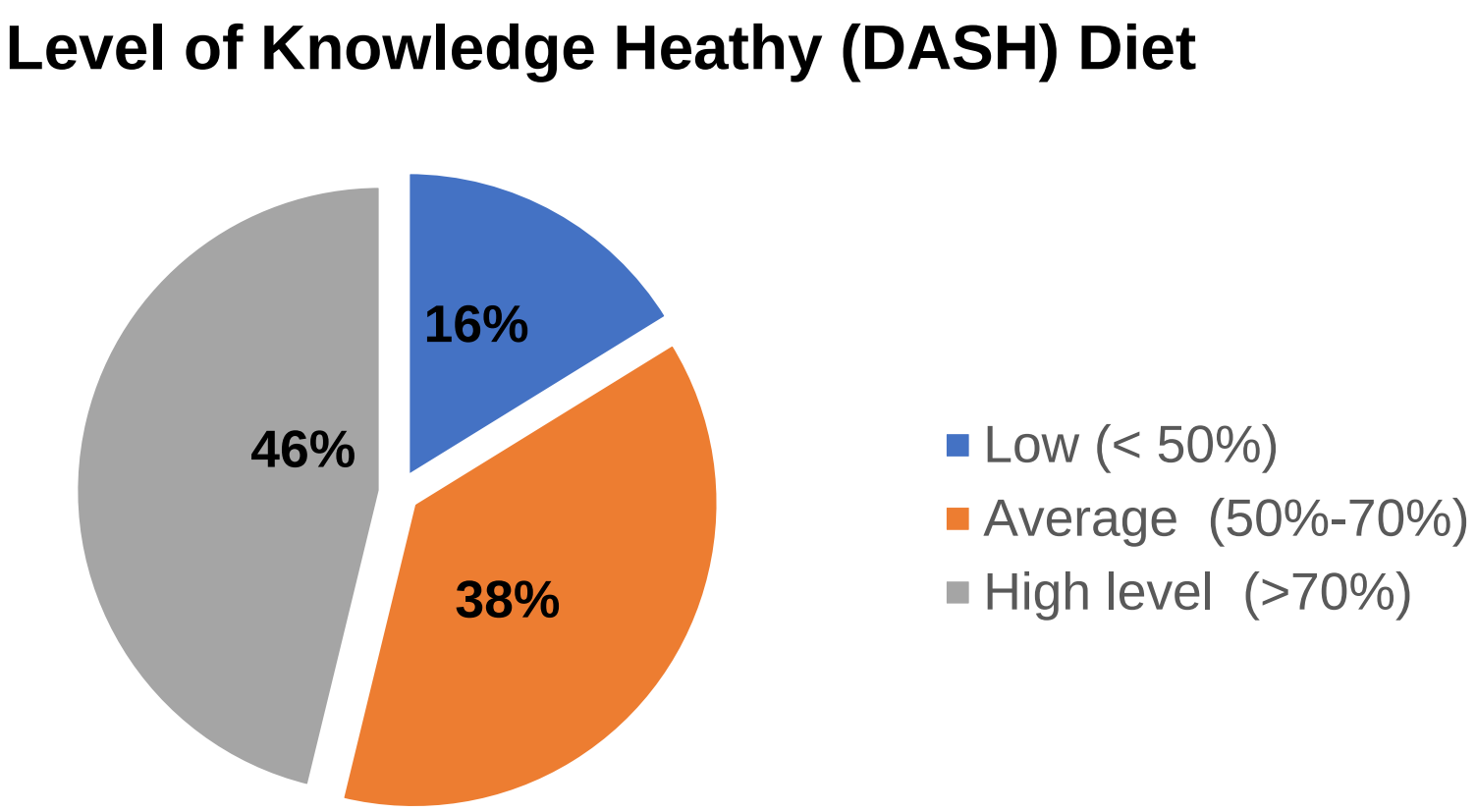
Result

Factors Associated with Knowledge of Hypertension

Variable	Adjusted OR (95%CI)	p-value
Hindu	5.3 (2.054-13.434)	0.001*

Hindu were 5.3 times more likely to have high hypertension knowledge than the respondents following other religions.

Results



Only 46% of the respondents have high knowledge related to a healthy (DASH) diet and just more than half of the respondents have knowledge up to seventy percent.

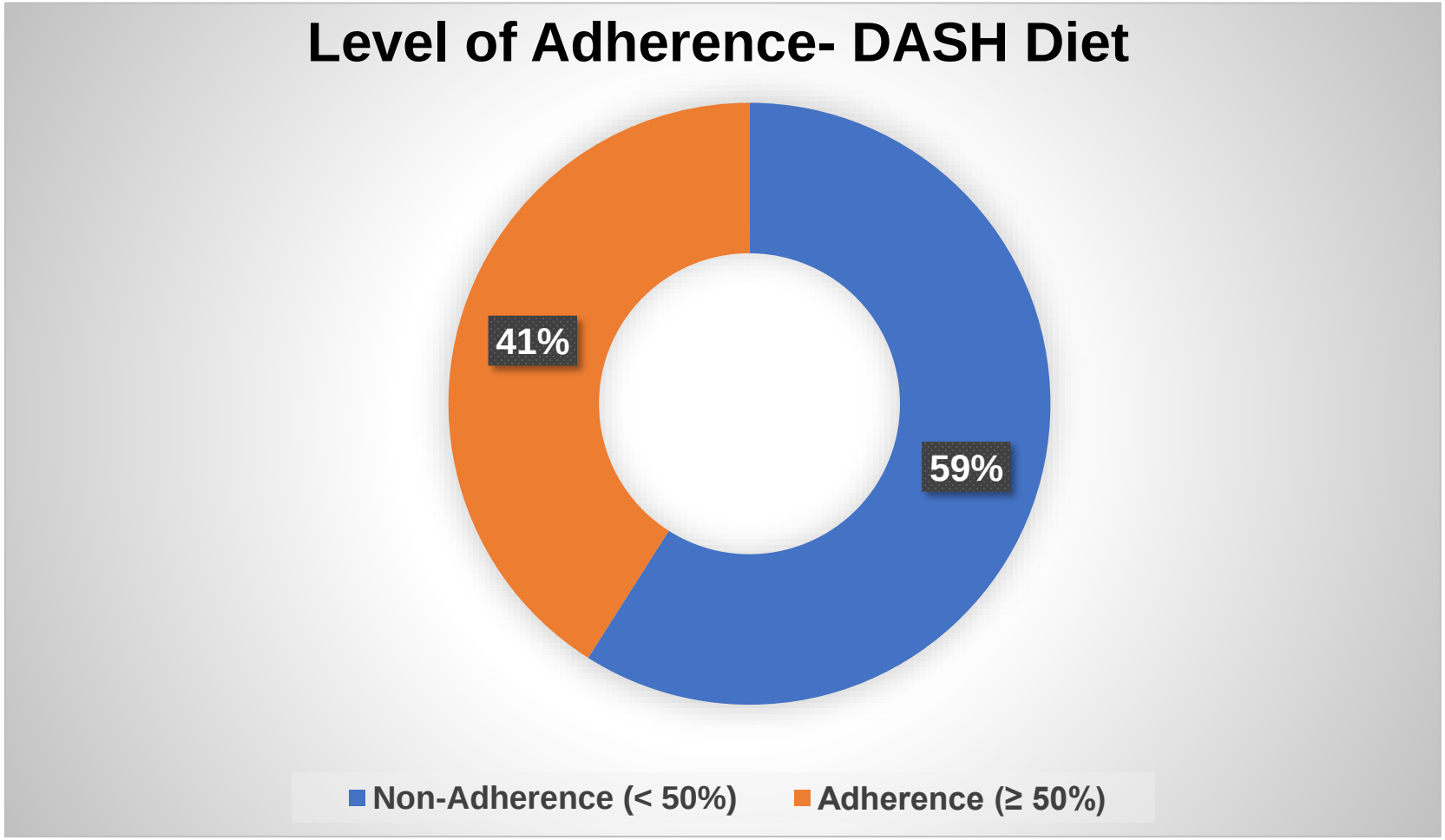
Results

Factors Associated with Knowledge of DASH diet

Variable	Adjusted OR (95%CI)	p-value
≥Secondary Education	3.6 (1.896-6.936)	<0.001*
Aware of one's blood pressure level	2.3 (1.096-4.778)	0.028*
No Habit/ history of smoking	2(1.037-3.882)	0.039*
High Hypertension Knowledge (>70%)	3.7 (1.077-13.012)	0.038*

Having at least secondary education, being aware of one's blood pressure level, having no habit/history of smoking, and possessing high knowledge of hypertension were found statistically significant with knowledge of DASH diet at a p-value <0.05

Results



Majority (59%) of the respondents had non-adherence to DASH diet

Results

Factors Associated with Adherence of DASH diet

Variable	Adjusted OR (95%CI)	p-value
HTN Duration (> 7 years)	2.2 (1.050-4.610)	0.037*
High DASH Knowledge (>70%)	2.3 (1.232-4.248)	0.009*
High Self-efficacy	7.7 (4.305-13.732)	<0.001*

Hypertension duration (> 7 years) , high DASH Knowledge (>70%) and high self-efficacy were found statistically significant with knowledge of DASH diet at a p-value <0.05.

Conclusion

- As the hypertension is increasing burden to humankind, it is essential to effectively manage it.
- The study concludes that the majority of the respondents were non-adherent to DASH diet.
- Previously mentioned predictors of adherence to the DASH diet, such as a longer duration of hypertension, knowledge of the DASH diet, and self-efficacy in following dietary therapy, all are related to health education on diseases and the corresponding dietary treatments.
- Therefore, implementing strategies to enhance understanding of hypertension, DASH diet, along with boosting self-efficacy, could be beneficial for improving the health of hypertensive patients.

Brief Bio

I am Anusha Acharya graduated in Masters of Public Health (**2023, Tribhuvan University)** with almost 8 years of clinical experience (**Bachelor of Nursing Science: 2016, Tribhuvan University).** Currently, I am engaged as lecturer in Purbachal University.