KNOWLEDGE OF HYPERTENSION AND HYPERTENSION TREATMENT PRACTICES AMONG ELDERLY TREATED AT THE GERIATRICS DEPARTMENT, TIEN HAI DISTRICT GENERAL HOSPITAL IN 2024

Tran Thi Thu Ha[1]*, Vu Phong Tuc[1], Nguyen Thi Ha Phuong[1]

Abstract

Objectives: This study aims to describe the level of knowledge regarding hypertension and treatment practices among older adults receiving care at the Geriatrics Department of Tien Hai District General Hospital in 2024.

Method: A cross-sectional study was conducted on 391 elderly people in the Geriatrics Department of Tien Hai General Hospital in 2024.

Results: The prevalence of hypertension was 79.3%. Dizziness (72.6%) and headache (52.2%) were the most commonly recognized symptoms, while only 0.5% acknowledged that hypertension may be asymptomatic. Stroke (68.8%) was the most frequently identified complication. Overweight/obesity (50.1%) and high salt intake (46.8%) were commonly recognized risk factors. Among hypertensive participants (n=310), 96.5% reported medication adherence. Regular blood pressure monitoring was reported by 87.9% of participants, primarily at commune health stations (83.4%). However, knowledge and practice of lifestyle modifications remained moderate.

Conclusions: Although medication adherence and blood pressure monitoring were high among older adults, gaps remain in knowledge regarding asymptomatic presentation, risk factors, and comprehensive lifestyle management. Strengthened health education interventions are needed to improve hypertension prevention and long-term control in this population.

Keywords: hypertension, elderly, geriatrics department

I. NTRODUCTION

Hypertension is one of the leading risk factors for cardiovascular diseases, renal disorders, and other chronic conditions. Hypertension is defined as blood pressure levels exceeding the normal range; specifically, the diagnostic criteria include a systolic blood pressure ≥140 mmHg and/or a diastolic blood pressure ≥90 mmHg [1,2]. It is often a silent and progressive condition that can lead to severe complications if not detected and adequately controlled.

According to a global pooled analysis conducted across 1,201 population-based studies in 2021, the estimated number of individuals aged 30–79 years living with hypertension increased from approximately 640 million to 1.258 billion in 2019 [3]. Notably, the prevalence of hypertension in low- and middle-income countries is higher than that in high-income countries [4], reflecting disparities in access to healthcare services, early screening, and chronic disease management.In Vietnam, there has been a clear epidemiological transition from communicable diseases to non-communicable diseases. a recent systematic review and meta-analysis of ten studies published between 2005 and 2018 estimated that one in every five adults in Vietnam has hypertension [5]. The complications of hypertension are diverse and often result in severe and long-term consequences, including stroke, myocardial infarction, renal failure, blindness, and other target-organ damage. These complications not only reduce quality of life but also impose a substantial burden on families and the healthcare system.

Older adults are at particularly high risk of hypertension due to age-related physiological changes and the cumulative effect of risk factors over time. Moreover, they represent a vulnerable population group that requires special attention in screening, disease management, and treatment adherence. Enhancing knowledge about hypertension and improving preventive practices and treatment compliance among older adults play a crucial role in disease control and complication prevention.

Recognizing the importance of this issue, we conducted the study entitled: “Knowledge of hypertension and hypertension treatment practices among elderly treated at the Geriatrics Department, Tien Hai District General Hospital in 2024.” The study aimed to describe the level of knowledge regarding hypertension and treatment practices among elderly receiving care at the

1. Thai Binh University of Medicine and Pharmacy
*Corresponding author: Tran Thi Thu Ha
Email: hatlyd@gmail.com
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Geriatrics Department of Tien Hai District General Hospital in 2024.

II. SUBJECTS AND METHODS

2.1. Subjects, location, and study period

Elderly patients admitted to the Geriatrics Department of Tien Hai District General Hospital

Selection criteria

- Individuals aged 60 years or older;

- Patients admitted to the Geriatrics Department of Tien Hai District General Hospital during the study period;

- Individuals who had been residing in Tien Hai District for more than one year;

- Individuals without cognitive or psychiatric disorders, who were able to respond to interview questions and voluntarily agreed to participate in the study.

Exclusion criteria

- Individuals with cognitive impairment who were unable to respond to interview questions;

- Individuals who did not consent to participate in the study.

Study location: The Geriatrics Department of Tien Hai District General Hospital.

Study period: Between 02/2024 and 06/2024.

2.2. Research methods

Study design: A cross-sectional descriptive study.

Sample size:

The sample size of this study was calculated using the formula for estimating a population proportion:

$$n = Z^2_{(1-\alpha/2)} \frac{p(1-p)}{d^2}$$

With: n: Sample size

α: Significance level, at α=0.05, corresponding to $Z_{1-}\alpha_{/2}$= 1.96

p: is the estimated prevalence of hypertension among older adults, set at 0.5.

d: The desired margin of error, set at d=0.05.

Based on this calculation, the minimum required sample size was 384 participants.

Sampling method: Convenience sampling was applied. Eligible participants were identified using inpatient medical records and admission registers at the Geriatrics Department of Tien Hai District General Hospital.

Study variables:

- Sociodemographic variables: age, sex, and educational level;

- Clinical variables: nutritional status classified by body mass index (BMI) and medical history;

- Knowledge and practices related to hypertension management.

Data collection process:

- Anthropometric measurements, including height, weight, and blood pressure, were obtained using standardized and calibrated instruments;

- Face-to-face interviews were conducted using a structured questionnaire to collect information on sociodemographic characteristics and health-related behaviors.

Data analysis methods:

Categorical variables were summarized using frequencies and percentages. Univariate logistic regression analysis was performed to identify factors associated with hypertension among study participants. A p-value of less than 0.05 was considered statistically significant.

2.3. Research ethics

All participants were fully informed about the objectives and content of the study. Data collection was conducted only after obtaining voluntary informed consent from each participant.

All information provided by the participants was kept strictly confidential and used solely for research purposes.

III. RESULTS

Table 1. Demographic characteristics of study participants (n=391)

		n	%
Age groups (yrs)	60-69	166	42.5
	≥70	225	57.5
Gender	Male	183	46.8
	Female	208	53.2
Education level	Secondary school or lower	234	59.8
	High school or higher	157	40.2

		n	%
Occupation	Self-employed	20	5.1
	Farmers	209	53.5
	Workers	130	33.2
	Government employees	32	8.2
BMI classification	Underweight	9	2.3
	Normal	164	41.9
	Pre-overweight	120	30.7
	Overweight	98	15.1
Hypertension	Yes	310	79.3
	No	81	20.7

Among the 391 elderly who participated in the study, those aged 70 years and older accounted for a higher proportion than those aged 60–69 years (57.5% and 42.5%, respectively). Females comprised 53.2% of the study population. Approximately 60.0% of study participants had completed secondary school or lower. Farming was the most common occupation (53.5%), while 5.1% were self-employed. Additionally, 41.9% of participants had a normal BMI and 79.3% of were diagnosed with hypertension.

Table 2. Knowledge of hypertension symptoms and complications among study participants

		n	%
Hypertension symptoms	Headache	204	52.2
	Dizziness/lightheadedness	284	72.6
	Chest pain	28	7.2
	Facial flushing	141	36.1
	No symptoms	2	0.5
Hypertension complications	Stroke/cerebrovascular accident	269	68.8
	Heart failure/other cardiovascular diseases	120	30.7
	Eye complications	25	6.4
	Paralysis	197	50.4
	Liver failure/kidney failure	7	1.8
	Death	12	3.1

Dizziness/lightheadedness (72.6%) and headache (52.2%) were the most frequently recognized symptoms of hypertension among study participants. In contrast, only 7.2% of older adults identified facial flushing as a potential symptom, and merely 0.5% acknowledged that hypertension may present without symptoms.

Table 3. Knowledge of hypertension risk factors, treatment strategies and preventive practices among study participants

		n	%
HTN risk factors	High salt intake	183	46.8
	High sugar intake	14	3.6
	High fat intake	183	46.8
	Overweight/Obesity	196	50.1
	Physical inactivity	61	15.6
	Smoking	43	11.0
	Excessive alcohol consumption	98	25.1
	Older age (>40)	34	8.7
	Psychological stress	51	13.0

		n	%
HTN treatment strategy	Adherence to prescribed medication	380	97.2
	Diet modification	68	17.5
HTN prevention	Regular physical exercise	76	35.8
	Smoking cessation	54	25.5
	Alcohol reduction/cessation	75	35.4
	Weight reduction	36	17.0
	Increased fruit and vegetable intake	45	21.2
	Reduced salt intake	55	25.9
	Reduced sugar intake	11	5.2
	Reduced fat intake	85	40.1
	Avoid staying up late	11	5.2

Table 3 presents participants' knowledge of hypertension risk factors, treatment strategies, and preventive measures. Awareness of risk factors varied across domains. Overweight/obesity was the most commonly identified risk factor (50.1%), followed by high salt intake and high fat intake (both 46.8%). However, fewer participants recognized physical inactivity (15.6%), psychological stress (13.0%), smoking (11.0%), and older age (>40 years) (8.7%) as risk factors. Regarding treatment strategies, most participants correctly identified adherence to prescribed antihypertensive medication as important (97.2%), whereas fewer recognized dietary modification as part of hypertension management (17.5%). In terms of prevention, reducing fat intake (40.1%), engaging in regular physical exercise (35.8%), and reducing or ceasing alcohol consumption (35.4%) were among the most frequently identified measures, while reducing sugar intake (5.2%) and avoiding staying up late (5.2%) were less commonly acknowledged.

Table 4. Practice of regular blood pressure monitoring and location of measurement among study participants

		n	%
Regular blood pressure monitoring	Yes	344	87.9
	No	47	12.1
Location of regular blood pressure measurement	Commune health station	287	83.4
	Private healthcare facility	78	22.6
	Self-monitoring at home	24	6.9

This table presents the practice of regular blood pressure monitoring and the location of measurement among study participants. The majority of participants reported regularly monitoring their blood pressure (87.9%), while 12.1% did not engage in regular monitoring. Regarding the location of measurement, most participants had their blood pressure checked at commune health stations (83.4%). Smaller proportions reported utilizing private healthcare facilities (22.6%) or self-monitoring at home (6.9%).

Table 5. Hypertension treatment practices among hypertensive study participants

		n	%
Medication adherence		299	96.5
Dietary modification	Increased consumption of vegetable and fruits	119	38.4
	Reduced fat intake	118	38.1
	Reduced salt intake	108	34.8
	Reduced sugar intake	15	4.8
Lifestyle modification	Avoidance of stimulants (alcohol, beer, coffee, etc.)	124	40.0
	Smoking cessation	60	19.4
	Weight reduction	79	25.5
	Regular physical exercise	129	41.6
	Avoid staying up late	40	12.9

Table above presents hypertension treatment practices among the 310 participants diagnosed with hypertension. The majority reported adherence to prescribed antihypertensive medication (96.5%). Regarding dietary modification, 38.4% reported increased consumption of vegetables and fruits, 38.1% reduced fat intake, and 34.8% reduced salt intake, while only 4.8% reported reducing sugar intake. In terms of lifestyle modification, regular physical exercise was reported by 41.6% of participants, and 40.0% reported avoidance of stimulants such as alcohol, beer, or coffee. Weight reduction was reported by 25.5%, smoking cessation by 19.4%, and avoidance of staying up late by 12.9%. These findings indicate high levels of medication adherence but more modest engagement in dietary and lifestyle modifications.

IV. DISCUSSION

The study was conducted among 391 older adults receiving treatment at the Geriatrics Department of Tien Hai District General Hospital. The proportions of male and female participants were 53.2% and 46.8%, respectively. More than half of the participants (57.5%) were aged 70 years or older, and 59.8% had an educational level below lower secondary school. Regarding nutritional status, 41.9% had a normal body mass index (BMI), while 30.7% were classified as pre-obese. The prevalence of hypertension among participants was 79.3%. These findings are comparable to those reported by Dung et al. [6].

Untreated hypertension can severely affect vital organs such as the brain, eyes, heart, and kidneys. Knowledge, attitudes, and practices related to hypertension play a crucial role in controlling modifiable risk factors and reducing disease burden through improved awareness. Previous studies have demonstrated that adequate knowledge of hypertension is associated with better blood pressure control, improved medication adherence, and reduced morbidity and mortality. Hypertension often presents with nonspecific or no symptoms, and patients may not perceive any abnormalities until complications occur. In many cases, the onset of symptoms such as headache may precede serious events, including intracerebral hemorrhage. Therefore, recognizing the signs and symptoms of hypertension is essential for early detection and timely treatment.

In our study, 72.6% and 52.2% of older adults identified dizziness/lightheadedness and headache, respectively, as symptoms of hypertension, while 36.1% recognized facial flushing as a possible symptom. These findings indicate relatively better awareness compared to the study by Mai et al conducted in Quang Xuong District, Thanh Hoa Province, where knowledge of symptoms such as headache, dizziness, chest pain, and facial flushing was limited (51.0%, 61.6%, 3.5%, and 21.7%, respectively), and 16.5% believed that hypertension could not be prevented [7]. Similarly, Duong et al. reported that only 56% of patients correctly understood the definition of hypertension, and just over 50% were aware of its causes [8].

Hypertension is a common chronic condition with significant mortality risk. Without appropriate management, it may lead to life-threatening complications affecting major organs, resulting in death or severe disability. In the present study, 68.8% of participants recognized stroke as a potential complication of hypertension, 50.4% identified paralysis, and 30.7% recognized heart failure or other cardiovascular diseases. Regarding knowledge of risk factors, 50.1% of participants identified overweight/obesity as a risk factor, while 46.8% recognized high salt intake and high fat consumption. Alcohol use (25.1%) and physical inactivity (15.6%) were less frequently identified. Compared with the study by Thu et al., adherence to smoking cessation and alcohol avoidance was reported at 84.9% and 94.4%, respectively; however, 33.5% of patients did not engage in physical activity and did not restrict salt intake. Medication adherence has been shown to be associated with patients' knowledge, attitudes, and duration of disease [9]. In our study, 54.2% of participants demonstrated knowledge of hypertension prevention. The most commonly identified preventive measures were reducing fat intake (40.1%) and engaging in regular physical exercise (35.8%), followed by smoking cessation (35.4%), alcohol reduction (25.5%), and salt reduction (25.9%).

In addition to pharmacological treatment, regular blood pressure monitoring plays a crucial role in preventing complications such as stroke and myocardial infarction. The majority of participants (87.9%) reported regularly monitoring their blood pressure, while 12.1% did not. Blood pressure measurements were most commonly conducted

at commune health stations (83.4%), followed by private healthcare facilities (22.6%), and home monitoring (6.9%). These findings are more favorable compared to Hieu et al.'s study, which reported that 12.0% of hypertensive individuals had never had their blood pressure measured and 18.4% had been measured but were unaware of their hypertensive status [10]. The rate of medication adherence among participants diagnosed with hypertension was 96.5%, which is higher than the 74.7% reported by Yen et al. [11] and the 49.1% adherence rate reported by Hieu et al. [10]. In addition to medication adherence, participants also reported dietary and lifestyle modifications, most commonly increased fruit and vegetable intake (38.4%) and alcohol abstinence (40.0%). These findings suggest that, alongside pharmacological treatment, patients have adopted supplementary lifestyle interventions. Nevertheless, continued health education and communication efforts remain necessary to further improve hypertension prevention and treatment practices among older adults.

V. CONCLUSION

Although medication adherence and blood pressure monitoring were high among older adults, gaps remain in knowledge regarding asymptomatic presentation, risk factors, and comprehensive lifestyle management. Strengthened health education interventions are needed to improve hypertension prevention and long-term control in this population.

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