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CURRENT STATUS OF CAPACITY TO IMPLEMENT HYPERTENSION PREVENTION ACTIVITIES AT HEALTH STATIONS AT COMMUNE HEALTH CENTERS OF HA NOI IN 2023

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ABSTRACT

Objective: To describe the current capacity for implementing hypertension prevention activities at commune health centers (CHCs) of Ha Noi in 2023.

Study design: Cross-sectional study.

Results: The rate of CHCs with health insurance for examination and treatment of hypertension is 66.49%. The proportion of doctors participating in diabetes diagnosis and treatment at health stations in the area is 17.70%. The percentage of health stations with less than 50% of essential medications is also high, at 84.28%. Health stations are not fully equipped with the necessary medications for treatment as stipulated by the Ministry of Health. The main medications provided at these stations are Amlodipin (58.72%) and Enalapril (41.97%).

Conclusion: Hypertension management activities at the grassroots health level have not been fully and widely deployed in the city. It is necessary to add more human resources and fully prepare medicine for effective treatment management, especially CHCs in countryside and moutainous areas.

Keywords: Hypertension management, commune health center, primary care.

1. INTRODUCTION

Currently, non-communicable diseases in general, including cardiovascular disease – Hypertension , are a global challenge and a huge burden on society and the health system. Hypertension is common in developed countries and is increasing in developing countries [1]. In Vietnam, according to the report on the results of the survey on risk factors of some NCDs in 2015 in the age group from 18 to 69, the prevalence of hypertension was 18.9%; by 2021, the prevalence of hypertension was 26.2 [2]. According to the report of the Hanoi Center for Disease Control, as of October 31, 2023, Hanoi is managing and treating 333,350 people with diabetes at commune, ward, and town health stations (abbreviated as CHC) in the area [3]. The increase in the disease is closely related to risk factors such as obesity, limited physical activity, smoking, alcohol consumption and non-compliance with proper nutrition [4]. In order to cope with the rapid increase in the rate of people with hypertension, the Vietnamese Government issued Decision No. 155/QD-TTg dated January 29, 2022 approving the National Plan for Prevention and Control of Non-Communicable Diseases and Mental Health Disorders for the period 2022-2025 [5]. It emphasizes that primary health care (including commune, ward, and town health care and village health care) associated with primary health care and preventive medicine is a sustainable and cost-effective management strategy in Vietnam [5]. In fact, hypertension management activities are mainly focused on central and provincial hospitals, while this activity at health stations is largely not well implemented [6]. Instructional materials, equipment and medicines for primary health care are provided at a basic level only.

In order to provide more evidence for the prevention and management of hypertension, we conducted this study with the following objectives: Describe the current status of capacity to implement hypertension prevention activities at commune health centers (CHCs) of Ha Noi in 2023.

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2. METHOD

2.1. Research subjects: Commune, ward and town health stations (collectively referred to as CHCs) in Hanoi.

2.2. Research time and location: The study was implemented from November 2023 to September 2024 at CHCs in Hanoi.

2.3. Research design: Cross-sectional

2.4. Research method

- Sample size: 579 health stations in the area

- Data collection method: a survey using self-completed questionnaire sent to health stations to collect data on human resources, drugs, equipment, and service provision at health stations. The self-completed questionnaire consists of 5 components and is built based on the research of author Bui Thi Minh Thai (2020) on "Current status of capacity to detect, manage and treat some non-communicable diseases at health stations in Hanoi city" [7].

- Data processing: Data was cleaned, entered using Epidata 3.1 software, processed using STATA 14.0 statistical software, Excel, using basic statistical methods.

- Research ethics: The study was approved by the Ethics Council in Biomedical Research of Hanoi Medical University. The study ensures the voluntary participation of the subjects.

3. RESEARCH RESULTS

Table 1. Number of health insurance clinics providing medical examination and treatment for some common non-communicable diseases (n=579)

NCDs	Number	Percentage
Hypertension	385	66.49
Diabetes	252	43.52
COPD	96	16.58
Cancer	63	10.88
No health insurance	188	32.41

Table 1 shows that the proportion of CHCs implementing examination and treatment of hypertension is the highest (66.49%), followed by diabetes (43.52%) and COPD (16.58%), the lowest is cancer. letters (10.88%). Of which, the rate of health insurance treatment is only 32.41%.

Table 2. Human resource situation at health stations in Hanoi (n=579)

Human Resources	Number of staff n (%)	Number of staff participating in diabetes examination and treatment n (%)	Number of staff participating in risk factor communication and consultation n (%)
Doctors	595 (4.61)	530 (17.70)	513 (7.60)
Medical Practitioners	1,283 (9.94)	967 (32.29)	987 (14.62)
Nurses/ Midwives	1,566 (12.13)	596 (19.90)	935 (13.85)
Bachelor of Public Health	120 (0.93)	34 (1.14)	66 (0.98)
Others	747 (5.79)	189 (6.31)	301 (4.46)
Village Health	2,407 (18.65)	238 (7.95)	1,183 (17.52)
Collaborators	6,190 (47.95)	441 (14.72)	2,768 (40.99)
Total	12,908 (100)	2,995 (100)	6,753 (100)

The results of Table 2 show that: the percentage of doctors at the health station accounts for 4.61%; in which the percentage of doctors participating in hypertension examination and treatment is 17.70% and the percentage of collaborators participating in communication and counseling on health care is the highest, accounting for 40.99%. The village health station has the highest number of staff, but the number participating in diabetes examination and treatment is lower than other groups.

Table 3. Percentage of CHSs with essential equipment and essential medicine in hypertension prevention (n=579)

Informations	Areas (n, %)		Total
	Inner city	Outer city	
Equipment			
< 50%	119 (71.69)	159 (38.5)	278 (48.01)
50 - <70%	47 (28.31)	247 (59.81)	294 (50.78)
≥ 70%	0	7 (1.69)	7 (1.21)
100%	0	0	0

Informations	Areas (n, %)		Total
	Inner city	Outer city	
Essential medicine			
< 50%	164 (98.8)	324 (78.45)	488 (84.28)
50 - <70%	2 (1.2)	82 (19.85)	84 (14.51)
≥ 70%	0	7 (1.69)	7 (1.21)
100%	0	0	0

The results of Table 3 show that the health stations have from 50% to less than 70% of the highest equipment (50.78%). By region, the proportion of CHCs in suburban areas with essential drugs to treat diabetes is higher than in urban areas. No CHC has 100% of all medicines.

Table 4. Status of using essential equipment for hypertension prevention (n=579)

Status of using essential equipment	Blood pressure monitor	Stetho-scope	ECG	Defibril-lator
Usage status (n, %)				
Regular use	523 (90.33)	509 (87.91)	40 (6.91)	5 (0.86)
Rare use	28 (4.84)	32 (5.53)	65 (11.23)	1 (0.17)
No use	28 (4.84)	38 (6.56)	474 (81.87)	573 (98.96)

The results of Table 4 show that: Basic equipment such as blood pressure monitors and stethoscopes have high usage rates. However, specialized equipment such as ECG machines and defibrillators are few in number and not commonly used.

Table 5. Availability of essential drugs for hypertension prevention (n=579)

Essential drugs	Availability (n, %)		
	Yes, suffi-cient	Yes, insuffi-cient	No
Atenolol	4 (0.69)	4 (0.69)	571 (98.62)
Glyceryl trinitrat (nitroglycerin)	21 (3.63)	15 (2.59)	543 (93.78)
Isosorbide (dinitrat)	3 (0.52)	5 (0.86)	571 (98.62)
Amlodipin	340 (58.72)	37 (6.39)	202 (34.89)
Captopril	156 (26.94)	54 (9.33)	369 (63.73)
Enalapril	243 (41.97)	52 (8.98)	284 (49.05)
Furosemide	155 (26.77)	40 (6.91)	384 (66.32)
Hydroclorothiazid	53 (9.15)	17 (2.94)	509 (87.91)
Methyldopa	63 (10.88)	12 (2.07)	504 (87.05)
Nifedipin	313 (54.06)	56 (9.67)	210 (36.27)
Propranolol hydroclorid	6 (1.04)	4 (0.69)	569 (98.27)

The results of Table 5 show that: Most essential drugs are not available or are not sufficient at the CHS (over 90% of the time). Some drugs have a relatively good availability rate such as Amlodipine (58.72% available), Enalapril (41.97%), and Captopril (26.94%). Medicines such as Atenolol, Isosorbide, and Propranolol are almost unavailable, with an unavailability rate of more than 98%.

Table 6. Status of essential drug use in hypertension prevention (n=579)

Essential drugs	Usage status (n, %)		
	Regu-lar use	Rare use	No use
Atenolol	1 (0.17)	7 (1.21)	571 (98.6)
Glyceryl trinitrat (nitroglycerin)	3 (0.52)	30 (5.18)	546 (94.30)
Isosorbide (dinitrat)	3 (0.52)	3 (0.52)	573 (98.96)
Amlodipin	344 (59.41)	30 (5.18)	205 (35.41)
Captopril	152 (26.25)	49 (8.46)	378 (65.28)
Enalapril	261 (45.08)	26 (4.49)	292 (50.44)
Furosemide	42 (7.25)	124 (21.42)	413 (71.33)
Hydroclorothiazid	40 (6.91)	29 (5.01)	510 (88.08)
Methyldopa	44 (7.60)	26 (4.49)	509 (87.91)
Nifedipin	245 (42.31)	95 (16.41)	239 (41.28)
Propranolol hydroclorid	6 (1.04)	0 (0)	573 (98.97)

The results of Table 6 show that: Amlodipine has the highest rate of regular use (59.41%), followed by Enalapril (45.08%) and Nifedipine (42.31%). This is consistent with the availability of these drugs. Other drugs such as Furosemide, Hydrochlorothiazide, and Methyldopa are mostly rarely used or not used at all. Some drugs are almost not used, Propranolol hydrochloride (98.97%) and Isosorbide (98.96%).

Table 7. Status of essential drug use related to health insurance payment in hypertension prevention at health stations (n=579)

Essential drugs	Covered by health insurance (n, %)	
	Yes	No
Atenolol	2 (0.35)	577 (99.65)
Glyceryl trinitrat (nitroglycerin)	11 (1.90)	568 (88.10)
Isosorbide (dinitrat)	3 (0.52)	576 (99.48)
Amlodipin	345 (59.59)	234 (40.41)
Captopril	184 (31.78)	395 (68.22)
Enalapril	279 (48.19)	300 (51.81)
Furosemide	77 (13.30)	502 (86.70)
Hydroclorothiazid	47 (8.12)	532 (91.88)
Methyldopa	54 (9.33)	525 (90.67)
Nifedipin	253 (43.70)	326 (56.30)
Propranolol hydroclorid	6 (1.04)	573 (98.97)

The results of Table 7 show that: Health insurance mainly covers common drugs such as Amlodipine (59.59%), Enalapril (48.19%), and Captopril (31.78%). Less common drugs such as Atenolol, Isosorbide, and Propranolol hydrochloride are almost not covered by health insurance (over 98% are not covered).

4. DISCUSSION

Our study was conducted to assess the availability of hypertension management services at health stations. The survey results provide an overview of the prevalence of common non-communicable diseases at 579 health stations that provide health insurance examination and treatment. The rate of health stations providing hypertension management and treatment services is 66.49%, lower than the study by author Le Ky Phuc (2024) with the rate of health stations providing hypertension management services of 75.5% [8]. This result can be explained by the fact that hypertension is a complex disease with many dangerous complications, so the capacity of some stations is still not good enough to implement diabetes management services. Moreover, according to regulations of the Ministry of Health, accurate diagnosis of hypertension must be performed at the district level or higher. Therefore, the activities of diagnosis, treatment and management of diabetes at some health stations have not been really focused on.

Village health workers play an important role in the primary health care system, but their participation in health care activities is limited. This may be due to inadequate skills of village health workers or lack of effective coordination with CHSs. The shortage of doctors in CHSs can put great pressure on doctors and nurses in disease management. Furthermore, WHO research shows that additional doctors and nurses are necessary to reduce the burden on doctors, but continuous training and support are needed to ensure quality of service. To address this problem, CHSs should be supported by health centers or upper-level hospitals. Training, additional doctors and strengthening the role of other health workers in health care are necessary. At the Health Station, the results showed that the rate of health stations with staff trained in hypertension prevention and control was quite high, but in reality, the quality of in-depth expertise in hypertension prevention and control was not high. Meanwhile, a study by author Nguyen Thi Thi Tho and colleagues in 2014 at 116 commune/ward/town health stations to describe the current status of implementation, human resources and facilities to implement activities to prevent and control NCDs at the grassroots health level of provinces and cities nationwide showed that the number of commune-level health staff trained in NCD prevention and control was still low: 1.52 ± 1.03 for hypertension, very few staff were trained in cancer prevention and control and chronic obstructive pulmonary disease [9].

Regarding essential equipment and drugs: The shortage of essential equipment and drugs affects the quality of treatment and the ability to control hypertension at the grassroots level. Suburban areas have a better drug supply rate, but still do not meet the demand. This may be related to the allocation policy or the supply capacity of the health stations. Not only for hypertension but for all other diseases, essential drugs are necessary tools to cure or alleviate the disease, thereby helping to improve health care for the people. Our research results are similar to those of author Nguyen Thi Thi Tho and colleagues in 2014, when the author said that only 7.8% of commune health stations had more than 70% of the list of essential drugs as required by the Ministry of Health [9].

Most CHSs have less than 70% of the equipment and drugs needed to prevent and control hypertension. No

station has 100% of the essential equipment, especially in urban areas, where the shortage of equipment is even more serious. Lack of equipment hinders the detection and treatment of hypertension at the grassroots level. This can lead to the need to refer patients to higher levels, putting more pressure on health facilities and increasing costs for patients. Other studies have shown a similar situation in many provinces in Vietnam, where CHSs are often under-equipped. Blood pressure monitors and stethoscopes are widely used (90.33% and 87.91%, respectively), reflecting the basic and essential need to monitor patients' blood pressure. These are basic devices that most health facilities need and can use on a daily basis to diagnose and monitor hypertensive patients. Specialized equipment such as electrocardiographs and defibrillators are very low in number and rarely used (only 6.91% of electrocardiographs are regularly used and defibrillators are almost never used). This reflects a number of issues such as lack of resources, accessibility to equipment or the lack of popularity in the use of these devices at primary health care facilities. These devices often require highly skilled technicians to operate and diagnose. Research shows that the use of blood pressure monitors at primary health care facilities is quite common, similar to the results of research in Hanoi, with a usage rate of nearly 90%. However, the usage rate of specialized equipment such as electrocardiographs is similarly low, with only about 10% of health stations using this device. This shows a general situation of shortage and limitation in the use of specialized equipment at primary health care facilities [10].

The study results showed that most essential drugs such as Atenolol, Isosorbide, and Propranolol were almost unavailable (over 98%). Meanwhile, Amlodipine and Enalapril had higher availability rates (58.72% and 41.97%, respectively). Nguyen Van Tai's study (2021) in the Southwest region also recorded a high availability rate of calcium channel blockers such as Amlodipine (about 60%), but beta-blockers and nitrates also had low availability rates, usually below 10% [11]. A study in Thai Nguyen (2019) showed that the availability rate of diuretics such as Hydrochlorothiazide was about 15%, higher than our study results (9.15%) [12]. This may reflect regional differences in the ability to allocate drug supplies at CHSs. Your research results are consistent with the general trend in Vietnam and other low-middle income countries, showing that drug groups such as Amlodipine are prioritized for supply, while other groups are severely lacking.

Drugs such as Amlodipine and Enalapril were used most frequently (59.41% and 45.08%, respectively), while drugs such as Atenolol, Isosorbide, and Propranolol were hardly used (over 98% were not used). Drug use at CHSs seemed to be concentrated on popular drugs such as Amlodipine and Enalapril, consistent with the research results of Nguyen Ngoc Cam Quyen (2024) [13], Tran Thi Lan Anh (2023) [14] and national hypertension treatment guidelines. However, the low use rates of other drug groups (diuretics, beta-blockers, nitrates) indicate limitations in the ability to implement comprehensive regimens at the grassroots level. Studies in Thai Nguyen and Dong Thap showed that more than 50% of CHSs lacked the necessary drugs to treat chronic diseases such as hypertension and diabetes [15].

Health insurance policies in Vietnam are still limited in covering some important drug groups such as diuretics and beta-blockers, which affects access and use of drugs at the primary level. Health insurance covers mainly Amlodipine (59.59%), Enalapril (48.19%), and Captopril (31.78%), but does not cover or covers very little for drugs such as Atenolol, Isosorbide, and Propranolol (over 98% not covered). A study in Ha Nam by author Nguyen Thanh Chung (2021) recorded that health insurance covers about 50-70% of common antihypertensive drugs such as Amlodipine, Captopril, and Enalapril [16]. The study results are similar in the coverage rate for this group of drugs (59.59% for Amlodipine, 48.19% for Enalapril). However, drugs such as Hydrochlorothiazide and Furosemide in some other areas have a higher coverage rate of around 20% by health insurance than your results (8.12% and 13.30%). This may reflect differences in policies applied at local levels.

5. CONCLUSION

Our research results show that the primary health care system has not been invested in and equipped to respond to the rapid increase in hypertension in the community. It is necessary to develop support policies, develop human resources, equipment and treatment drugs, and build a financial mechanism to support medical staff at the Station in the management of hypertension. In addition, it is necessary to widely disseminate information to the people about the hypertension care and management services available at the Station to increase people's access to these services.

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