

Analysis of the Implementation for Treatment and Prevention in Hypertension Control : A Qualitative Study

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ABSTRACT

Non-communicable diseases are currently a serious problem, one of which is hypertension. The global prevalence of hypertension is 22% of the world's total population and the total number of hypertensive patients at the peunawa rahmat pharmacy and high blood pressure is a non-communicable disease that can occur and cause chronic disease. The main problem in hypertension is that it causes stroke. The aim of this research is to find out about patient knowledge in controlling hypertension through the role of hypertension control education. Method: research was qualitative with a design using questionnaires, observations, interviews, conducted from November and early December 2024. The key informant was a specialist doctor.internal Medicine and patient support informants. Results: This study shows that hypertension control in patients has been given good treatment. It was found that patients at the peunawa rahmat pharmacy when they consulted a specialist in internal medicine and hypertension began to improve from before. Conclusion: research provides education about a healthy lifestyle which is very important in controlling hypertension.

BACKGROUND

World Health Organization (WHO) estimates that the current global prevalence of hypertension is 22% of the total population worldwide.(1) The prevalence of hypertension is highest in Africa at 28%; Southeast Asia ranks 3rd highest with a prevalence of 26% of the total population. High blood pressure is a non-communicable disease that can occur and lead to chronic occurrence. High blood pressure can cause hypertension, which is a very silent killer because the symptoms cannot be seen to cause it because so many who suffer cannot realize that they have hypertension. Hypertension is one of the non-communicable diseases (NCDs), which is the leading cause of death globally is hypertension. (2, 3)

WHO estimates that 9.4 million people die each year due to complications of hypertension. In developed countries, there are 333 million cases of hypertension out of 972 million people with hypertension, and 639 million others are found in developing countries, including Indonesia (1). Based on Basic Health Research of the Ministry of Health Indonesia, the prevalence of hypertension in Indonesia is 34.1%. The highest prevalence was in South Kalimantan at 44.1%, while the lowest prevalence of hypertension was in Papua at 22.2%. In Indonesia, the number of hypertension cases is 63,309,620 people, and the mortality rate due to hypertension is 427,218 deaths. (4)

In Aceh Province, based on data obtained from the Aceh Provincial Office in 2015, hypertension was found to be more prevalent in women than men. (5) This is due to many factors that influence the incidence of hypertension. One is due to a lifestyle that likes to eat salted fish and a lack of exercise. In addition, many coffee shops in Aceh cause people to consume caffeine, which can increase blood pressure. (6) Data from Dr. Zainoel Abidin Hospital showed there were cases of hypertension in 2015, as many as 10% with outpatient care and 87% were hospitalized. Whereas in 2017, outpatient hypertension patients were 29% and 90 inpatients with 2 patients died.

Hypertension is a pattern of excessive salt consumption. The causes of hypertension include consuming salty foods and the wrong diet, both from the amount and type of food consumed are very high risk and can cause hypertension and consumption of foods containing fat and cholesterol, soy sauce, and shrimp paste so that it can cause a blood vessel so that the elasticity of blood vessels becomes reduced in the body. The next cause of recurrent hypertension is obesity (overweight) can also cause hypertension. Abnormal accumulation of body fat or excessive accumulation results in health risks, one of which is hypertension. (7, 8)

The factors that cause hypertension are caused by too heavy physical activity in a healthy lifestyle. (9) Too much weight in an impoverished health lifestyle can increase the risk of hypertension in patients. The influence of the occurrence of the causes of hypertension is age, smoking, alcohol, gender, and genetic family history (risk factors that cannot be changed and controlled); smoking habits and consuming alcohol are so excessive that they can endanger hypertension, the effect of consumption of both can cause high blood pressure. (10, 11) A healthy lifestyle reduces weight and affects the patient's life. Unhealthy lifestyles, which can lead to hypertension, include food consumption that is not by the hypertension diet, consuming fatty foods, physical activity, stress, and smoking. Clinical and observational studies show that a person's lifestyle is related to the level of cardiovascular morbidity and mortality. Patients with hypertension experience symptoms such as dizziness, discomfort in the nape of the neck, difficulty breathing, sleepiness, and fatigue. In patients who have suffered from hypertension for more than 2 years, they will feel worried about their disease. They will feel anxiety and stress as well as a sense of helplessness because the disease does not go away. In addition, the whole body feels sore, and the legs and hands feel stiff. (12, 13)

The leading causes of hypertension death in patients are stroke, kidney failure, heart failure, and blood pressure more significant than the walls of arteries and blood vessels. The possibility of untimely death is related to the severity of the increase in high blood pressure. The role of public health education is very influential in improving public health in avoiding hypertension through health service promotion, which is an effort that aims to provide health education for control to a group of people so that the community can implement a healthy lifestyle such as conveying healthy foods and the importance of exercising to improve health services in each individual by using various media such as leaflets, posters, and social media. (14) With the promotion of health services, it is hoped that every community can have information related to public health and efforts to control the prevention of health problems themselves because the provision of health promotion can be done by providing education about the health of hypertension control in the community to increase people's knowledge and attitudes in efforts to prevent the control of high blood health problems. Therefore, the authors must conduct research titled "The role of health education in health services and hypertension control" at Peunawa Rahmat Pharmacy, West Aceh Regency.

METHODS

This research was conducted at Peunawa Rahmat Pharmacy, West Aceh Regency. The research was conducted from November to early December 2024. The methodology used in this research is qualitative, with case studies exploring more in-depth information about the control program, planning program, health service implementation program, and recording and reporting program. Data collection techniques in this study were secondary data collection, observation, and in-depth interviews. The number of samples in the study was 8 people divided into main informants, namely one internal medicine specialist and one doctor's assistant; key informants, namely one pharmaceutical technical staff; and supporting informants, namely 5 patients. The research was conducted using research data sources consisting of primary data and secondary data. Primary data comprised observation and in-depth interviews, while secondary data comprised books, journals, and other written documents. The data obtained from this study were then analyzed with an interactive data analysis model: data reduction, data presentation, and conclusion drawing.

RESULT AND DISCUSSION

RESULT

Characteristics of Informants

The selection of informants was carried out by researchers totaling 4 people. The informants who became informants in this study were informants who had met the criteria to be interviewed. The four informants include one pharmacy technician, the informant in charge of the hypertension program, the doctor's assistant support informant, and the patient support informant.

Table 1. List of Informants in the Study

Informant	Description
Informant 1	Internal Medicine Specialist
Informant 2	Doctor's Assistant

Informant 3	Pharmaceutical Technical Staff
Informant 4	Patient

Table 2. Results of the Hypertension Control Program Interview Analysis.

How is the hypertension control program at Peunawa Rahmat Pharmacy

Informant	Interview Results
Informant 1	Informants said that there is no hypertension control program and health promotion in the prevention of hypertension, but monitoring activities for hypertension patients from adults to the elderly have been carried out by Peunawa Rahmat Pharmacy.
Informant 2	Informants said that good treatment has been carried out to overcome the occurrence of hypertension and treatment at Peunawa Rahmat Pharmacy.
Informant 3	Informants said that they had been given prevention and treatment for hypertension control at Peunawa Rahmat Pharmacy and for treatment they did not have cooperation with Social Security Organizing Agency, patients paid independently.
Informant 4	Informants said that doctors have provided education about consuming high sodium can cause hypertension and to control hypertension when patients consulted were given education to reduce sodium consumption.

Table 3. Results of Hypertension Program Planning Interview Analysis

How is hypertension program planning in Peunawa Rahmat Pharmacy:

Informant	Interview Results
Informant 1	Informants said that data collection and analysis had not been carried out in hypertension program planning. However, Peunawa Rahmat Pharmacy has carried out program planning in terms of logistics of drugs in reducing hypertension, and where internal medicine specialists prescribe drugs to hypertension patients.
Informant 2	Informants said that Peunawa Rahmat Pharmacy has a doctor's office and has drug facilities where hypertension has been given treatment and prevention in overcoming the occurrence of hypertension where every patient who consults a doctor pays independently, hypertensive patients with blood pressure starting from 140/90 mmHg can be said to be hypertension where the causative factors consume high sodium, fat, age, gender, genetics, smoking, physical activity, alcohol and lack of exercise.
Informant 3	Informants said that planning has been carried out in reducing hypertension to patients where doctors prescribe drugs that hypertensive patients must take to prevent hypertension.
Informant 4	Informants said that patients began to have knowledge in hypertension after consulting a doctor.

Table 4. Results of Interview Analysis of Hypertension Health Service Implementation

How is the implementation of health services at Peunawa Rahmat Pharmacy:

Informant	Interview Results
Informant 1	Informants said that hypertensive patients do not have referral services in health services for hypertensive patients and have not collaborated with Social Security Organizing Agency. Every patient who consults a doctor pays independently and is not served by Social Security Organizing Agency, then Peunawa Rahmat Pharmacy has policies and procedures for everyone who works at the Pharmacy.
Informant 2	Informants said that health services have been provided to every patient who consults by prescribing medicines and providing education on prevention and treatment for hypertension control in patients.
Informant 3	Informants said that the implementation of services provided to patients is based on the direction of the doctor in serving hypertensive patients who consult a doctor.
Informant 4	The informant said that as long as he often consulted a doctor where his diet began to be regular and began to consume fruits and vegetables that had been given education by the doctor and obeyed the doctor's prescription medicine from the previous disease began to improve after consulting a doctor at Peunawa Rahmat Pharmacy.

Table 5. Results of Recording and Reporting Analysis

How is recording and reporting at Peunawa Rahmat Pharmacy:

Informant	Interview Results
Informant 1	Informants said that records have been made for every patient who buys medicine.
Informant 2	Informants said that patients who consulted were recorded, such as drug prescriptions, symptoms of illness, and the total cost of patient consultations.
Informant 4	The informant said that records had been made, such as the patient's name, age, address, day, date, month, and year of the patient's consultation and gave a consultation card to the patient.

Informant 4	The informant said that after consulting the doctor, the patient went directly to the pharmacy to buy the medicine prescribed by the doctor.
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DISCUSSION

Hypertension Control Program at Peunawa Rahmat Pharmacy

Hypertension control programs where many programs are not available in hypertension control because pharmacies have not collaborated with the Social Security Organizing Agency. The research analysis results. Informants said there was no hypertension control program and health promotion to prevent hypertension. Still, Peunawa Rahmat Pharmacy monitored hypertension patients, from adults to the elderly, and patients who consulted an internal medicine specialist began to improve from before. Consumption of foods high in sodium can cause blood vessels to narrow, and the heart will work harder, increasing blood pressure. Patients who consume excessive sodium cause the body to retain fluid, which can increase blood volume. Excessive sodium intake can shrink the diameter of the arteries, which can cause the heart to have to pump hard to push blood volume through increasingly narrow spaces so that blood pressure rises as a result of hypertension. (15)

This makes using salt or spices in cooking in more significant quantities an option to increase appetite. The effect of excessive sodium consumption on hypertension occurs through increased plasma volume, cardiac output, and blood pressure. This research was conducted at Peunawa Rahmat Pharmacy, and the respondents were hypertensive patients. Sodium intake is essential in the mechanism of increasing blood pressure. Blood pressure rises due to increased plasma volume (body fluids). Consuming salt (sodium) can cause thirst and encourage us to drink. This can increase the volume of blood in the body, which means the heart has to pump harder so that blood pressure rises because the input (input) must be equal to the expenditure (output) in the vascular system, the heart must pump stronger with higher pressure, sodium is widely used in food and other forms. There are also foodstuffs, both vegetable and animal, that are natural sources of sodium. Animal foods contain more sodium than vegetable foods (snacks). (16)

Hypertension Planning Program at Peunawa Rahmat Pharmacy

Planning in a program where several programs are not yet available in designing the hypertension program at the pharmacy. The research analysis results convey that data collection and analysis have not been carried out in hypertension program planning. However, Peunawa Rahmat Pharmacy has carried out program planning regarding the logistics of drugs in reducing hypertension and where internal medicine specialists prescribe drugs to hypertension patients. Apatek Peunawa Rahmat is available for medicines and the practice of doctors other than internal medicine specialists, and there are pulmonary and respiratory specialists, neurologists, heart and vascular specialists, ophthalmologists, pediatricians, dentists, obstetricians and gynecologists, general practitioners, ear nose throat specialists, and head and neck surgeons. It has been well provided in the prevention and treatment of hypertension control to patients. Internal medicine specialists prescribe drugs to every patient who consults a doctor about hypertension, and patients begin to improve when they have taken treatment at the Peunawa Rahmat Pharmacy.

Based on the observations of researchers, it is known that hypertension knowledge is essential to be known by the surrounding community. There are still many in the community who do not know about hypertension, where hypertension will cause sudden death and secretly become deadly. In line with the interviews that have been conducted where the patients interviewed do not see what hypertension or high blood pressure is like, after a line of research where a researcher provides a little material about what hypertension is like to patients, patients begin to know what hypertension or high blood pressure is like. Education plays a vital role in influencing the knowledge of hypertensive patients. Education that can and quality can help patients understand their condition and make wise decisions regarding lifestyle and treatment and a healthy diet that they need and control high blood pressure.

Health Service Implementation Program at Peunawa Rahmat Pharmacy

The implementation of health services by Peunawa Rahmat Pharmacy is unavailable because it does not cooperate with the Social Security Organizing Agency, and pharmacies have policies and procedures in each pharmacy. The research analysis results convey that hypertensive patients have not provided referral services in health services for hypertensive patients and have not collaborated with the Social Security Organizing Agency. Every patient who

consults a doctor pays independently and is not served by the Social Security Organizing Agency, where Peunawa Rahmat Pharmacy has policies and sop in pharmacy health services.

The results of the research analysis convey that good treatment has been carried out to overcome the occurrence of hypertension and treatment at the Peunawa Rahmat Pharmacy has not collaborated with Social Security Organizing Agency, every patient who consults pays independently and patients who consult are not allowed to buy drugs outside the practice because the doctor's practice is available complete drugs for patients who consult and other people who buy drugs available at the Peunawa Rahmat Pharmacy and it can be concluded that every doctor who practices is responsible for their respective programs and has carried out good treatment and every patient who consults where their illness begins to improve from the previous occurrence of recovery and It can be concluded that every doctor who practices is responsible for their respective programs and has carried out good treatment and every patient who consults where their illness begins to improve from the previous occurrence of recovery and hypertension patients start to improve with the prevention and treatment of internal medicine specialists. Prevention and treatment for hypertension control have been provided at Peunawa Rahmat Pharmacy, and therapy does not cooperation with Social Security Organizing Agency; patients pay independently and find out which patients have hypertension by using a blood tension tool where a doctor's assistant works as a patient's blood tenses every time they consult an internal medicine specialist, every patient who consults were greatly helped by a doctor's assistant and excellent health services before taking treatment to a doctor where a doctor's assistant first provides health services. The Ministry of Health has made various efforts to increase the rational use of drugs by both health workers and the public. Efforts are made, among others, by promoting rational drug use involving provincial/district/city health offices, health professional organizations and medical and pharmaceutical universities. In addition, information dissemination and community empowerment activities are also carried out.

Based on the observations of researchers, it is known that patients lack in consuming fruits and vegetables due to lack of economic factors in consuming fruits and vegetables and patients rarely eat vegetables and fruits. Based on Basic Health Research of Ministry of Health Indonesia report data in 2018, hypertension sufferers in Indonesia aged 18 years and over 33.8%, smoked 95.5% and lacked fruit and vegetable consumption 3.3% (1). The average fruit vegetable consumption of the sample is 241 grams or almost 2.5 servings a day, while the recommended consumption of fruit and vegetables according to the Balanced Nutrition guidelines is 400 grams a day or 4 exchangers in one day, it can be concluded that the sample's fruit and vegetable intake is still lacking. (17)

Strengthening the relationship between fruit and vegetable intake and blood pressure where it is stated that the amount of fruit and vegetable intake is different for each serving of fruit consumption per day, and decreases by 1.2% for each serving per day of total fruit and vegetable consumption. (17-19)

Recording and Reporting Program

The study results conveyed that every patient who consults and buys medicine at Peunawa Rahmat Pharmacy has recorded drugs, then the practicing doctor records for each patient who consults, and collects patient data in the medical record. Based on the results of the study show that the Peunawa Rahmat Pharmacy has provided medicines and a stock of medications for hypertension patients, where internal medicine specialists have prescribed good drugs in the treatment of hypertension so that hypertension decreases and starts to improve from the previous one. Peunawa Rahmat Pharmacy is a place for doctors' practice clinics and to sell medicines; every consul's patient pays independently and is not covered by the Social Security Organizing Agency. Every consul who prescribes medicine from the doctor immediately buys at the consul's place, not outside the consul, Peunawa Rahmat Pharmacy serves the surrounding community for the purchase of drugs.

CONCLUSION

Based on the study results, it can be concluded that the treatment and prevention program for hypertension carried out at the Rahmat pharmacy is running well, following the applicable operational standards. However, the patient must spend personal money to pay for examination fees. The pharmacy must also provide additional preventive measures that patients can easily understand, such as leaflets or posters on hypertension prevention.

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REFERENCES

1. WHO. Hypertension: World Health Organization; 2023 [cited 2025 01-01-2025]. Available from: <https://www.who.int/news-room/fact-sheets/detail/hypertension>.
 2. Dhawan D, Sharma S. Abdominal Obesity, Adipokines and Non-communicable Diseases. *J Steroid Biochem Mol Biol*. 2020;203:105737.
 3. Katzmarzyk PT, Friedenreich C, Shiroma EJ, Lee IM. Physical inactivity and non-communicable disease burden in low-income, middle-income and high-income countries. *Br J Sports Med*. 2022;56(2):101-6.
 4. RISKESDAS. Indonesia Health Survey 2023 2023 [Available from: <https://www.badankebijakan.kemkes.go.id/hasil-ski-2023/>].
 5. Aceh D. Data Hipertensi di Aceh: Ministry of Health Indonesia; 2023 [Available from: <https://dinkes.acehprov.go.id/>].
 6. Surma S, Oparil S. Coffee and Arterial Hypertension. *Curr Hypertens Rep*. 2021;23(7):38.
 7. Kurtz TW, Pravenec M, DiCarlo SE. Mechanism-based strategies to prevent salt sensitivity and salt-induced hypertension. *Clin Sci (Lond)*. 2022;136(8):599-620.
 8. Institute of Medicine Committee on Public Health Priorities to R, Control H. A Population-Based Policy and Systems Change Approach to Prevent and Control Hypertension. Washington (DC): National Academies Press (US)
- Copyright 2010 by the National Academy of Sciences. All rights reserved.; 2010.
9. Samadian F, Dalili N, Jamalian A. Lifestyle Modifications to Prevent and Control Hypertension. *Iran J Kidney Dis*. 2016;10(5):237-63.
 10. Viridis A, Giannarelli C, Neves MF, Taddei S, Ghiadoni L. Cigarette smoking and hypertension. *Curr Pharm Des*. 2010;16(23):2518-25.
 11. Omboni S. Smoking and hypertension: what is behind the mask? *J Hypertens*. 2020;38(6):1029-30.
 12. Mambrini SP, Menichetti F, Ravella S, Pellizzari M, De Amicis R, Foppiani A, et al. Ultra-Processed Food Consumption and Incidence of Obesity and Cardiometabolic Risk Factors in Adults: A Systematic Review of Prospective Studies. *Nutrients*. 2023;15(11).
 13. Feng Y, Zhao Y, Liu J, Huang Z, Yang X, Qin P, et al. Consumption of Dairy Products and the Risk of Overweight or Obesity, Hypertension, and Type 2 Diabetes Mellitus: A Dose-Response Meta-Analysis and Systematic Review of Cohort Studies. *Adv Nutr*. 2022;13(6):2165-79.
 14. Sun T, Xu X, Ding Z, Xie H, Ma L, Zhang J, et al. Development of a Health Behavioral Digital Intervention for Patients With Hypertension Based on an Intelligent Health Promotion System and WeChat: Randomized Controlled Trial. *JMIR Mhealth Uhealth*. 2024;12:e53006.
 15. Parasuraman G, Jeemon P, Thankappan KR, Ali MK, Mahal A, McPake B, et al. Community Control of Hypertension and Diabetes (CoCo-HD) program in the Indian states of Kerala and Tamil Nadu: a study protocol for a type 3 hybrid trial. *BMC Public Health*. 2024;24(1):2275.
 16. Maruyama C, Nakano R, Shima M, Mae A, Shijo Y, Nakamura E, et al. Effects of a Japan Diet Intake Program on Metabolic Parameters in Middle-Aged Men. *J Atheroscler Thromb*. 2017;24(4):393-401.
 17. Rust P, Ekmekcioglu C. Impact of Salt Intake on the Pathogenesis and Treatment of Hypertension. *Adv Exp Med Biol*. 2017;956:61-84.
 18. Li B, Li F, Wang L, Zhang D. Fruit and Vegetables Consumption and Risk of Hypertension: A Meta-Analysis. *J Clin Hypertens (Greenwich)*. 2016;18(5):468-76.
 19. Madsen H, Sen A, Aune D. Fruit and vegetable consumption and the risk of hypertension: a systematic review and meta-analysis of prospective studies. *Eur J Nutr*. 2023;62(5):1941-55.