

BLOOD PRESSURE EXAMINATION AND EDUCATION ON HYPERTENSION PREVENTION IN RANGING HAMLET, NORTH SATARMESE DISTRICT

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Abstract

Hypertension is a significant global health problem with an increasing prevalence. It is the leading cause of cardiovascular disease and premature death worldwide due to its impact on vital organs and its association with chronic kidney disease, diabetes mellitus, and obesity. Despite the availability of various current management strategies, many patients still fail to achieve adequate blood pressure (BP) control. Cardiovascular mortality related to hypertension continues to rise along with the global increase in chronic kidney disease, diabetes mellitus, and obesity. Therefore, improving BP control must be prioritized urgently. Most individuals are unaware that they suffer from hypertension even when they experience its symptoms. The lack of public awareness in monitoring blood pressure and the limited knowledge about hypertension and its management often result in recurrent increases in blood pressure and, in many cases, severe complications. In Ranging Hamlet, most elderly residents suffer from hypertension, and some even experience multiple complications. Blood pressure screening and hypertension education can help in monitoring and controlling blood pressure, providing understanding on how to prevent or manage hypertension, and raising awareness about adopting a healthy lifestyle to avoid hypertension. This activity began with the preparation and implementation stages. After the community service (PKM) for the elderly conducted on October 18, 2024, the results showed that the elderly participants became aware of their blood pressure levels and gained improved knowledge and understanding of hypertension and its management.

Keywords: Blood Pressure Examination, Education, Hypertension, Management Blood Pressure

INTRODUCTION

Hypertension is the leading cause of cardiovascular disease and premature death worldwide due to its effects on vital organs, and it is associated with chronic kidney disease, diabetes mellitus, and obesity (Oparil et al., 2018). Despite the availability of current management strategies, many patients still fail to achieve adequate blood pressure (BP) control. Cardiovascular mortality related to hypertension continues to increase along with the rising

global prevalence of chronic kidney disease, diabetes mellitus, and obesity. Therefore, improving BP control must be an immediate priority.

Strategies that can be implemented include making more effective use of existing antihypertensive agents and employing treatments developed for comorbid conditions (such as sodium-glucose cotransporter 2 inhibitors for diabetes mellitus), which offer additional benefits for lowering BP and reducing cardiovascular risk (Oparil et al., 2018). According to the 2023 Indonesia Health Survey (SKI) and the 2011–2021 Non-Communicable Disease Cohort Study, hypertension ranks as the fourth leading risk factor for death in Indonesia, accounting for 10.2% of total mortality. Based on the 2018 Basic Health Research (RISKESDAS), the prevalence of hypertension in East Nusa Tenggara Province (NTT) reached 7.2%, or approximately 76,130 cases, making it the fourth most prevalent disease in the province.

Cardiovascular diseases are major health problems in both developed and developing countries and are the leading cause of death globally each year (Wang et al., 2024). Hypertension is the third largest risk factor contributing to premature death, as it can lead to congestive heart failure and cerebrovascular disease (Yogiantoro, 2016). The gradual increase in blood pressure (resistance) can cause damage to the kidneys (renal failure), heart (coronary heart disease), and brain (stroke) if not detected early and properly managed. Many hypertensive patients have uncontrolled high blood pressure, and the number continues to rise.

Evaluation of hypertensive patients includes accurate standard blood pressure measurements, assessment of the patient's risk for atherosclerotic cardiovascular disease and evidence of target organ damage, as well as detection of secondary causes of hypertension and comorbidities (such as cardiovascular or kidney disease) (Kitada K, 2024).

Community health development (PKM) activities are conducted to increase public awareness of the importance of blood pressure control and to help the community recognize hypertension and its management in order to prevent complications that could harm public health. A lack of knowledge about symptoms and proper management can accelerate long-term health risks. This disease is not only prevalent among the elderly but also increasingly affects younger age groups. Data from the 2023 SKI clearly illustrate the incidence of hypertension among young people, with physician-diagnosed prevalence rates of 0.4% in the 18–24 age group and 1.8% in the 25–34 age group.

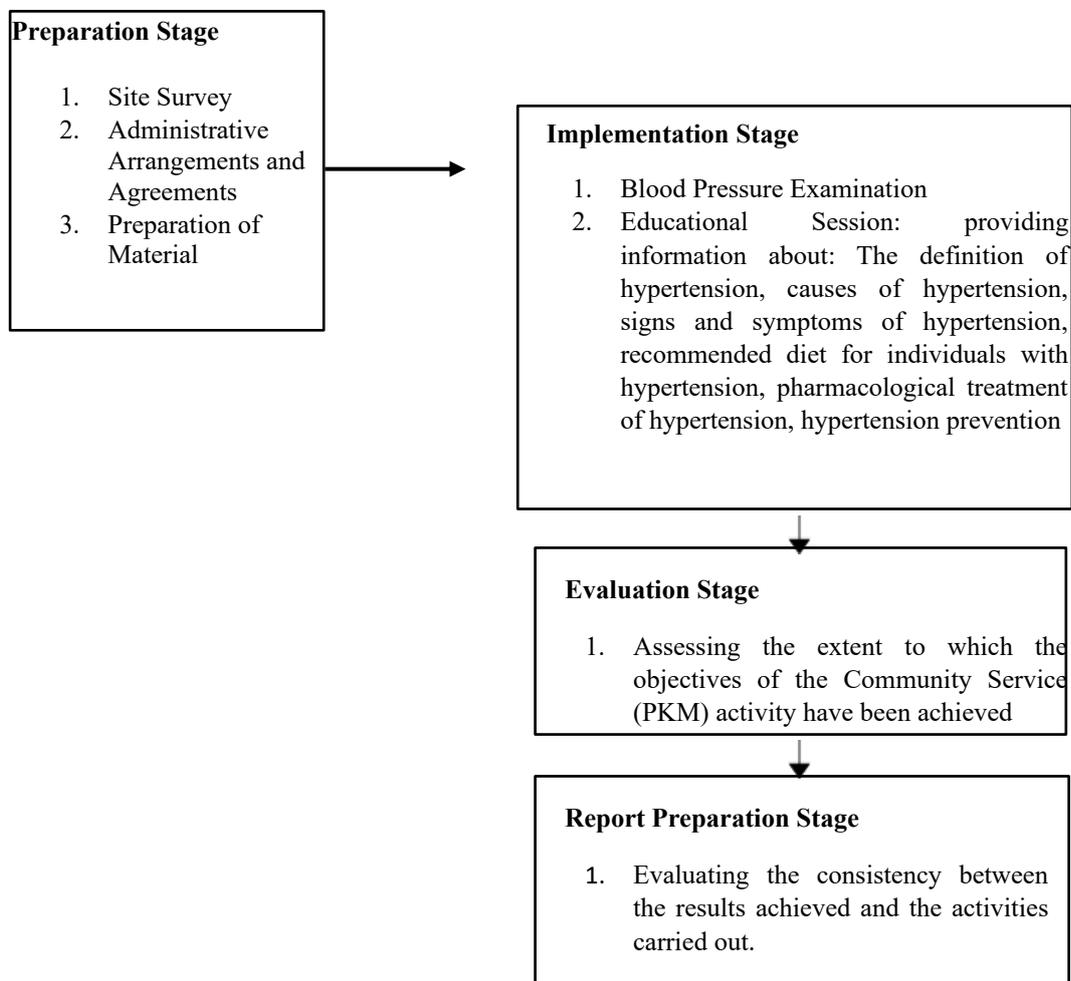
Hypertension is also a major public health problem in Indonesia, both in urban and rural areas. Todo Village is a rural area located in the North Satar Mese District. The region has a large elderly population, and most of the elderly residents in Ranging Hamlet, Todo Village, North Satar Mese, suffer from hypertension, with some experiencing multiple complications. Public health problems in Ranging Hamlet related to hypertension are largely triggered by lifestyle factors such as smoking, poor diet, and lack of exercise. Other contributing factors include a family history of hypertension and psychological stress.

People often ignore the symptoms of hypertension, considering them minor or temporary. This mindset can have serious health consequences and lead to complications. Given the increasing incidence of hypertension and its long-term health risks, it is essential to conduct blood pressure examinations and provide education about hypertension so that the community can become aware of the importance of maintaining health by monitoring or controlling their blood pressure more easily, as well as taking proper preventive and management measures.

Therefore, it is deemed important for the Faculty of Health Sciences' community service team to carry out a public service project titled "Blood Pressure Examination and Education on Hypertension and Its Management in Ranging Hamlet, Todo Village, North Satar Mese District, Manggarai Regency."

METHOD

This Community Service activity was carried out for 20 residents of Todo Village. The purpose of this activity was to enable community members, especially the elderly suffering from hypertension, to become more capable and independent in preventing and monitoring their condition, as well as to raise awareness in controlling their blood pressure. It also aimed to improve their knowledge, attitudes, and behaviors toward better health practices. Through the implementation of this program, it is expected that the overall health status of the elderly population will improve. The flow of the community service method is outlined below.



RESULTS AND DISCUSSION

The results of the community service activities can be described through two (2) stages: the preparation stage and the implementation stage. During the **preparation stage**, which involved the planning of the community service program, the following activities were carried out:

1. Coordination with the Ranging Hamlet Auxiliary Health Center (Pustu): The Pustu staff welcomed and supported the community service activities conducted by the service team, which aimed to monitor the health status of the elderly registered at the facility.
2. Determining the training schedule: Based on an agreement with the village head and the Todo Health Center, the training was held on Tuesday, October 18, 2024.
3. Identifying the target participants: Based on coordination with the Puskesmas, the participants targeted for this activity were elderly individuals who frequently sought treatment at the health center.
4. Planning the training materials: The materials prepared by the service team included blood pressure measurement, knowledge about hypertension, and methods for managing and treating hypertension.

The preparation stage was followed by the implementation stage, which can be described as follows:

1. The community service activity, titled *“Blood Pressure Examination and Education on Hypertension and Its Management,”* was conducted on Monday, October 18, 2024, at the Elderly Posyandu in Ranging Hamlet, Todo Village, North Satar Mese District, Manggarai Regency.
2. The activity was attended by 20 participants during home visits.
3. Participants were enthusiastic and pleased with the program organized by the Community Service Team from the Faculty of Health Sciences, UNIKA Santu Paulus Ruteng. The activities included blood pressure checks, education about hypertension and its management, as well as non-pharmacological treatment using family medicinal plants as an effort to prevent and reduce blood pressure among hypertension sufferers in Ranging Hamlet.
4. The activities carried out included: a) Blood pressure examination, b) Educational sessions covering: the definition, causes, signs and symptoms, recommended diet, and prevention of hypertension, c) Demonstration of non-pharmacological hypertension management through the use of family medicinal plants to lower blood pressure. All topics were delivered by the service team within the scheduled time.
5. During the question-and-answer session, several questions were raised by participants, such as:
 - a) What foods are not recommended for people with hypertension?
 - b) What factors can cause hypertension?
 - c) How can hypertension recurrence be prevented?
6. The activity also explained alternative, non-pharmacological treatments by introducing examples of traditional herbal remedies and demonstrating their preparation and use for lowering blood pressure among hypertension patients.

The overall results of the community service activity can be assessed based on the following components:

1. Achievement of target participant numbers: The participation rate was excellent. Out of 20 invited participants, about 90% attended the session based on the coordination with the village midwife.
2. Achievement of health education objectives: The objectives were successfully met (80%). Participants demonstrated improved knowledge regarding the definition, causes, signs and symptoms, and prevention of hypertension. They also gained better understanding and skills in non-pharmacological management using family medicinal plants to lower blood pressure. The educational activity on hypertension and its management in Ranging Hamlet was successfully implemented. The provision of health education helped the community adopt healthier lifestyles, thereby preventing hypertension. In addition, educational media such as leaflets proved to be effective tools for local health cadres to share knowledge with elderly individuals who were unable to attend the training sessions.
3. Achievement of material delivery targets: The achievement rate of the planned material was good (80%). All materials were successfully presented by the team within the available time. The topics covered included an understanding of hypertension, its causes, symptoms, prevention, and management particularly through the preparation of traditional herbal remedies as a non-pharmacological alternative using family medicinal plants to help reduce blood pressure.
4. Participants' mastery of the material: Participants' comprehension level was good (75%). The use of lectures and demonstrations facilitated better understanding and retention of the material delivered by the team.

Overall, the community service activity titled "*Blood Pressure Examination and Education on Hypertension and Its Management in Ranging Hamlet, Todo Village, North Satar Mese District, Manggarai Regency*" was successfully implemented and achieved its objectives, as indicated by the four components above.

The community service was carried out on Tuesday, October 18, 2024, in Ranging Hamlet, Todo Village. This program targeted elderly participants to enhance their knowledge and awareness of regularly monitoring their blood pressure, preventing hypertension, and managing it properly in case of increased blood pressure. The activity was well-executed and achieved its intended outcomes.

The program was attended by 20 elderly participants, involving blood pressure checks and educational sessions on hypertension and its management in Ranging Hamlet, Todo Village, North Satar Mese District, Manggarai Regency.



Figure 1. (Blood Pressure Examination)



Figure 2. (Providing Education on Hypertension and Its Management)

CONCLUSION

1. Blood pressure examinations can provide an overview of the health status of the elderly participants involved in the activity.
2. There was an improvement in participants' knowledge and skills regarding hypertension and its management through lecture and demonstration methods.
3. The empowerment of nurses and health cadres in monitoring blood pressure among the elderly is expected to be effectively realized. In addition, the use of educational materials related to hypertension and its management can help increase motivation and awareness among the community especially the elderly to adopt a healthy lifestyle.

Acknowledgment

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