Community Diagnosis in Efforts to Reduce the Number of Hypertension in the Gembong Health Center Work Area, Tangerang Regency, Banten Province, Indonesia

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ABSTRACT: Hypertension is diagnosed when a person's systolic blood pressure is ≥140 mmHg or diastolic blood pressure (DBP) is ≥90 mmHg after at least two examinations. Hypertension ranks first for 10 cases of non-communicable diseases in the Gembong Health Center Work Area. This study aimed to analyze the decrease in the number of hypertension cases in the Gembong Health Center work area, Balaraja District, Tangerang Regency, Banten Province. The method used is a community diagnosis approach that identifies problems using the Blum Paradigm. Problem priorities are determined using the Delphi non-scoring technique, and the root cause of the problem is determined using a fishbone diagram. Intervention result data were obtained through pre-and post-test questionnaires. Monitoring was carried out with a plan-do-check-action (PDCA) cycle. The evaluation was carried out using a systems approach. Based on the analysis results using a fishbone diagram, the main problem is the lack of public knowledge regarding hypertension. The results of the counselling showed that all participants scored ≥ 70 points on the post-test, and blood pressure measurement screening showed that 9 (45%) participants suffered from hypertension. The community diagnosis approach implemented can increase public knowledge about hypertension.

KEYWORDS: Hypertension, Community Diagnosis, Society and Health.

INTRODUCTION

Community diagnosis is an activity used to determine the existence of a problem in a community area by collecting data in the field. Community diagnosis identifies issues and then directs improvements through interventions to produce a work plan to solve problems as an introduction to issues in the community so that it is continued with an intervention plan and evaluation of how the intervention was successfully carried out in the community (Nara Fadhilla & Permana, 2020).

Non-communicable diseases (NCDs), or chronic diseases, usually last a long time and are caused by various genetic, physiological, environmental, and behavioural factors (Mancia et al., 2023). Non-communicable diseases are increasing due to changes in lifestyle, smoking habits, unhealthy diets or eating patterns, and minimal physical activity (Unger et al., 2020). Thus, preventing non-communicable diseases by recognizing risk factors and changing to a healthier lifestyle by checking health regularly, eliminating cigarette smoke, being diligent in physical activity, eating a healthy and balanced diet, getting enough rest and managing stress. Hypertension is a non-communicable and the most significant public health problem (Granados-Gámez et al., 2015; Ma & Chen, 2022). According to the American College of Cardiology/American Heart Association (ACC/AHA) (2020), hypertension is diagnosed when a person's systolic blood pressure is ≥140 mmHg or diastolic blood pressure (DBP) ≥90mmHg after at least two or repeated examinations (Flack et al., 2024).

According to the World Health Organization (WHO), until 2021, there were around 1.28 billion cases of hypertension in those aged 30-79 years, with two-thirds coming from lower-middle-income countries. An estimated 46% of adults with hypertension are unaware that they have hypertension. Less than half of adults (42%) with hypertension are diagnosed and receive treatment. Only 1 in 5 adults (21%) with hypertension can control it (Chakraborty et al., 2021; Mancia et al., 2023). The 2018 Basic Health Research (Riskesdas) showed an increase in the prevalence of hypertension in Indonesia, with a population of around 260 million, which was 34.1% compared to 25.8% in the 2013 Riskesdas. The prevalence of hypertension based on measurement results in the population aged ≥18 years, Indonesia 658,201 (34.11%), Banten Province 31,052 (29.47%), Tangerang Regency 2,745 (28.74%). The Indonesian Renal Registry (IRR) reported that the incidence of hypertension is the most common cause of chronic kidney disease (Dwi Maharani et al., 2024). In addition to chronic kidney disease, uncontrolled hypertension is the most common cause of heart disease and stroke, which can lead to decreased quality of life and death (Dueñas et al., 2023; Saxena et al., 2021; Shere et al., 2017).

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According to data from the Gembong Health Center for one year (2023), hypertension has the highest number of cases in the Gembong Health Center work area. Data on the number of hypertension diagnoses in January 2023 were 963 cases, February 728 cases, March 1161 cases, and April 892 cases, while in 2024 there were 510 cases in January, February 419 cases, March 417 cases, and April 324 cases. Although there was a decrease in hypertension cases in 2024, hypertension still ranks first in the top 10 non-communicable diseases (NCDs) in the Gembong Health Center work area. Based on these data, community diagnosis is considered necessary to determine further the causes and root causes of the high number of hypertension cases, so it is hoped that solutions can be found to reduce the number of hypertension cases in the Gembong Health Center work area.

RESEARCH METHOD

This research was conducted in the Gembong Health Center working area, Tangerang Regency, Banten. This research targeted 20 respondents who were visitors to the Gembong Health Center identified through the Blum paradigm. This research method was carried out in several stages, including the following: 1) Situation analysis; 2) Identification of problems with the Blum paradigm with a mini-survey aimed at finding out the environment, health services, knowledge, attitudes, and behaviour of the community regarding hypertension disease and prevention; 3) Determination of the priority of the cause of the problem carried out using the Delphi non-scoring technique which was carried out by forming a group and discussing the problems in the group with the determination of the priority of the problem carried out based on a qualitative approach; 4) Identification of the root cause of the problem with the fishbone method which was carried out to understand the various potential factors that contribute to service quality problems and focus improvement efforts on these factors.

RESULTS AND DISCUSSION

The activity began with a request for permission from the head of the Gembong Health Center and coordination with the person in charge of the PTM and Promkes section of the Gembong Health Center regarding determining the intervention location. The agreed location was Cangkudu Village because the village had the highest number of hypertension cases. Furthermore, the young doctor submitted a request for permission from the village head and Cangkudu village cadres to conduct the intervention and coordinated with the person in charge of the PTM and Promkes section of the Health Center regarding the determination of the intervention schedule. Then, prepare the tools needed for the intervention through presentation materials, such as posters and leaflets, pre-test and post-test questionnaires, and pens.

Four young doctors conducted counselling activities regarding hypertension at the Balai Rukun Warga (RW) of Cangkudu Village, Balaraja District, Tangerang Regency, Banten, on Friday, May 31, 2024, from 10:30 to 11:30 WIB. This activity aims to increase public knowledge about hypertension in the Cangkudu Village area.

The counselling activity was attended by 20 people from a target of 30 people. Participants gathered at the Balai Rukun Warga (Community Association) of Cangkudu Village, starting with an opening, introduction and explanation of the purpose of the counselling. Distribution of pre-test questions: All participants filled out the pre-test in approximately 10 minutes to determine the extent of the participants' understanding of hypertension. Counselling on hypertension was carried out using posters and leaflets. After collecting the pre-test results, leaflets were distributed and consumed. After that, the counselling began with the delivery of material on hypertension. After the counselling session, a discussion and question and answer session were held with the participants present. After the question and answer session, the distribution of post-test questions and the filling out of the post-test was continued.

Furthermore, the assessment of the pre and post-test evaluations on hypertension in the Cangkudu Village community. The pre-test and post-test data obtained were processed manually and added to the Microsoft Excel application. The data is presented in the form of a table as follows:

**Table 1 Characteristics of Participants and Results of Pre-Test and Post-Test Scores**

Variable	Proportion (%) N: 20	Median (Min-Max)
Gender		
Female	20 (100)	
Male	0	
Age (Years)		50 (32-69)
Last Education		
No School	0 (0)	
Elementary School	4 (20)	
Junior High School	3 (15)	
High School	12 (60)	

College	1 (5)
Suffering from Hypertension	9 (45)
Pre-Test	
≥70	16 (80)
<70	4 (20)
Post-Test	
≥70	20 (100)
<70	0 (0)

There were 20 participants from the target of 30 participants who participated in the counselling activities at the Balai Rukun Warga (RW) of Cangkudu Village. All participants who attended were women with an average age of 50 years. Most participants' last education was high school, which was 60% or 12 people. The pre-test results showed that 4 (20%) participants got a score below 70, and 16 (80%) participants got a score of more than or equal to 70. The post-test results showed that no 0 (0%) participants got a score below 70, and 20 (100%) participants got a score of more than or equal to 70.

Figure 1 Comparison of Pre-Test and Post-Test Results
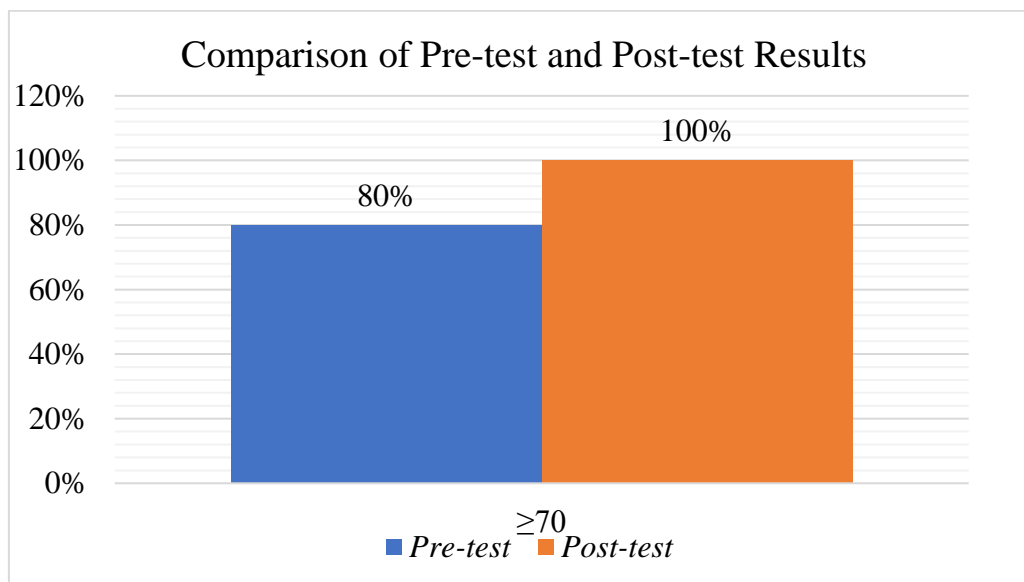
Next, the intervention process II was carried out in detail. The activity began with a request for permission from the Head of the Gembong Health Center and the Head of Cangkudu Village to carry out the intervention, then coordination with the person in charge of the PTM section, Gembong Health Center Health Promotion and Cangkudu Village cadres regarding the time and place of the hypertension screening intervention. Then, the tools needed for screening are prepared in the form of a tensiometer, stethoscope, and tensiometer result record sheet. The screening activity was conducted on Friday, May 31, 2024, at 10.00-10.30 WIB with 20 participants attending at the Balai Rukun Warga (RW) of Cangkudu Village. The activity occurred by conducting questions and answering questions regarding identity, history of hypertension, and treatment. They were continued with blood pressure measurements by young doctors. After getting the blood pressure results, they were recorded on the blood pressure result record sheet—the activity ended by calculating the number of hypertensive and non-hypertensive data.

The screening data obtained were processed manually and added to the Microsoft Excel application. The data is presented in the form of a table as follows:

Table 2 Hypertension Screening

Variable	Proportion (%) N: 20	Mean	Median (Min-Max)
Systolic Blood Pressure (Mmhg)			
120	4 (20)	105	105 (100-110)
20-139	8 (40)	125	125 (120-130)

140	8 (40)	157,5	155 (140-180)
Diastolic Blood Pressure (Mmhg)			
<80	2 (10)	70	70 (70)
80-89	7 (35)	82,5	82,5 (80-85)
≥90	11 (55)	100	100 (90-110)
Hypertension			
Yes	9 (45)		
No	11 (55)		

Twenty participants took part in hypertension screening at the Balai Rukun Warga (RW) of Cangkudu Village; the results of the screening showed that systolic blood pressure <120 mmHg was 4 (20%) participants, 120-139 mmHg was 8 (40%) participants, and ≥140 mmHg was 8 (40%) participants. Meanwhile, diastolic blood pressure was <80 mmHg in 2 (10%) participants, 89-89 mmHg in 7 (35%) participants, and ≥90 mmHg in 11 (55%) participants. The average systolic blood pressure ≤120 mmHg is 105 mmHg with a middle value of 105 mmHg, 120-139 mmHg is 125 mmHg with a middle value of 125 mmHg, and the average systolic blood pressure ≥140 is 157.5 mmHg with a middle value of 155 mmHg. In diastolic blood pressure <80, an average of 70 mmHg with a middle value of 70 mmHg was obtained, 80-89 mmHg was 82.5 mmHg with a middle value of 82.5 mmHg, ≥190 mmHg an average of 100 mmHg with a middle value of 100 mmHg was obtained. So, it can be concluded from the screening that 9 (45%) participants suffered from hypertension, and 11 (55%) participants did not suffer from hypertension.

CONCLUSION

Based on epidemiological data obtained in 2023, Cangkudu Village is one of the villages in the Gembong Health Center work area with the highest number of hypertension cases. Based on the Blum paradigm, the problem that causes the high number of hypertension cases in the Gembong Health Center work area is lifestyle, which includes 1) Knowledge: many people do not know much about hypertension; 2) Attitude: many respondents do not agree to take regular medication even though there are no symptoms; 3) Behavior: many respondents do not routinely measure their blood pressure, consume salty and fatty foods such as fried foods, and many respondents rarely or never exercise. Meanwhile, the root cause of the problem is obtained using a fishbone diagram, namely the lack of public knowledge regarding hypertension and the lack of public awareness to carry out blood pressure screening. Interventions that can be carried out as an alternative solution to short-term problems and have significant leverage to support medium-term and long-term goals regarding high hypertension in Cangkudu Village are as follows: 1) Increasing public knowledge of Cangkudu Village regarding hypertension by providing counselling regarding hypertension, and 2) Conduct hypertension screening in the Cangkudu Village community from productive adults to the elderly. The results of the intervention that has been carried out show that in intervention I, 20 (100%) participants who attended the counselling received a post-test score of ≥70. Meanwhile, the results of intervention II showed 20 participants who were screened for hypertension, 9 (45%) of whom suffered from hypertension.

Suggestions for the Cangkudu Village community and the community in the Gembong Health Center area: 1) It is hoped that the community participants in the counselling can understand and comprehend the signs and symptoms of hypertension, the causes and impacts of hypertension, how to prevent hypertension, comply with hypertension treatment, and modify lifestyle; 2) It is hoped that the community will also share the information obtained and educate their families, relatives and neighbours regarding hypertension so that knowledge about hypertension in Cangkudu Village increases; 3) It is hoped that the community will routinely check their blood pressure at health facilities to find out early about hypertension, both symptomatic and asymptomatic, especially in people with risk factors so that earlier prevention can be carried out.

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