



# Community Nursing Care: Unhealthy Lifestyle as A Risk Factor of Hypertension in Older Adults in Rural Areas

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## Abstract

**Introduction:** Adults-elderly habits of unhealthy lifestyles increase the risk of hypertension. The high incidence of hypertension causes indications for the diagnosis of community health deficit. Hypertension can be associated with heredity, an unhealthy lifestyle such as smoking, less consumption of vegetables and fruits, lack of physical activity, alcohol consumption and stress. **Objective:** to determinan the picture of community nursing care, unhealthy lifestyles health deficit problems in older adults with behavioral promotion interventions for health efforts in RW 02 Baratan Village. **Method:** The method use in this study was quantitative descriptive and quota sampling technique to determine the sample. **Results:** The research results show that implementig promotion interventions for health efforts are able to increase knowledge, atttudes, and behavior towards healthy lifestyles through education programs, exercise, and demonstrations. The Sig(2-tailed) value obtained in the knowledge category was  $P=0.025$ ; attitude category  $P=0.000$ ; behavior category  $P=0.000$  where  $\alpha<0.05$  means there is a difference between before and after implementation. **Conclusion:** There has been increase in health program participation, health standars compliance, and monitoring of communy health standards.

**Keywords:** Community health deficit, Healthy life, Promotion of Health-care behavior

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## 1. BACKGROUND

An unhealthy lifestyle can cause health problems, such as a diet with excessive salt consumption, smoking habits, and lack of physical activity can cause a person to develop hypertension (Marlita et al., 2022). Hypertension is also

known as a silent killer because it often manifests as a condition without symptoms and is only discovered when there is a disturbance in the body (WHO, 2018). Hypertension is one of the risk factors for entry into various degenerative diseases including coronary heart disease,

stroke and other blood vessel diseases which will result in high health costs and the risk of death (Kemenkes, 2024).

The prevalence of hypertension according to WHO (2022) is 22% of the total population in the world. Riset Kesehatan Dasar (2018) shows that the prevalence of hypertension in the 45-54 years old is 45.3%, in the 55-64 years old is 55.2%, and in the 65-74 years old age and 63.8% in those aged over 75 years old 69,5% (Kementerian Kesehatan RI, 2018). Data from the Jember Health Service (2020) shows that 741,735 people, including men and women, suffer from hypertension. The prevalence of hypertension problems in Baratan, Patrang shows that out of a total population of 205 people, there are 196 people ranging in age from 45 to over 70 years, with a total of 98 new cases (Banjarsengon Public Health Center, 2023). The results of the study showed that 69 people (17.4%) had measurable data in the Baratan region population aged over 45 years who had high blood pressure out of a total population of 395 people.

Lifestyle is one of the risk factors for hypertension in the adult-elderly group. Various lifestyle factors can increase a person's chances of developing complications from hypertension because various problems will arise if blood

pressure and lifestyle are not controlled (Sakinah et al., 2020). Community health deficits can describe a lack of understanding of the importance of a healthy lifestyle, lack of access to healthy food, lack of access to sports facilities or physical activity, as well as low awareness of the risks and complications associated with hypertension (Gulati et al., 2021). The form of nursing intervention is in the form of promoting health behavior which includes intensive health education, promoting healthy lifestyles through community programs such as counseling activities, joint sports activities, and discussions regarding utilizing access to health services (Suirvi et al., 2022)

Based on the explanation of the problem above, the researcher as a prospective nursing health worker will provide community nursing care to the target area, namely the community of RW 2, Baratan Village, Patrang, Jember Regency. The intervention that will be provided is the promotion of health behavior.

## 2. METHODS

This research is a case study with quantitative descriptive method in the RW 02 Baratan Village, Patrang, Jember. The process was conducted from May 2024 to

June 2024, involving data collection and data assessment stages. The actions taken in this case study include: Promotion of Health-care Behavior. This research used research samples from adults aged over 45 years to the elderly in Baratan Village, Patrang, Jember. The technique used is taking samples using non-probability sampling, where sampling does not provide an equal opportunity for each member of the population to be sampled. The nonprobability sampling technique used is quota sampling (Hikmawati, 2020). The population used was 395 people, then the researchers determined the sample size to be 40 respondents. Sample size according to Roscoe's (1975) rule of thumb, that the sample size that can be used by researchers is more than 30 and less than 500, therefore in this study the sample used is considered appropriate (Johan et al., 2021). The statistical test conducted in this research is the Wilcoxon test.

The first implementation of this research was a health check and problem identification. The measuring instrument used to measure blood pressure is an ABN brand manual blood pressure monitor. This research uses a knowledge, attitude and behavior questionnaire. The knowledge questionnaire is a questionnaire to find out everything the respondent knows about

hypertension. This research uses a knowledge, attitude and behavior questionnaire. The knowledge questionnaire is a questionnaire to find out everything the respondent knows about hypertension. The knowledge questionnaire related to hypertension contains 15 questions. This questionnaire is used as a measuring tool in the implementation of health education on the concept of hypertension, education of hypertension dietary, and health care for stress management and anti-hypertensive drinks.

Regarding attitude, there are 10 question items. This questionnaire is used as a measuring tool in the implementation of community discussions, health education on the concept of hypertension, health care for hypertension diet, and health care for stress management and antihypertensive drinks. On behavior there are 10 questions. This questionnaire has been tested for validity and reliability. Measuring tools in the first implementation were during health screening and community discussions and health education for stress management and anti-hypertensive drinks. The results of the validity test on the questionnaire show a correlation coefficient value of  $> 0.349$  ( $r$ -table) so that the questionnaire

can be declared valid. The results of the questionnaire reliability test can be stated that the knowledge, attitudes and behavior questionnaire meet the acceptance criteria, namely a value of >0.60 so that it is declared reliable and can be used (Romli, 2021).

### 3. RESULTS

#### Assessment

The results of the screening assessment and interviews conducted with local health workers, cadres, RT heads, and villagers were obtained:

- 1) Hypertension is the most common health problem in RW 02 Baratan Village, which is 69 people (17.4%)
- 2) There is no training and coaching of cadres for hypertension control
- 3) The integrated guidance post (Posbindu) service has not been optimal due to the busyness of the community, distance, and lack of information.
- 4) The results of the assessment of 40 respondents, as many as 17 respondents (42.5%) had a lifestyle in the poor category.

#### Diagnosis

Based on the analysis of the assessment data obtained, the diagnosis of community health is related to resource limitations

#### Intervention

- 1) Promotion of Health Care Behavior
- 2) Identify behaviors that can be improved health efforts
- 3) Provide a supportive environment
- 4) Orientation of real services that can be used
- 5) Recommendations for consuming vegetables and fruits every day
- 6) Encourage daily physical activity
- 7) Encourage no smoking indoors

#### Implementation

##### Implementation of Health Screening and Identification of Changeable Behaviors

The results of the study include the results of hypertension screening, the level of knowledge of attitudes and behaviors in the community. The results of the study are shown in table 1.

**Table 1.** Blood pressure category in RW 02 Baratan Village (n=120)

Blood pressure category	n	Percentage (%)
Hypertension	69	57,5
Pre hypertension	8	6,7
Normal	38	31,7
Hypotension	5	4,1

Based on table 1 after screening, it was found 57,5% showed have hypertension. As a result of interviews, 30 out of 40 people said they still had the habit of eating salty food and coconut milk more than 3 times a week. A total of 40 people said they never did physical activity and 9 people said they still had the habit of smoking 10 cigarettes a day. The results of the joint discussion showed that the

community agreed that the problems that existed in the environment related to unhealthy lifestyles as a risk factor for hypertension needed to be addressed. The community also agreed to the existence of an activity plan that has been designed by the researcher to be applied to the community.

### Implementation of Health Education

**Tabel 2.** Statistics of Pre-Post Test Knowledge Before and After Health Education (n=40)

	N	Mean	Standard Deviation	Max	Min	Sig. (2-tailed)
<b>Education of Hypertension Concept</b>						
Pre-Test	40	42,28	3,70	35	50	0,003
Post-Test		42,75	3,55	37	50	
<b>Education of Hypertension Dietary</b>						
Pre-Test	40	43,54	3,61	37	51	0,000
Post-Test		44,05	3,47	38	51	
<b>Education Stress Management</b>						
Pre-Test	40	44,18	3,39	38	51	0,000
Post-Test		51,58	2,52	44	57	

Based on table 2, show that the level of knowledge in each health education has increased. The results of the hypertension concept education showed an increase in the average score on the results of the post-test which was 42.75±3.55 with a sig value (2-tailed) of 0.003  $\alpha < 0.05$ . The results of the hypertension diet education showed an

increase in the average score on the results of the post-test which was 44.05±3.47 with a sig value (2-tailed) of 0.000  $\alpha < 0.05$ . The results of stress management education showed an increase in the average score on the results of the post-test which was 51.58±2.52 with a sig value (2-tailed) of 0.000  $\alpha < 0.05$ .

**Table 3.** The results of Wilcoxon Signed Rank Test Analysis of Attitude Implementation Day 1 to Day 5 (n=40)

	N	Positive Ranks	Ties	Negative Ranks	Sig. (2-tailed)
Screening & Identification	40	4	36	0	0,046
Education of Hypertension Concept	40	5	35	0	0,025
Education of Hypertension Dietary	40	12	28	0	0,002
Education Stress Management	40	5	35	0	0,025

Based on table 3, the results showed an increase in people's attitudes from less to good with the results obtained on the fifth day, namely  $P=0.025 < \alpha (0.05)$  which

means that there was a significant difference related to the implementation of the attitude of the elderly group towards a healthy lifestyle.

### Implementation of Exercise

**Table 4.** Results of Systolic and Diastolic Blood Pressure Analysis Before and After Exercise (n=28)

Parameter	Mean			P
	Before	After	Average mean	
Blood Pressure Sistole (BPS)	123,93	121,61	2,32	0,021
Blood Pressure Diastole (BPD)	78,93	78,57	0,36	0,708

Based on table 4, the results of the T-Test and Wilcoxon test against BPS and BPD before and after doing anti-hypertensive exercise are shown. The table shows that there is a significant change in

BPSS with  $P=0.021 < 0,05$ , while BPD showed a meaningless change of  $P = 0.708 > 0.05$  to BPD before and after antihypertensive exercise.

### Implementation of Behavior

**Table 5.** The Results of Wilcoxon Signed Rank Test Analysis of Initial Behavior Implementation and Final Behavior Day 1 to Day 5 (n=40)

	N	Positive Ranks	Ties	Negative Ranks	Sig. (2-tailed)
Post-test pre-test	40	25	15	0	0,000

Based on table 5, the results show that the sig value (2-tailed) of each implementation is 0.000 ( $\alpha < 0.05$ ), so  $H_0$  is rejected, meaning that there is a difference in values before and after the implementation of five times on the behavior of the adult-elderly community related to hypertension.

### Evaluation

**Formative Evaluation:** The results of this research obtained during the 10 days of implementation have been listed in the nursing care implementation table.

**Sumative Evaluation:** There is a change in knowledge, attitudes, and behaviors from the community as an effort to solve the problem of community health deficit in an effort to improve a healthy lifestyle in adults and the elderly. Based on the results

of research on the provision of interventions to promote health efforts, it can be said to be quite

### Diagnosis Evaluation

- 1) There is an increase in the participation score in community health programs has increased from scale 2 to scale 4
- 2) Compliance with environmental health standards in the implementation of a healthy lifestyle has increased from scale 2 to scale 4
- 3) Monitoring of health standards has increased considerably from scale 2 to scale 4

### Participants Evaluation

A total of 40 participants who consistently attended for four implementations from problem identification, activity program planning, program implementation, and evaluation. However, in reality, there was a decrease in the number of participants when the implementation of exercise activities on Sunday was carried out

## 4. DISCUSSION

### Overview of Community Health Deficits

The existence of problems experienced by the community is characterized by the fact that there are still many cases of hypertension found in the

West Village area from measurable data, namely 69 people (17.4%). In addition, a lifestyle that has not been carried out optimally is a risk factor for hypertension problems in the Western region. From the results of the study, people rarely carry out routine health checks to health services. As many as 30 of the total respondents said they always consume salty foods more than 3 times a week and high-fat foods such as coconut milk more than 3 times a week. This is in line with the research of Octarini et al., (2023) respondents who experience hypertension who have a habit of consuming salty foods by 95%. In the elderly, there will be a decrease in sensitivity to the senses of taste and taste, triggering the use of salt. A person with light activity has a 30-50% tendency to develop hypertension compared to moderate or vigorous activity. Activities that are carried out actively and regularly will result in more elastic blood vessels and more efficient heart performance (Indriani et al., 2023). In terms of smoking habits, 9 out of 11 male respondents said they always smoke more than 10 cigarettes per day. Research by Erman et al., (2021) states that there is a relationship between smoking and the incidence of hypertension because the nicotine content in the nicotine will affect blood pressure, which can be

through the formation of atherosclerosis plaques. Researchers hypothesize that poor dietary habits, smoking habits, and lack of physical activity contribute to the incidence of hypertension in the elderly.

### Overview of Promotion of Health Care

The provision of health education is a means of conveying messages and decision-making which can later affect health management by providing information, creating awareness, thereby encouraging people to implement a healthy lifestyle (Triana and Hardiansyah, 2021). An integrated guidance post for the early detection and prevention of non-communicable disease (NCDs) is a public health-based effort under the auspices of a health center related to the control of NCDs risk factors. The integrated guidance post (Posbindu) includes various activities such as early detection, monitoring, counseling, and the administration of medicines. The Posbindu activity is a form of community participation and health agencies with promotive and preventive efforts to detect the existence of NCD risk factors early. Empowering cadres in health program activities can provide benefits such as facilitating coordination with the community. The role of cadres is very important, because cadres are the

spearhead in providing information and education coordinating posts, community mobilization, monitoring and measuring NCD risk factors (Kaptiningsih et al., 2023).

### Overview of The Implementation of Community Nursing Care Results in the Adults-Elderly Group

The first implementation, the researcher gathered cadres, heads of RTs, RWs, and the community. Researchers conducted screening and identification activities related to hypertension problems in West Village. Based on the results of the identification of related problems, health workers, community leaders, and the community participated in identifying problems related to unhealthy lifestyles in the community. The problem of hypertension sufferers in the adult-elderly group in RW 02 Baratan Village was found as many as 69 people (17.4%). The results of the assessment of 40 respondents, as many as 17 respondents (42.5%) had a lifestyle in the poor category. Based on the results of observations and interviews, some people often complain of headaches in the back. This can be one of the signs and symptoms of hypertension. Leaders and movers in community health are cadres.

The second implementation is a discussion approach with the community, health education related to the concept of hypertension, and the distribution of blood pressure monitoring pocket books. In this case, the discussion refers to structured communication between students, cadres, and communities related to the concept of hypertension disease and the orientation of health services that can be utilized in the Western region. The results of the health examination related to the knowledge of the concept of hypertension showed that the Sig (2-tailed) was 0.003  $\alpha < 0.05$ , meaning that there was a difference between before and after health education. This illustrates an increase in respondents' knowledge related to hypertension. The results obtained were that the community showed enthusiasm and activity during the health education process and during discussions. Through this monitoring book blood pressure, the community can monitor changes in blood pressure over time, which is an important indicator in hypertension management and heart health in general (Trefond et al., 2022).

The third implementation is to do anti-hypertension exercise with the adult-elderly community. This activity is carried out jointly which begins with a health check, namely blood pressure

measurement before doing exercise. The results of the activities obtained were that the community seemed enthusiastic and could participate in exercise from start to finish. The community is able to follow the exercise movements that have been exemplified. A total of 28 people stated that their bodies felt fresher after doing exercise. There was a change in blood pressure measured in the participants after doing exercise, the difference between the average BPS and BPD values did not experience a significant change, namely 2.32 mmHg and 0.36 mmHg after exercise. In line with the results of Ati et al., (2023) shows that anti-hypertensive exercise is able to significantly lower systolic and diastolic blood pressure. According to Siswati et al., (2021) doing physical exercise is one of the risk factors that can be prevented so that hypertension can be controlled and controlled. This can affect the results of blood pressure differences before and after exercise because it is only done once so that it does not provide a significant change in blood pressure.

The fourth implementation is health education related to the hypertension diet including recommendations for eating vegetables and fruits, low-fat foods, and recommended food processing. The results of health education obtained by the

community seemed enthusiastic about the information provided. The results of the health report related to hypertensive diet knowledge showed that Sig (2-tailed) was 0.002  $\alpha < 0.05$ , meaning that there was a difference between before and after health education. This is shown by the increase in correct answers in 12 respondents. A total of 16 people (40%) were in the good knowledge category and 24 people (60%) were in the sufficient category. Research by Setyowati and Wahyuni (2019) shows the approach is supported by research that shows that health education is effective in increasing knowledge about health and motivation to adopt healthy behaviors. The public is able to know and re-mention what foods should be consumed and how to cook recommended on a hypertension diet. According to Notoadmodjo (2012), the results show the level of the cognitive domain of the community at the level of comprehension, which means that a person can explain known objects and can interpret them correctly.

The last implementation is the implementation of health education programs and demonstrations of anti-hypertensive drinks. The first activity is to provide education on stress management and deep breath relaxation techniques. Then it was followed by a demonstration of

making anti-hypertensive drinks with cucumber juice. The results obtained are that the community shows activity during health education and during discussions. Participants were able to mention how to manage stress, the benefits of cucumbers, and how to make drinks by asking respondents to explain again. A total of 38 people (95%) have knowledge in the good category and 2 other people (5%) in the sufficient category. One of the efforts to control blood pressure is to avoid prolonged stress and implement adaptive coping (Rahmawati and Novi, 2017). The rules for consuming cucumber juice as much as 200cc in the morning and evening (Nurhidayat, 2020). The results obtained are that public knowledge about hypertension has increased and the community is able to understand and mention the content and how to make anti-hypertension drinks that have been taught.

### Evaluation

The evaluation of interventions to promote health efforts behavior can be said to be quite effective in overcoming community health deficits with unhealthy lifestyle problems in the elderly group. Results related to the improvement of public knowledge from poor to good were obtained with  $P = 0.000 < \alpha (0.05)$  which

means that there are differences related to before and after the implementation of health education. There was an increase in people's attitudes from less to good with the results obtained on the fifth day, namely  $P=0.025 < \alpha (0.05)$  which means that there were significant differences related to the implementation of the attitude of the adult-elderly group towards a healthy lifestyle. Community behavior has also changed from before and after implementation. This is evidenced by  $P = 0.000 < \alpha (0.05)$ , it is known that there are differences in behavior before and after 5 implementations. The results of the evaluation of anti-hypertensive exercise showed that there was a change in blood pressure measured in the participants after doing exercise, the difference between the average values of BPS and BPD did not experience significant changes, namely 2.32 mmHg and 0.36 mmHg after exercise.

The assumption of the researcher in the effectiveness of providing this intervention is not only influenced by changes in individual knowledge, attitudes, and behaviors, but there are other factors, namely the availability of health facilities to be able to conduct regular health checks. The results of the implementation cannot be generalized when there are several participants who

are not present in meeting the quota of one of the activities. In addition, there are driving factors in the form of support from family, friends, and also health workers. Training and education activities for cadres are important to be carried out, because cadres are at the forefront of the implementation of prevention and control of non-communicable diseases in the community.

The third evaluation, namely the evaluation of diagnosis, obtained an increase in scores on the criteria for participation in community health programs which was quite increased. This is shown from the implementation of the program which was attended by the community from the beginning to the end of the activity. Health promotion is one of the prevention strategies carried out by the Health Center as an effort to prevent and control Non-Communicable Diseases (NCDs) (Rafiah and Karima, 2020). Studies show that collaborative approaches involving health centers, community leaders, and health cadres can be very effective in increasing health knowledge, changing unhealthy behaviors, and increasing participation in public health programs (Ulfa et al., 2023). Limited time and human resources such as trained cadres are still an obstacle to the high

problem of hypertension (Susanto et al., 2023). With the empowerment of cadres through training, it can form qualified cadres so that cadres are able to apply their knowledge to the community related to risk factors for non-communicable diseases (Haris et al., 2022). The importance of implementing a communication strategy in health promotion by involving health workers, community leaders, and cadres to make it easier to receive the information conveyed.

It is hoped that the community can develop a hypertension diet menu independently by adjusting the family's economic capabilities. In addition, the time required to do anti-hypertension exercises is also quite effective because the implementation is quite short, and easy to apply every day. However, there is a need for personal assistance to the adult-elderly group in adopting a healthy lifestyle, as well as developing cooperation with various related parties so that they can carry out physical activities such as regular gymnastics and maintain daily food consumption.

## 5. CONCLUSION

The results of the assesment showed that as many as 69 people had hypertension. The results of interviews as

many as 30 out of 40 people said that they still have the habit of eating salty food and coconut milk more than 3 times a week. A total of 40 people said they had never done physical activity and 9 people said they still had the habit of smoking 10 cigarettes a day. In addition, the community said that they had never taken advantage of the existence of the existence of the integrated guidance post (Posbindu) in the area on the grounds that they were busy and far from home. The Community Health Deficit in the adult-elderly group in RW 02 Baratan Village, Patrang, Jember is influenced by the aspect of limited resources. Behavioral promotion interventions for health efforts in improving healthy lifestyles. The results of implementation in terms of knowledge, attitudes, and behaviors show an improvement in each implementation.

The limitation of the study is that the conclusions cannot be generalized to the population. There is no monitoring blood pressure for the application of anti-hypertensive drinks and there is no record of data related to blood pressure from the monitoring book that has been shared to find out the statistics of changes in respondents' blood pressure.

## AUTHOR CONTRIBUTIONS

The author contribute all research activity such as conceptualization, data

curation, analysis, writing & editing, manuscript revisions.

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#### CONFLICT OF INTEREST

The authors declare no conflict of interest for this publication.

#### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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