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Health System Guidance as Nursing Intervention for Ineffective Health Management in Aggregate Adults with Hypertension

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Abstract

Introduction: Hypertension is a type of non-communicable disease that can significantly cause morbidity and mortality of sufferers. Adult age is a risk factor that has a great influence on hypertension. Interventions that can be given to the community are Health System Guidance to identify hypertension problems in the community and develop the ability to overcome existing health problems, namely hypertension problems. **Objective:** To determine the effectiveness of nursing interventions for health system guidance. **Method:** Descriptive and analytical research design with a sample of 50 productive age who have hypertension in the RW 08 area of Patrang Village and 5 health cadre. This research carried out implementation in the form of primary prevention (health education), secondary prevention (hypertension screening and cadre empowerment) and tertiary prevention (education and demonstration of giving star fruit juice). Data collection used respondent characteristic instruments, hypertension knowledge questionnaire, hypertension diet questionnaire, standart operating procedure for blood pressure measurement, standart operating procedure for making star fruit juice. Data analysis used paired sample t-test, wilcoxon test, and mann whitney test. **Results:** There was a significant difference between knowledge before health education and after health education ($p = 0.000$). In cadre empowerment, there was an increase in the percentage of cadre ability and the mean of cadre knowledge. In tertiary prevention, there was a significant difference between blood pressure after giving star fruit juice therapy between the intervention and control groups ($p < 0.05$). **Conclusion:** Health system guidance is effective in improving health management of hypertension.

Keywords: Hypertension, Health System Guidance, Ineffective Health Management

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1. BACKGROUND

Hypertension is a non-communicable disease (NCD) that can significantly cause morbidity and mortality in sufferers (Calano et al., 2019). Productive people are a risk group that is prone to hypertension, because as they age and the body's abilities decrease, as well as the habit of implementing an unhealthy lifestyle (Ekarini et al., 2020). Acording to the World Health Organization, about 1.28 billion adults aged 30-79 years worldwide are diagnosed with hypertension. Of these, it is estimated that around 46% are unaware that they have hypertension (WHO, 2023). The results of the 2018 Basic Health Research (Riskesdas), the prevalence of hypertension nationally is 34.11% or around 70 million more Indonesians suffer from hypertension (Kemenkes RI, 2018). In 2020, East Java ranked second highest in the prevalence rate of hypertension among provinces in Indonesia, reaching 36.32%. In Jember Regency, the prevalence rate of hypertension reaches 39.18%, making it one of the districts with the third highest hypertension rate in East Java province (Dinkes Jawa Timur, 2021).

Suffering from hypertension at productive age can increase the risk of health problems later in life. Blood pressure that is not properly controlled will tend to increase in old age (Rizqullah et al., 2022). Lack of knowledge and awareness related to hypertension, lack of interest in seeking information from various media and health workers and the increasing application of unhealthy lifestyles, these factors have a significant contribution to the high incidence of hypertension in productive age (Faisal et al., 2022). A person who experiences ineffective health management will show difficulty following a treatment program, failing to reduce risk factors, not implementing a treatment program or treatment in daily life, as well as not being successful in using daily activities to achieve health goals (PPNI, 2016). If left untreated, hypertension can cause serious health problems because it interferes with activities and has the potential to cause dangerous complications if not treated and anticipated from the beginning. Advanced symptoms that may arise include stroke, vision problems, pain, enlarged muscles in the heart, dizziness, and kidney problems (Faisal et al., 2022)

The focus assessment related to hypertension carried out on the total total number of productive adult age aggregates, namely 431 residents, showed that as many as 11.6% had blood pressure of ›140/90 mmHg when blood pressure was checked,

as many as 50.7% of residents often complained of dizziness, as many as 39.4% of residents had a history of hypertension from the family, as many as 51.9% of residents had smoking habits and 45.7% of residents had the habit of consuming foods with high salt content. Health cadres said that the implementation of blood pressure checks is usually carried out after the implementation of integrated health service post (Posyandu) for toddlers, but the community who participated was only a few (< 10 people), due to low public interest in participating in the examination, busy community activities in the morning or long distances for people in RT 1 and 4 to come to the Posyandu located in RT 3. The Regional Nurse said that the implementation of an integrated guidance post for the early detection and prevention of Non–communicable diseases (NCDs) called "Posbindu PTM" is carried out once a year in each Posyandu. The Chairman of RW 08 said that the implementation of health education about hypertension in the RW 08 area is still not optimal in its implementation and the role of health cadres is not optimal in activities related to hypertension in the RW 08 area. Health officials said that the majority of residents consider hypertension complaints to be commonplace, and sometimes do not feel any symptoms or complaints when their high blood pressure recurs. So that residents are not worried about their condition and do not take any action to control blood pressure.

The "community as partner" model in hypertension is a community nursing model that focuses on working with the community as a partner or partner, to address hypertension problems in the community, improve health and prevent nursing problems in the community environment (Susanto et al., 2020). Interventions that can be provided are Health System Guidance to identify hypertension problems that exist in the community and develop the ability to overcome existing health problems, namely hypertension problems (PPNI, 2018). Providing intensive guidance in adulthood of hypertensive patients can provide changes in their behavior and ability to make daily decisions in managing hypertension independently (Arfan et al., 2022). These activities include providing information about the causes and effects of hypertension factors, developing skills necessary for a healthy life in hypertension control. Health system guidance is an effort to empower the community by identifying, facilitating, involving, and guiding the entire community to maintain and improve

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their health. This empowerment process aims to improve people's cognitive, emotional, and physical skills in dealing with certain health problems, especially in the context of hypertension (Wirakhmi & Novitasari, 2021)

Based on this background, the researcher will carry out community nursing care by providing intervention and implementation to the aggregate of hypertension adults RW 08 Patrang Village, Patrang Village Working Area of the Patrang Health Center through Health System Guidance with the aim of improving health management with the criteria of the results of taking actions to reduce increased risk factors, implementing increased treatment programs, and effective daily living activities to meet health goals increasing and verbalization of difficulties in undergoing treatment/treatment programs decreased.

2. METHODS

This research is a case study with a descriptive and analytical research design in the management area, namely RT 1, 2, 3 and 4 RW 08, Patrang Village, Patrang, Jember. This process will be carried out from May 2024 to July 2024, covering the stages of data collection to data reporting. This study was conducted with a sample of 50 productive age (19-59) years old residents who have hypertension in the RW 08 area of Patrang Village, 5 health cadres, 10 residents for the intervention group and 10 residents for the control group. This study carried out implementation in the form of primary prevention (health education), secondary prevention (hypertension screening and cadre empowerment) and tertiary prevention (education and demonstration of giving star fruit juice as an anti-hypertension drink). Data collection used respondent characteristic instruments, hypertension knowledge questionnaire, hypertension diet questionnaire, SPO (Standard Operating Procedure) blood pressure measurement, SPO (Standard Operating Procedure) for star fruit juice making. Data analysis used paired sample t-test, wilcoxon test, and mann whitney test.

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3. RESULTS

The results obtained in this study include public knowledge about hypertension, knowledge about hypertension diet, hypertension screening results, knowledge and ability to empower cadres, and demonstration of star fruit

juice as an anti-hypertension drink, as presented in the following table. The following are the results of the screening carried out on 50 hypertension patients in RW 08, presented in table 1.

Table 1. Distribution of Characteristics of Hypertension Respondents in Adult Age Aggregate (n=50)

Characteristics of Respondents	Median	Mean (SD)
Age	49	48,58 (8,678)
Weight	65	65,00 (10,34)
Characteristics of Respondents	**Number (n)**	**Percentage (%)**
Gender		
Man	18	36
Woman	32	64
Genetic History		
Yes	25	50
Not	25	50
Smoking Behavior		
Yes	17	34
Not	33	66
Excessive Salt Consumption		
Yes	42	84
Not	8	16
Physical Activity		
Yes	28	56
Not	22	44
Hypertension Medication Consumption		
Yes	17	34
Not	33	66
Blood Pressure	**Mean (SD) (mmHg)**	**Min-Max**
Systolic Blood Pressure	146,1 (13,97)	130 – 180
Diastolic Blood Pressure	93,3 (9,12)	80 - 120

The results of the aggregate screening of adults amounted to 50 respondents, it was known that the aggregate of adults in RW 08 who experienced hypertension had an average age of 48.58 years and a weight of 65.00. The results of the screening that have been carried out include an aggregate of 50 adults, it is known that the most people who experience hypertension are female as many as 64%, as many as 50% have a genetic history of hypertension, 34% who smoke behavior, 84% consume excessive salt, 44% do not do physical activity, 66% do not take hypertension medication. The results of the screening were found that the average blood pressure of adults totaling 50 was known to be 146/93 mmHg.

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Table 2. Distribution of Hypertension Knowledge in Aggregate Adults with Hypertension (n=50)

Variable	Median (min-max)	Mean (SD)	p-value
Knowledge before Health Education	58.30 (25.0 – 83.3)	57.05 (15.59)	0.000
Knowledge after Health Education	75.00 (41.6 – 100)	73.54 (15.23)	

Based on table 2. It was found that there was a significant difference between knowledge before health education and after health education. This shows that there is a significant influence on the health education provided to all respondents (p = 0.000).

Table 3. Distribution of Hypertension Diet Knowledge in Aggregate Adults with Hypertension (n=50)

Variable	Median (min-max)	Mean (SD)	p-value
Knowledge before Health Education	58.30 (41.6 – 83.3)	60.13 (12.41)	0.000
Knowledge after Health Education	83.39 (66.6 – 100)	83.30 (11.30)	

Based on table 3, The results were obtained that the significance value of the Wilcoxon test was (p = 0.000) which means that there was an influence of hypertension diet health education on public knowledge.

The next secondary prevention is related to the empowerment of health cadres. These activities include providing hypertension health education and continued skill training on procedures for measuring and reading blood pressure using a digital sphygmomanometer, calculating BMI and measuring abdominal circumference.

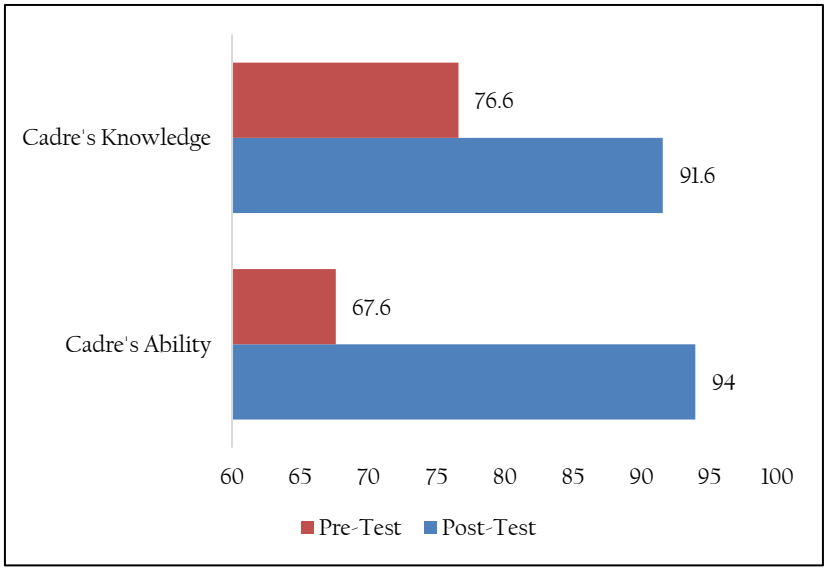

Figure 1. Cadres Knowledge Distribution related to hypertension (n=5)

Volume 4 Issue 2, August 2024, pp 205-217
https://ebsina.or.id/journals/index.php/jkki
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Based on figure 1, it was found that there was a significant increase in the knowledge and ability of health cadres before health empowerment and after health empowerment. This shows that there is an increase in the average level of knowledge of health cadres before and after health education.

Table 4. Differences in blood pressure after treatment in the intervention group and the control group

Blood pressure	Intervention		Control		p-Value
	Median	Min-max	Median	Min-max	
Systolic	140	130-160	155	140-170	0.030
Diastolic	85	70-110	95	80-100	0.039

From table 4, the analysis of Mann-Whitney statistical test shows that the p-value for systolic blood pressure is 0.030 and for diastolic blood pressure is 0.039. These two values were smaller than the significance value of α=5% ($p < 0.05$), suggesting that there was a significant difference between blood pressure after administration of sweet star fruit juice therapy between the intervention group and the control group.

4. DISCUSSION

The results of the study in RW 08 Patrang Village show that the implementation of health system guidance is effective as a treatment for hypertension in the area. This includes increasing knowledge related to hypertension and hypertensive diet through health education, hypertension screening, increasing the knowledge and ability of health cadres through empowering health cadres, lowering blood pressure through demonstration activities of giving star fruit juice as an anti-hypertension drink.

Based on the results of the study, the majority of respondents experienced an increase in knowledge about hypertension and hypertensive diet, showing a significant influence of hypertension education programs and hypertensive diets on public knowledge. Patient knowledge and awareness about hypertension is a crucial factor in achieving blood pressure control (Elisa & Rispawati, 2023). Health education is one of the independent efforts in care that involves learning activities to assist individuals, groups, and communities in managing hypertension, where nurses play the role of educators or educators (Istiqomah et al., 2022). Individual knowledge of hypertension, including its definition, symptoms, risk factors, management, and complications, is essential in efforts to control blood

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pressure conditions, as this knowledge encourages individuals to maintain a healthy lifestyle that has an impact on improving their blood pressure conditions. Respondents' knowledge of the definition and classification of hypertension is also related to the level of adherence in managing blood pressure (Jankownska-Polanska, 2016). Knowledge of the DASH diet is essential for people with hypertension because it helps in controlling blood pressure and preventing complications through understanding, motivation, and community ability. The health education approach regarding the DASH diet emphasizes how diet can act as a companion to antihypertensive drugs to lower blood pressure (Yulanda et al., 2021). Based on this information, the researcher assumes that health education about hypertension and hypertensive diet has a positive influence on increasing the knowledge of people who experience hypertension. This health education can increase respondents' awareness of their health conditions, which is important so that the public can understand how to manage hypertension independently and reduce the risk of complications in hypertensive patients.

From the results of the study, it was found that the adult aggregate that experienced the most hypertension was with grade 1 hypertension (systolic 60% and diastolic 52%). This is in accordance with research by Warjiman (2020) that the majority of people experience stage I hypertension with a percentage of 36.2%. Screening activities have proven effective in efforts to detect hypertension cases early, which can then determine further treatment and diagnosis (Suparti & Handayani, 2018). The importance of hypertension screening in the adult aggregate is emphasized in various settings, one of which is the community, to detect new cases and carry out hypertension management starting from education, treatment, to treatment.

This study shows an increase in the knowledge and skills of cadres after empowerment activities are carried out, in accordance with the Siswati (2022) research. Cadre empowerment has been proven to have a significant effect on their ability to manage hypertension risk factors. Cooperation between health workers and trained health cadres is needed in carrying out tasks such as measurement, monitoring, and providing education about behavioral changes that can prevent hypertension in the community (Supriatun et al., 2024). Health cadres can be an example for the community in

implementing a healthy lifestyle, which has the potential to reduce the risk of hypertension. Empowering health cadres through a combination of counseling and training is the right strategy to improve their knowledge and skills (Siswati et al., 2022). With adequate knowledge and skills, health cadres become more confident in providing assistance to hypertensive patients. The active involvement of health cadres in controlling hypertension risk factors is expected to reduce the prevalence of complications related to hypertension, as well as help promote healthy living behaviors in the community so that the incidence of hypertension can be reduced.

The results of this study explain that star fruit juice is proven to be effective in lowering high blood pressure because of its high potassium content and low sodium. Potassium and sodium play an important role in regulating the body's fluid balance. Potassium can cause vasodilation that reduces total peripheral fluid retention and increases cardiac output. High levels of potassium consumption can also increase potassium concentrations in the body's cells, reducing fluid from outside the cells and ultimately lowering blood pressure (Arza, 2018). Sweet star fruit also contains flavonoids that have an antihypertensive effect (Mariyati & Wahyuningsih, 2023). Flavonoids can improve the endothelial function of blood vessels and protect the body from cardiovascular diseases as well as several other chronic diseases through antioxidant activity (Rachmadanur et al., 2023). Flavonoids also inhibit angiotensin-converting enzymes, thereby preventing the conversion of angiotensin I to angiotensin II. This reduces the effects of vasoconstriction and aldosterone secretion which leads to the reabsorption of sodium and water, so that blood pressure can decrease (Mariyati & Wahyuningsih, 2023). The use of star fruit juice can be an alternative in the treatment of hypertension in a non-pharmacological way. Thus, the community can also use star fruit juice to control hypertension in people at risk of hypertension. Therapy with sweet star fruit juice has been shown to affect heart work, regulate potassium-sodium balance, increase urine production, and provide a calming effect that ultimately has an impact on lowering blood pressure.

5. CONCLUSION

A community nursing assessment in the aggregate of adults with hypertension in RW 08, Central Patrang Neighborhood, Patrang Village, Jember Regency found that the nursing diagnosis raised was

Ineffective Health Management. The interventions selected and used were health system guidance in handling hypertension problems in the adult aggregate through the provision of direct nursing care, health promotion, and activity demonstrations. The diagnostic evaluation showed that health management improved with an increase in indicator scores, namely in the form of an increase in the community in taking actions to reduce hypertension risk factors, an increase in the implementation of treatment programs, an increase in daily life activities to meet health goals, and a decrease in verbalization of difficulties in undergoing treatment programs. The adult aggregate community is expected to be able to improve their health management related to the prevention and treatment of hypertension, apply skills and knowledge about hypertension and utilize health services that have been provided to improve health status, and health cadres are expected to be more active in helping and managing empowerment in the community as an effort to improve community health, especially hypertension problems. The Health Center is expected to routinely monitor, facilitate and further evaluate the health management that has been carried out by the community to prevent and handle hypertension problems, such as being active in health education and preparing follow-up plans in planning hypertension treatment programs.

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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