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THE RELATIONSHIP BETWEEN THE EFFECTIVENESS OF "INGENIOUS" BEHAVIOR IN EFFORTS TO CONTROL HYPERTENSION AT PRODUCTIVE AGE IN THE WORKING AREA OF THE JOMBANG HEALTH CENTER IN CILEGON CITY IN 2023

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Abstract
This study aims to evaluate the relationship between the effectiveness of "CERDIK" behavior (Health Check, Get Rid of Cigarette Smoke, Diligent Physical Activity, Balanced Diet, Get Enough Rest, and Manage Stress) in efforts to control hypertension in productive age in the Jombang Health Center Working Area of Cilegon City in 2023. The study used quantitative methods with descriptive, analytical and cross-sectional design types of research. The study population involved hypertensive patients of productive age recorded in the working area of the Jombang Health Center, Cilegon, with a total of 30 patients. Data collection was conducted through interviews and questionnaire filling. The p values of the independent t-test are 0.000, 0.000, 0.000, and 0.000, respectively for Education, Knowledge, Family Support, Eliminating Cigarette Smoke and Diligent Physical Activity. The results of statistical analysis show a relationship between these variables in respondents' behavior with hypertension control at productive age. There were significant differences in diastolic and systolic blood pressure between the group that underwent the "CERDIK" behavior and the group that did not. The group that adopted the "DODGY" behavior had lower blood pressure. The conclusion of this study is that "SMART" behavior has an important role in controlling hypertension in productive age. Therefore, health education resources and efforts need to be increased, especially in groups with less education, to increase awareness and application of "SMART" behaviors. This research contributes to understanding the importance of healthy behavior in controlling hypertension in productive age. The increasing prevalence of hypertension in Indonesia and its significant impact shows the urgency of increasing health awareness and education in the community.

Keywords: Hypertension, SMART Behavior, Productive Age, Education

1. Introduction

Hypertension or high blood pressure is an increase in systolic blood pressure of more than 140 mmHg and diastolic blood pressure of more than 90 mmHg at two measurements with an interval of five minutes in a state of well-rested / calm. A long increase in blood pressure can lead to an increased risk of stroke, heart failure, heart attack and kidney damage. This increase in blood pressure must be controlled so as not to cause other new diseases, such as hypertensive crisis. Productive age residents are residents who fall into the age range between 15 -64 years (Sukmaningrum, 2017).

The prevalence of hypertension cases at the age of >15 years in Banten Province based on the 2018 Riskesdas is 29.5% of the total population of Banten, in 2020 (3,122,365), in 2021 (2,887,039), in 2022 (2,938,195) Based on the SPM achievements of hypertensive patients who received health services in 2020 as many as 1,006,345 people (32%), in

2021 as many as 1,285,551 people (45%), in 2022 as many as 2,310,130 people (79%). Meanwhile, the number of death cases due to hypertension continues to increase. In 2020 the death rate reached 522 people, in 2021 the death rate increased to 1475 people. In 2022, death cases continue to increase to 1991 people. Meanwhile, the city of Cilegon has a prevalence of hypertension cases at the age of >15 years based on SPM in 2020 as many as 18,078 cases (18%), in 2021 as many as 62,088 cases (61%) and in 2022 as many as 92,924 (90%) each year has increased quite high.

2. Theoretical Background

"SMART" behavior (Health Check, Get Rid of Cigarette Smoke, Diligent Physical Activity, Balanced Diet, Adequate Rest and Manage Stress) was identified as an effective preventive measure in controlling hypertension in productive age (P2PTM Ministry of Health, 2019). This study conducted a study on the effectiveness of CERDIK Behavior in Hypertension Control at productive age in the work area of the Jombang Health Center in Cilegon City in 2023.

3. Methods

This study adopts a quantitative approach with a cross-sectional research design and Independent T-test method. The population taken in this study Claster sampled as many as 30 respondents suffering from hypertension at the Jombang Health Center in 2023. Data collection techniques were carried out through interviews using questionnaires to obtain independent variables, while blood pressure checks were applied to obtain dependent variables.

The data analysis process is carried out using bivariate analysis, especially the t-test (Independent T-test). The purpose of this analysis was to determine whether there were significant differences in systolic and diastolic blood pressure between groups of respondents. By utilizing this approach, the study aims to provide a deeper understanding of the relationship between the independent variable measured through interviews and the dependent variable manifested in respondents' blood pressure. This analysis will be the basis for evaluating the influence of certain factors on blood pressure levels in the hypertensive population studied.

4. Results and Discussion

This table illustrates the characteristics and demographic profile of respondents showing that 100% of participants in this study were women, highlighting the dominant participation of this group in dealing with hypertension problems. The majority of respondents were in the age range of 50-60 years (53.3%), followed by the age group of 40-50 years (33.3%). Educationally, 70% of respondents have a low level of education (<SMA), indicating that the majority have limited educational backgrounds.

Table 1. Characteristics of Hypertensive Respondents in the Working Area of the Jombang Health Center in Cilegon City in 2023

No	Variable Name		Frequency	
			n	%
A	Gender			
	1	Man	0	0.0
	2	Woman	30	100.0
B	Age			
	1	<40	3	10.0

	2	40-50	10	33.3
	3	50-60	16	53.3
	4	>60	1	3.3
C	Education			
	1	Low <SMA	21	70.0
	2	High >High School	9	30.0
D	Knowledge			
	1	Not Good	13	43.3
	2	Good	17	56.7
E	Family Support			
	1	Not Supported	15	50.0
	2	Support	15	50.0
F	Health Workforce Support			
	1	Not Supported	0	0.0
	2	Support	30	100.0
G	Regular Health Check			
	1	Not	0	0.0
	2	Yes	30	100.0
H	Get rid of cigarette smoke			
	1	Not	16	53.3
	2	Yes	14	46.7
I	Diligent Physical Activity			
	1	Not	17	56.7
	2	Yes	13	43.3
G	Balanced Diet			
	1	Not	17	56.7
	2	Yes	13	43.3
H	Get enough rest			
	1	Not	14	46.7
	2	Yes	16	53.3
I	Manage Stress			
	1	Not	14	46.7
	2	Yes	16	53.3

In terms of knowledge, 56.7% of respondents showed a good level of knowledge, reflecting a sufficient understanding of hypertensive conditions. Family support is divided equally between supportive and unsupportive (50% each), while health worker support reaches 100%, indicating the important role of the medical team in supporting the management of hypertension.

Although all respondents have regular health checks (100%), 53.3% of them have not completely avoided secondhand smoke. The majority of respondents also did not undergo regular physical activity or a balanced diet (56.7% each). Despite this, 53.3% of respondents make sure to get adequate rest and are able to manage stress well. This data provides a complex picture of respondents' behavior patterns and living habits, which can later be analyzed to understand the factors that influence hypertension rates in this group.

Table 2. Statistical Test Results of T-Test The Relationship of Education in Efforts to Control Hypertension in the Working Area of the Jombang Health Center in Cilegon City in 2023

No	Variable	Group	n	Mean	Std. Deviation	S.E. Mean	T (t-test)	P-value (Sig. 2-tailed)
1	systolic blood pressure	Lower Education <High School	21	160.33	7.28	1.59	7.17	0.000
2	systolic blood pressure	Higher Education >SMA	9	142.44	2.24	0.75		
3	Diastolic Blood Pressure	Lower Education <High School	21	98.90	8.06	1.76	3.16	0.004
4	Diastolic Blood Pressure	Higher Education >SMA	9	90.33	0.05	0.17		

Table 3. Results of the T-Test Statistical Test Knowledge Relationship in Efforts to Control Hypertension in the Working Area of the Jombang Health Center in Cilegon City in 2023

No	Variable	Group	n	Mean	Std. Deviation	S.E. Mean	T (t-test)	P-value (Sig. 2-tailed)
1	systolic blood pressure	Poor Knowledge	13	162.31	8.56	2.37	4.29	0.000
2	systolic blood pressure	Good Knowledge	17	149.35	7.91	1.92		
3	Diastolic Blood Pressure	Poor Knowledge	13	100.77	8.68	2.41	3.10	0.004
4	Diastolic Blood Pressure	Good Knowledge	17	92.94	5.06	1.23		

Table 4. Results of the T-Test Statistical Test on Family Support Relationships in Efforts to Control Hypertension in the Working Area of the Jombang Health Center in Cilegon City in 2023

No	Variable	Group	n	Mean	Std. Deviation	S.E. Mean	T (t-test)	P-value (Sig. 2-tailed)
1	systolic blood pressure	Family Support: Not Supportive	15	161.60	8.55	2.21	4.54	0.000

2	systolic blood pressure	Family Support: Support	15	148.33	7.42	1.92		
3	Diastolic Blood Pressure	Family Support: Not Supportive	15	100.73	8.66	2.23	3.71	0.001
4	Diastolic Blood Pressure	Family Support: Support	15	91.93	3.10	0.80		

Table 5. T-Test Statistical Test Results the Relationship to Get Rid of Cigarette Smoke in Efforts to Control Hypertension in the Working Area of the Jombang Health Center in Cilegon City in 2023

No	Variable	Group	n	Mean	Std. Deviation	S.E. Mean	T (t-test)	P-value (Sig. 2-tailed)
1	systolic blood pressure	Get rid of cigarette smoke: No	16	161.06	8.79	2.20	4.40	0.000
2	systolic blood pressure	Get rid of cigarette smoke: No	14	148.00	7.24	1.94		
3	Diastolic Blood Pressure	Get rid of cigarette smoke: No	16	100.56	8.24	2.06	3.86	0.001
4	Diastolic Blood Pressure	Get rid of cigarette smoke: No	14	91.50	3.20	0.86		

Table 6. Results of the T-Test Statistical Test of the Relationship of Physical Activity in Efforts to Control Hypertension in the Working Area of the Jombang Health Center in Cilegon City in 2023

No	Variable	Group	n	Mean	Std. Deviation	S.E. Mean	T (t-test)	P-value (Sig. 2-tailed)
1	systolic blood pressure	Diligent Physical Activity: No	17	160.82	8.19	1.99	4.61	0.000
2	systolic blood pressure	Diligent Physical Activity: Yes	13	147.31	7.61	2.11		
3	Diastolic Blood Pressure	Diligent Physical Activity: No	17	99.76	8.56	2.08	3.15	0.004

4	Diastolic Blood Pressure	Diligent Physical Activity: Yes	13	91.85	3.29	0.91		

The t-test statistical test tables highlight the relationship between various factors and efforts to control hypertension in the Jombang Health Center Working Area of Cilegon City in 2023. In terms of education, the results showed significant differences in systolic and diastolic blood pressure between the lower (<SMA) and higher (>SMA) education groups. The same was seen in the knowledge variables, with significant differences in blood pressure related to respondents' knowledge levels.

Furthermore, family support factors also played an important role, with significant differences in blood pressure between the groups that received support and those that did not get support from family. The results of the analysis also revealed that behaviors such as avoiding cigarette smoke and diligent physical activity had a significant impact on systolic and diastolic blood pressure.

In general, these findings provide valuable information on factors related to hypertension control at the community level, which can help develop more effective intervention strategies for local communities.

5. Conclusion

From the results of the research and analysis conducted, several conclusions can be drawn. First, the findings support the first hypothesis, suggesting that knowledge, education, and family support have a significant influence on blood pressure. The stark differences between low and higher education groups underscore the urgency of addressing low-education groups.

The second hypothesis also proved valid, with ingenious behaviors such as health checks and physical activity proving effective in controlling blood pressure in productive age. This indicates that the adoption of ingenious behavior can be an effective strategy in the prevention of hypertension.

This conclusion highlights the urgency of improving education programs in Puskesmas, especially for low-educated groups. Lack of knowledge was identified as a major obstacle in efforts to prevent hypertension, and increased education is expected to address this problem.

Overall, factors of knowledge, education, and family support play a dominant role in the control of hypertension in productive age. Although the study had limitations, such as the number of samples and generalization of the results, it provided a solid basis for the development of more effective health programs. This is expected to have a positive impact on improving the quality of life of individuals at productive age at the Jombang Health Center in 2023.

References

Aprianti, et al. (2021). The Relationship of CERDIK Behavior with Blood Pressure in Adolescents in the Working Area of the Mojosari Health Center, Mojokerto Regency. Scientific Journal of Health, 13(2), 185-192.

Gong, et al. (2021). Association between healthy lifestyle and blood pressure control in hypertension: a systematic review and meta-analysis. Journal of Hypertension, 39(1), 11-20.

James, P. A., et al. (2014). Evidence-Based Guideline for the Management of High Blood Pressure in Adults: Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8). JAMA, 311(5), 507-520.

LeBlanc, E. S., et al. (2013). Effectiveness of primary care–relevant treatments for obesity in adults: a systematic evidence review for the US Preventive Services Task Force. Annals of internal medicine, 159(5), 371-381.

Ramos, et al. (2022). The association between lifestyle factors and hypertension control in the general population: a systematic review and meta-analysis. Journal of Hypertension, 40(1), 49-60.

Seprina. (2022). The Relationship of SMART Behavior to Blood Pressure Control in Hypertensive Elderly during the COVID-19 Pandemic. National Journal of Public Health, 7(1), 68-75.

Sulistyowati, et al. (2020). The Relationship of CERDIK Behavior with Blood Pressure in Civil Servants in the Working Area of the South Purwokerto Health Center, Banyumas Regency. Journal of Public Health, 8(2), 145-151.

Titin, Tri. (2022). The Relationship of CERDIK Behavior with Blood Pressure of Prolanis Participants at the Bobotsari Health Center, Purbalingga District. Journal of Professional Nurse Research, 14(1), 1-10.

Whelton, P. K., et al. (2018). Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Hypertension, 71(6), e13-e115.

Wulandari, et al. (2022). The Effect of CERDIK Behavior on Hypertension Control in Women of Productive Age in the Working Area of the Jombang Health Center Cilegon City. Journal of Public Health, 10(2), 123-130.