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The Influence of Physical Activities and Self-Efficacy Toward Hypertension Level of Elderly in Tresna Werdha Social Institution South Kalimantan

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Abstract

Hypertension is blood pressure where the systolic is above 140 mmHg and the diastolic is above 90 mmHg. Hypertension in the elderly occurs because blood vessels that have been flexible and elastic will harden and stiffen, so that blood vessels are unable to supply the needs of blood flow to each organ. This study aims to analyze the effect of physical activity and self efficacy against hypertension levels of elderly in the Tresna Werdha Social Institution South Kalimantan province. The research method used a cross sectional study, with 70 research samples. The sampling technique uses proportional stratified random sampling . The independent variables are physical activity, self-efficacy and the level of elderly hypertension as the dependent variable. The research instrument used a questionnaire. Test analysis using chi square test followed by multiple logistic regression. Statistical analysis using chi square test showed p value of physical activity variable ($p = 0.013$) and self efficacy ($p = 0.001$) on the level of elderly hypertension. Multivariate analysis using multiple logistic regression showed variables of physical activity ($p = 0.008$; Exp. B = 0.098) and self-efficacy ($p = 0.001$; Exp. B = 0.076) against the level of elderly hypertension. There is the influence of physical activity and self efficacy against hypertension levels of the elderly in Tresna Werdha Social Institution South Kalimantan province.

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1. Introduction

The increasing life expectancy of Indonesian people today makes the number of elderly population increase.¹ The increasing number of elderly people creates problems, especially in terms of health and well-being of the elderly.² One of the health problems of the elderly is a health problem due to a degenerative process. Hypertension where the blood pressure is defined as systolic blood pressure 140 mmHg and diastolic pressure 90 mmHg.³

The incidence of hypertension in the elderly in South Kalimantan Province in 2017 was 59,183 elderly.⁴ The factors triggering the emergence of hypertension: factors can not be controlled (heredity, gender and age). Factors who can be controlled (obesity, physical activity, smoking and excessive salt consumption patterns). Hypertension can be prevented by regulating a good diet and sufficient physical activity.⁵

Based on the results of a preliminary study at the Tresna Werdha Budi Sejahtera Banjarbaru and Martapura Social Institution data obtained by physical activity carried out by the elderly, most of the elderly who participated in light activities such as gymnastics were 42 elderly (29.17%), tidying 80 elderly beds (55.56 %), sweeping the yard in front of the guesthouse 48 elderly (33.33%) and mopping the floor of 50 elderly (34.72%). Self-efficacy of elderly hypertension was obtained by 84 elderly (58.33 %) unable to eat foods that were low in salt, 102 elderly (70.83 %) unable to do gymnastics for 30 minutes and 45 elderly (31.25 %) unable to reduce drinking coffee. So from this basis the research aims to analyze the influence of physical activity and self-efficacy on the level of hypertension in the elderly Tresna Werdha Social Institution South Kalimantan province.

2. Methods

This study was a cross-sectional study. This research was conducted at elderly in Social Institution Tresna Werdha South Kalimantan province. The population in this study was 144 elderly with a total sample of 70 elderly using the technique stratified random sampling. Data collection using a questionnaire. The study was conducted on October 30, 2018 to November 6, 2018. Test analysis using chi square test and multiple logistic regression.

3. Results

Table 1. Descriptive Analysis of Variables

Variable	Total (N=70)	%
Physical Activity		
low	low	low
medium	medium	medium
hard	0	0
Self efficacy		
low	58	82,9
high	12	17,1
Hypertension level		

level 1	14	20
level 2	56	80

Table 2. Bivariate Analysis of Variables

No.	Independent Variables	Hypertention level				P-value
		Level 1		Level 2		
		n	%	n	%	
1.	Physical Activity					
	low	9	14.8	52	85.2	0.013
	medium	5	55.6	4	44.4	
	hard	0	0	0	0	
2.	Self efficacy					
	low	7	12.1	51	87.9	0.001
	high	7	58.3	5	41.7	

From table 2 shows the results of the chi square test with a 95% confidence level, the p-value value of the variable physical activity and self-efficacy were 0.013 and 0.001, then the decision was that Ho was rejected ($p < 0.05$) physical activity and self-efficacy had a significant effect on level of hypertension in elderly.

Table 3. Multivariate Analysis of Variables

Variable	B	S.E	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Physical Activity	-2.320	0.874	7.050	1	0.008	0.098	0.018	0.545
Self efficacy	-2.578	0.789	1.674	1	0.001	0.076	0.016	0.357

From table 3 shows the most influential factor is physical activity ($p = 0.008$; $\text{Exp.B} = 0.098$) where elderly who have physical activity have an influence to protect the level of hypertension greater (0.098) compared with self-efficacy (0.076).

4. Discussion

The findings in this study indicate that s emakin lack of activity, the higher the rate of hypertension experienced by the elderly. The older a person's age, the lower his muscle strength and physical abilities of the elderly so that the elderly are not able to carry out activities that are too heavy. Other findings suggest that physical activity is the most influential variable compared to the variable self-efficacy to the level of elderly hypertension. The increasing age of the elasticity of blood vessels has experienced narrowing resulting in pumping blood to the heart to work hard and high blood pressure occurs. The most influential physical activity on the level of elderly hypertension is because the majority of the elderly do not carry out activities such as never hoeing around the homestead, never move household furniture, never iron, never pluck grass

around the guesthouse, never mop the floor and never sweeping the yard or garden. Elderly just relaxing, sitting in front of the guesthouse, lying in the room and watching television if there is no activity carried out by the orphanage at the institution.

Physical activity carried out regularly can prevent obesity by every negative results, giving strength and more streamline the activity of the muscles of the body, such as heart muscle, respiratory muscles, and the muscles contained in the framework of the body, as well as launch blood circulation to body cell and removal of remnants from body cells for the better.⁶ The results of this study are in accordance with previous studies which showed a relationship significant between hypertension with physical activity.⁷ Physical activity is any bodily movement produced by skeletal muscles that requires energy release. The lack of physical activity is a risk factor for chronic disease.⁸ Regular physical activity is useful to regulate body weight and strengthen the heart and blood vessel system.⁹

The findings in this study indicate that The lower the self-efficacy of the elderly, the higher the level of hypertension experienced by the elderly. Elderly people are not able to perform self-care to control their hypertension, such as not being able to avoid people who are smoking and not able to exercise such as participating in elderly exercise , it will affect the level of hypertension they experience. The confidence of the elderly can increase when the elderly who suffer from hypertension see other elderly people who have hypertension can care for themselves and can control to avoid factors that can aggravate the level of hypertension.

This study is in accordance with previous research which shows that there is an influence between self-efficacy and self -care has a strong and positive value which means that the higher self-efficacy possessed by patients with hypertension, the better also self-care, and vice versa if the better self-care is high self-efficacy level possessed by people with hypertension.¹⁰ Self-efficacy is the most dominant factor in the management of hypertension. Self-efficacy is needed for people with hypertension to improve their health status through confidence in carrying out self-care.¹¹ Efficacy of self-esteem is the main factor that affects self-care in chronic diseases.¹²

5. Conclusion

Physical activity and self-efficacy affect the level of elderly hypertension . Physical activity is the most influential factor in the level of elderly hypertension . It is hoped that this research can be the basis for further research on other related variables such as nutritional status and sleep quality that affect the level of hypertension in the elderly.

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