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ORIGINAL RESEARCH

The Influence of Lifestyle Modifications in Elderly People With Hypertension on Self-Efficacy and Quality of Life

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Abstract

Background: Problems in the elderly occur due to a decline in all organ functions. The aging process can cause various physical, biological, mental, and socio-economic problems. One very important factor influencing quality of life is lifestyle and lifestyle promotion behavior.

Methods: Pretest-posttest research design with control group design. Sample of elderly individuals. The sampling strategy used was simple random sampling with a sample size of 39 each for the intervention group and control group. Data analysis used the difference between two means test (t-test).

Results: shows a significant difference (p = 0.000) in self-efficacy and quality of life for the elderly between the intervention group and the control group after the lifestyle modification intervention.

Conclusion: It is hoped that continued promotional and preventive activities for senior people can be carried out through the integrated guide post (Posbindu). Lifestyle adjustments for elderly people with hypertension can increase their self-efficacy and quality of life.

Background

The world's elderly population continues to increase. In Indonesia, this situation is in line with a decrease in fertility and mortality rates as well as an increase in life expectancy, which is changing the overall population structure. The process of population aging is influenced by several factors, including improvements in nutrition, sanitation, health services, and progress at educational and socio-economic levels.

Observing the growth of the elderly population as above, it is necessary to anticipate treatment, especially primary prevention, so that the elderly, with all the decline in various bodily functions that will naturally occur and can cause problems, can be handled and controlled properly. Problems that occur in the elderly are caused by the decline in overall health organ function. The aging process causes various physical, biological, mental, and socio-economic problems. Elderly people generally have several chronic or non-chronic diseases; the symptoms of the disease are not typical; organ function decreases; the level of independence decreases; and nutritional problems often occur (Ditjend Yankes, 2018).

Health problems in the elderly are known as geriatric syndrome (14 I), namely: immobility; instability; incontinence; intellectual impairment; infection; impairment of hearing, vision, and smell; isolation (depression); inanition; impecunity; iatrogenic; insomnia; immunodeficiency; impotence; and impaction (Directorate General of Health Care, 2018). This situation is a natural phenomenon as a result of the regressive aging process and includes organobiological, psychological, and sociocultural processes. According to Tamher (2009), growing old is determined genetically and influenced by lifestyle. This statement is strengthened by the results

of research by Simanullang (2011) concluding that there is an influence of lifestyle (diet, physical activity, rest habits, and smoking history) on the health status of the elderly.

Based on research results, there are 5 types of diseases most commonly suffered by the elderly, namely: hypertension, arthritis (joint inflammation), stroke, chronic obstructive pulmonary disease (COPD), and diabetes mellitus. (Basic Health Research, 2013) High blood pressure, or hypertension, is the number one disease most commonly suffered by the elderly. As we age, our blood pressure tends to increase. Hypertension can be controlled by maintaining a healthy lifestyle in the form of reducing salt intake, exercising, controlling body weight, staying away from stress, and not smoking.

The results of a cohort study in Sweden by Nancy (2012) concluded that maintaining a healthy lifestyle and actively maintaining social networks can help elderly people live longer beyond the age of 85 and can even be 4 years older if they are physically active. The results of the study are supported by Fitzgerald, Morgan, and Slawson (2013), who found that a balanced diet and regular physical activity are vital components of a healthy lifestyle, but for the elderly, eating healthy and staying active can have a tremendous impact on quality of life and life expectancy. Some of the study results above show that a person's lifestyle determines the quality of his life. The World Health Organization (2010) defines quality of life as perfect physical, mental, and social health and wellbeing as perceived by an individual or group of individuals that is affected by different factors.

Based on this, quality of life is not only a standard level of life, but more than that, it includes the quality of interpersonal and social relationships. One of the factors that influences the quality of life is lifestyle, habits, and behavior. Promotion of a healthy lifestyle is a significant predictor of health; therefore, promotion of a healthy lifestyle is needed as a strategy to maintain a healthy life. (Amirabadizadeh et al., 2016).

A person's quality of life is a multidimensional phenomenon, and WHO measures it using four aspects: physical, psychological, social, and environmental (WHO, 2010). Four domains of quality of life are identified: lifestyle behavior, existence status, potential capacity, and subjective perception or experience. To achieve the quality of life of the elderly as defined in the previous paragraph, self-efficacy is required, namely an individual's belief or self-confidence in his ability to master the situation and produce something profitable. Self-efficacy has a big influence on behavior (Santrock, 2007). This self-efficacy is the result of interactions between the external environment, self-adjustment mechanisms, personal abilities, experience, and education (Niu, 2010).

The priority of this research is to produce lifestyle modification interventions for elderly people with hypertension to enable elderly people to live with self-efficacy and a high quality of life.

Method

This research was carried out at the Integrated Development Post for the Elderly in the work area of the Cipayung District Health Center, East Jakarta. The research sample was elderly individuals (age≥60 years). The sampling strategy used was simple random sampling, with a total of 39 respondents for each intervention and control group.

Data analysis was carried out in univariate and bivariate stages using a paired T-Test.Initial measurements were taken via pretest in the intervention group and control group to determine the initial values used and the effect of the intervention. A lifestyle modification intervention was given to the intervention group, while the control group received no intervention. In both groups, measurements were then carried out again via post-test.

This research has been ethically cleared by the Research Ethics Commission of the Health Polytechnic of the Ministry of Health Jakarta 3 in April 2019 with ethical number No. KEPK-PKKJ3/157/IV/2019.

Results

Table 1. Characteristics of research respondents consisting of age, gender, duration of hypertension, length of treatment, knowledge about hypertension, level of education and employment

	Ex. Intervention		Ex. Control		Total	
Variable	N	%	N	%	N	%
Age						
>70-90 yrs	1	2.6	1	2.6	2	
60-70 yrs	38	97.4	38	97.4	76	100
Gender						
Man	5	12.8	13	33.3	18	
Woman	34	87.2	26	66.7	60	100
Long duration of hypertension						
<5 years	29	74.4	29	74.4	68	
>5 years	10	25.6	10	25.6	20	100
Long Treatment						
<5 years						
>5 years	31	79.5	35	89.7	66	
	8	20.5	4	10.3	12	100
Good Knowledge						
Not enough	11	28.2	20	51.3	31	
	28	71.8	19	48.7	47	100
Level Education						
Tall	14	35.9	13	33.3	27	
Low	25	64.1	26	66.7	41	100
Work						
Work	14	35.9	6	15.4	20	
No	25	64.1	33	84.6	38	100

Table 1 shows that the largest elderly age group is 60–70 years old. The most common gender is female. The duration of hypertension was less than or equal to 5 years, and the duration of treatment was less than 5 years in both the control and intervention groups, while the level of knowledge about hypertension in the control group had a high level of knowledge compared to the intervention group. More than half of the hypertensive elderly (66.7%) have low education. Most are no longer working; only 20% are still working independently.

Table 2. Differences in the Average Value of Self-Efficacy and Quality of Life for the Elderly Before and After Lifestyle Modifications for the Elderly in the Intervention Group and Control Group

Variable	Group	Mean	elementary school	95%CI	Q	P-Value
Efficacy Self	Intervention					
	Before	85.74	3,859			
	After	96.82	8,574	8,335 – 13,819	8,178	**0,000**
	Difference	11,077				
	Control					
	Before	84.56	6,390			
	After	84.77	5,469	-1.145 - 0.837	-314	0.821
	Difference	0.21				
	Intervention					

Quality of Life	Before	40.67	7,105			
	After	40,41	7,649	-7,579 - 3,498	-5495	**0,000**
	Difference	5.74				
	Control					
	Before	38.28	5,853			
	After	38.15	5,480	-749 - 1.006	0.296	0.769
	Difference	-0.13				

Table 2 shows that there is a significant difference in the intervention and control groups before and after the intervention (p value = 0.00). The difference in average improvement in the intervention group (difference value = 11.077) was greater than in the control group (difference value = 0.21). A similar thing was found in the quality of life variable, showing a significant difference between the intervention and control groups before and after the intervention (difference value = 5.74) that was greater than the control group (difference value = -0.13).

Table 3. Differences in Average Values of Self-Efficacy and Quality of Life After Lifestyle Modification Intervention Between Groups

Variable	Group	Mean	elementary school	95%CI	Pvalue
Self-Efficacy	Intervention	96.82	3,858	9,919 – 14,184	0,000
	Control	84.77	5,460		
Quality of Life	Intervention	46.41	7,649	5,255-11,257	0.034
	Control	38.15	5,480		

Table 3 shows a significant difference in self-efficacy (p = 0.000) between the intervention and control groups after the lifestyle modification intervention. Likewise for the quality of life variable (p = 0.034).

Discussion

Age

The results of the analysis showed that the average age in the intervention group was 64.77 years. Meanwhile, the control group's average age was 64.92 years.

The intervention group and control group are spread across the Cipayung sub-district area and are members of the elderly group in the sub-district whose sports activities are quite routine at the Elderly Posbindu. All elderly respondents live with their families, so families can control their daily lifestyle and monitor lifestyle modifications taught using a guidebook.

Gender

The results of the analysis describe the gender characteristics of both the intervention group and the control group; the number of women is greater than that of men, and the equality test shows that there is no difference or equality between the intervention group and the control group. This shows that female respondents are more active in carrying out activities at the Elderly Posyandu compared to the male elderly.

Long duration of hypertension

The average duration of hypertension suffered by respondents in the intervention group was 5.38 years, while in the control group it was 5.46 years. This situation, after being tested, shows equality. In general, respondents stated that it might have occurred longer, but it was only discovered about 5 years after the symptoms were felt.

This situation is the same as what Sukayanah (2018) stated, stating that 50% of hypertension sufferers are not aware of their condition, 15% of them do not seek treatment, and only 10% check with health services. It appears that many sufferers are unaware of hypertension.

Knowledge about hypertension

The results of the analysis regarding knowledge about hypertension include the term hypertension, the measurement of blood pressure, which is defined as hypertension, the symptoms often felt by someone with hypertension, the relationship between food consumption and the incidence of hypertension, the relationship between body weight and hypertension, the relationship between smoking and hypertension, the relationship between drinking coffee and hypertension, and The relationship between exercise and hypertension shows that the average knowledge is very good in the intervention group and control group.

The average score is 9.46 out of 10. This shows that there is effective intervention from health workers at the Community Health Center in fostering the elderly, especially through health education at the elderly posyandu, which they coordinate.

Effect of Model Implementation Intervention

Lifestyle Modifications for Hypertensive Elderly People on Self-Efficacy and Quality of Life

The results of the analysis showed that there was a significant difference in the average efficacy value of elderly people with hypertension before and after lifestyle modification intervention (p value = 0.000). The difference in the average value of increasing self-efficacy scores in the intervention group was greater (difference value = 11,077), while in the control group the difference in scores was 0.21.

This situation shows that the lifestyle modification intervention model for hypertensive elderly people can increase self-efficacy significantly. These results are supported by the role of the family in encouraging the hypertensive elderly to carry out lifestyle modifications by following the Lifestyle Guide for the Elderly with Hypertension. This is in accordance with the theory regarding changes in behavior that will occur if someone gets support from their environment, especially important people in their life. Likewise, the results of the analysis showed that there was a significant difference in the average value of quality of life for elderly people with hypertension before and after lifestyle modification intervention (p = 0.000). The difference in the average value of improvement in quality of life in the intervention group was greater (difference value = 5.74), while in the control group the difference in score was -0.13. This situation shows that the lifestyle modification intervention model for hypertensive elderly people can significantly improve the quality of life of hypertensive elderly people.

Conclusion

There was a significant difference in self-efficacy and quality of life for elderly people with hypertension in the intervention group before and after providing lifestyle modifications (p = 0.000). This shows that lifestyle modifications in hypertensive elderly people can improve their self-efficacy and quality of life. So it is hoped that the continuity of Posbindu PTM or Posyandu for the Elderly activities in the community needs to be considered by health workers at the Community Health Center together with health cadres through health promotion.

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