



TELENURSING EDUCATION BASED ON HEALTH BELIEF MODEL IMPROVES SELF-CARE FOR HYPERTENSION PATIENTS

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ABSTRACT

Non-communicable diseases (NCDs) are prevalent in society, especially in Indonesia, including hypertension. The emergence of health problems here is caused by individual negligence, such as unhealthy eating patterns and can also be caused by public ignorance about maintaining health. The purpose of this study was to determine the effect of telenursing education on self-care management in hypertension patients in the Manding Health Center work area. The research method used in this study uses quantitative research using design Quasi Experimental, with control group (pretest-posttest with control group design). The sampling method used in this study was simple random sampling. Data collection used a questionnaire with the Borg Scale and Leiceste Cugh Questionnaire instruments. This study began with a pretest then provided telenursing self-care management education once a week for one month in the treatment group and continued with a posttest. The results of this study indicate that there is an influence before and after being given telenursing education on the treatment group. Based on the Wilcoxon test in the treatment group before and after being given education, $p = 0.000$ ($p < \alpha$) was obtained, which means that there is an influence of Telenursing Self Care Management Education on Self Care Management in hypertension patients. Seeing the results of this study, it is recommended for hypertension sufferers to pay more attention to their health and carry out all components of hypertension control in a disciplined manner.

Keywords: hypertension; self-care management; telenursing education

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INTRODUCTION

Non-communicable diseases (NCDs) are prevalent in society, especially in Indonesia, including hypertension. Hypertension is a major public health problem worldwide and is the most common risk factor for cardiovascular disease, and has not been optimally controlled worldwide. The emergence of health problems here is caused by individual negligence, such as unhealthy eating patterns and can also be caused by the community's ignorance about maintaining life, health, development, and life around them, as well as a result of the lack of correct information about hypertension (Rahmadiana, 2012). The low knowledge of health workers, patients, and the community about hypertension is the main cause of uncontrolled blood pressure, especially in hypertensive patients. Research results at the Health Management Organization in Southern Europe showed that as many as 60.4% of hypertensive patients have poor behavior towards hypertension diet. There are hypertensive patients who do not comply with the advice of health workers to take medication, as many as 50% which causes many hypertensive patients who cannot control their blood pressure and end in patient death (Marie Krousel-Wood, a Tareq Islam, Larry S Webber, Richard Re, 2009).

In Indonesia, the incidence of hypertension in 2013 was 26.5%, while what was known to health workers was only 9.5%. This condition indicates that the disease has not been diagnosed by health services (Emdat Suprayitno, 2019). In East Java in 2015 it was ranked 5th at 3.3%. The percentage of hypertension was 13.47% or around 935,736 residents, with a proportion of men of 13.78% (387,913 residents) and women of 13.25% (547,823 residents) (Dinkes Jatim, Self Management Pada Penderita Hipertensi, 2016).

Based on data from the Sumenep Regency Health Office, hypertension is the third largest disease after ARI and other disorders of muscle tissue in 2019 with a total coverage of 24%. In 2020 there were 105,299 people and in 2021 the total coverage was 7,454,818 people (Dinkes Jatim, 2018). In Sumenep Regency, the discovery of Hypertension cases in the last 3 years has shown fluctuations with an increasing tendency with the number of Hypertension targets found in 2019 totaling 166,772 target people and a total of 40,354 people realized, with a total achievement of 24%, while in 2020 the number of Hypertension target cases found was a total of 253,426 with a total achievement of 105,299. In 2020 there were 15,230 target people and an achievement of 5,573. Meanwhile, in 2021, there were 47,674 residents with a total coverage of 2,546 and 7,454,818 hypertension sufferers served (Jatim, 2021). Based on data from the Sumenep District Health Office, the high incidence of hypertension sufferers in the Manding Health Center work area according to 2023 cases in the male gender was 3,3884 and 4,275 cases of hypertension were experienced by women. The total number of residents experiencing hypertension was 8,159 cases of hypertension in the Manding Health Center Work Area.

Education is knowledge provided to sufferers, especially hypertension, so that they can change their lifestyle, such as increasing physical activity, maintaining weight, and maintaining a healthy diet. Poor self-care will affect poor health outcomes, diet and medication management that is not compliant, unlimited sodium and fluids, no daily weighing, irregular exercise, unmonitored signs and symptoms of disease exacerbation, inappropriate treatment search and decision-making, and less than optimal understanding of hypertension sufferers about self-care. This educational intervention is provided so that hypertension sufferers can carry out self-care to prevent long-term hypertension (Sulprayitno & Damayanti, 2020).

Optimal prevention and management of hypertension in both individuals and communities in reducing morbidity and mortality rates by controlling and preventing risk factors. Prevention and control of hypertension are carried out by complying with lifestyle, pharmacological treatment, changes in diet, physical activity, obesity, and stress. Hypertension can be prevented, among others, through the role of health workers in first-level health facilities (FKTP). Community empowerment in hypertension through a chronic disease management program (Prolanis) to achieve optimal community quality of life that emphasizes the implementation of promotive and preventive activities. Types of prolanis activities are medical consultations, group education and club activities, relmindelr SMS gateway, home visits (Putri et al., 2022).

The existence of information technology in the health sector has given rise to innovation in providing nursing care through telenursing. Telenursing allows its application in home care services (Royani & Mira, 2021). Telenursing can be interpreted as the use of information technology in the field of nursing to provide health services in the form of information or monitoring, where there is a long physical distance between the nurse and the client (Triwibowo, 2013; Nulrhidayah, 2010).

Based on the research results of Suardani et al., 2020, it is known that mentoring by using telenursing. One of the tools or media used in this telenursing is a cellphone. A cellphone is a communication tool that is used both directly and indirectly, for example in the form of Short Message Service (SMS) with the SMS Reminder method. Self-care management is the ability of individuals to maintain effective behavior and disease management that can be applied in everyday life to help reduce and maintain stable blood pressure (Wachyul et al., 2014). Self-care management is a form of behavior in managing hypertension that is influenced by external factors, namely from the environment, and internal factors (from within oneself), one of the main internal factors that can influence self-care management according to Hikmah et al., (2019); in other references, Self-Care Management is everything related to the patient's efforts to manage themselves and maintain effective behavior in dealing with the hypertension they experience (Raja et al., 2021). Activities carried out by individuals such as health care, prevention of disease symptoms, use of health facilities, and interacting with professional health workers to improve their health status are also included in self-care actions (Crow et al., 2004 in Suprayitno & Damayanti, 2020).

Lack of Self Care Management practices in patients with hypertension can have an impact on increasing hospitalization and treatment costs (Asadi et al., 2019). Most of the Self Care Management practices that are lacking are experienced by adult patients, because at this age, a person has more difficulty in changing their lifestyle. Poor self-care skills will increase repeated hospitalizations. Thus, costs will also increase. Conversely, if someone has the ability or skills to carry out quality Self Care Management, this will support prevention and reduce the risks and complications that can be caused by the disease they are suffering from (Suprayitno & Damayanti, 2020). Based on the background above, the researcher is interested in conducting research on the influence of Telenursing Education on Self-Care Management in Hypertension sufferers in the Manding Health Center Work Area. The aim of this study was to determine the effect of telenursing education based on the health belief model on the care of hypertension patients.

METHOD

The research design used is a quantitative research type using a *Quasi Experimental research design*, with a *control group (pre-test-post-test with control group design)*. The population of the study was all Hypertension sufferers in the Manding Health Center Working Area as many as 153 sufferers and the sample in this study was some of the Hypertension sufferers in the Dasuk Health Center Working Area as many as 60 sufferers. The sampling technique for this study was *simple random sampling*. Data collection used was a Self-Care Behavior questionnaire with Cronbach alpha results alpha 0,87. Data analysis used *Wilcoxon analysis* and the *Mann-Whitney U Test*.

RESULT

Table 2 data shows that the treatment group before and after being given self-care education, based on the results of *the Wilcoxon alternative test* in the treatment group before and after being given (*pretest-posttest*) obtained $p = 0.000$ ($p < \alpha$), which means that there is an influence of telenursing education on self-care management in hypertension patients.

Table 1
Characteristics of Respondents with Hypertension

Respondent Characteristics	Treatment Group		Control Group	
	f	%	F	%
Gender				
Man	10	33.3	8	26.7
Woman	20	66.7	22	73.3
Age				
26-35 Years	13	43.3	11	36.7
36-45 years	12	40.0	10	33.3
46-55 years	5	16.7	9	30.0
Education				
No school	3	10.0	5	16.7
Sd	16	53.3	9	30.0
Junior High School	8	26.7	9	30.0
Senior High School	1	3.3	7	23.3
Bachelor	2	18.8	0	0.0
Work				
Farmer	2	6.7	1	3.3
Trader	7	23.3	12	40.0
Self-employed	14	46.7	17	56.7
civil servant	2	6.7	2	6.7
Housewife	5	16.7	5	16.7
Classification of Hypertension				
140-159 mmHg	25	83.3	14	46.7
>160 mmHg	5	16.7	7	23.3

Table 1 Test on Treatment Groups

Quality of Life	Pretest		Posttest		ρ value
	f	%	f	%	
Good	3	10.0	9	30.0	Wilcoxon 0,000
Enough	18	60.0	20	66.7	
Bad	9	9	1	3.3	

Table 3.
Wilcoxon Test in Control Group

Quality of Life	Pretest		Posttest		ρ value
	f	%	f	%	
Good	0	0	0	0	Wilcoxon 1,000
Enough	18	60.0	18	60.0	
Bad	12	40.0	12	40.0	

Table 3 data results of the Wilcoxon alternative test on the treatment group before and after being given (*pretest-posttest*) obtained $p = 1,000$ ($p < \alpha$), which means there is no effect.

Table 4.
Mann-Whitney U Test

No	Post-test	Treatment		Control		ρ value
		f	%	f	%	
1	Good	9	30.0	0	0	Mann-Whitney U 0,000
2	Enough	20	66.7	18	60.0	
3	Bad	1	3.3	12	40.0	

Table 4 data results of the Mann Whitney U test on self-care of the treatment group (*post-test*) and the control group (*post-test*) obtained both at a value of $p = 0.000$ ($p < \alpha$), which means there is a difference.

DISCUSSION

Self Care Management in Hypertension Patients Before and After Being Given Telenursing Education on Self Care Management in the Treatment Group

Based on the results of the study, the distribution data of respondents before (pre-test) was given telenursing Self Care management education intervention in the treatment group, some respondents were in the sufficient category. Based on the Wilcoxon alternative test in the treatment group before and after being given education, $p = 0.000$ ($p < \alpha$) was obtained, which means that there is an effect of Telenursing Self Care management Education on Self Care management in hypertension patients. Self Care management is an individual's ability to carry out self-care activities to maintain life, improve, and maintain individual health and well-being (Lubis, 2023). Self Care management is an individual's activity to control symptoms, carry out treatment, physical and psychological conditions and change lifestyles that are adjusted to the disease suffered to maintain life, health, and well-being (Puspita, 2024). Self Care management as a systematic intervention in chronic diseases, is by controlling one's condition and being able to make decisions in treatment planning. Hypertension can be controlled in several ways, namely by complying with medical therapy, lifestyle changes, and positive health behaviors (Sri Mariya, 2019).

According to the research results of Fauzia (2016), the measurement of healthy behavior in the intervention group as a whole showed that the majority of respondents who received self-management education experienced an increase in healthy behavior and changes in blood pressure after self-management education was carried out on respondents. The purpose of Self Care management is to optimize health, control and manage signs and symptoms that appear, prevent complications, minimize disturbances caused by body functions, emotions, and interpersonal relationships with others that can interfere with the client's life (Putri 2019). Based on the researcher's assumption, self-management education can lower blood pressure by regulating each individual's diet so that blood pressure can be controlled. Hypertension is an increase in a person's blood pressure above normal, which can cause an increase in morbidity and mortality. Hypertension is systolic blood pressure above 140 mmHg and diastolic blood pressure above 90 mmHg. Blood pressure is the pressure that comes from the blood and is pumped by the heart to the artery walls (Aspiani, 2018). Based on the results of the study, data on the distribution of respondents after (post-test) was given a telenursing Self Care management education intervention in the treatment group, it was found that most respondents were in the sufficient category, namely 20 respondents (60.0%).

Self Care Management in Hypertension Patients Before and After Without Education in the Control Group

Based on the results of the study on the control group before and after it was found that most of the respondents were in the sufficient category, namely 18 respondents (60.0%). The results of the study showed that in the control group before (pre-test) without intervention and after (Post-test) control without being given self-care values in the control group, $p = 1,000$ ($p > \alpha$) was obtained, which means there is no effect of Self-Care management on hypertension sufferers. Most respondents consume salt without paying attention to the rules of diet for hypertension and still consume sea fish and salted fish that contain a lot of salt. Salt contains 40% sodium and 60% chloride. People who are sensitive to sodium are more likely to increase their sodium, which can cause fluid retention and increased blood pressure. Salt is closely related to the incidence of high blood pressure.

Salt has the property of retaining water, consuming more salt or salted foods can increase blood pressure. Therefore, the amount of salt consumed should be limited. Most respondents consume sugar to make tea or other foods. If consumed more, sugar can increase body weight. Being overweight has a negative effect on blood pressure. Obese people are at 2-6 times

greater risk of developing hypertension than people with normal body weight. Meanwhile, caffeine is found in coffee, tea and soft drinks. Coffee and tea if consumed beyond normal limits in serving will cause hypertension (Andria, 2019). Hypertension according to (Rumah & Anwar, 2021) is also included in chronic diseases that require self-care management. Self-management is very effective in improving the quality of life of people with chronic diseases (Timmermans, 2023). Self-care management is an individual's ability to treat symptoms, physical and psychosocial effects, and to know, identify, and manage lifestyle changes related to chronic diseases, reciprocal with self-completeness, self-regulation, and health. Implementing five elements of action: such as workers, blood pressure reviews, and adherence to regulations recommended by related health professionals (Jin, 2023).

The Influence of Telenursing Education on Self Care Management in Hypertension Patients Based on Self Care Management.

Research results Based on the Mann Whitney U test on Self Care management of the treatment group (posttest) and the control group (posttest), both were obtained at a p value = 0.000 ($p < \alpha$), which means there is a difference between the Self Care management values. According to research conducted by (Sukamrini & Mulyati, 2013) it also shows that self-management that is carried out effectively can provide benefits to increase patient independence, increase self-confidence, increase patient satisfaction in living life, improve patient quality of life and reduce treatment costs. Effective hypertension management is one of them by quitting smoking, maintaining a healthy diet and doing healthy physical activities, but in reality many hypertension sufferers show ineffective self-management behavior. This study is in line with the study conducted by (Alifa Nabila, 2020) entitled "Self Management of Hypertension Patients" which shows that 128 respondents (75.5%) have sufficient hypertension self-management, 33 respondents (20.2%) have good self-management and only 2 respondents (1.2%) have poor self-management. This shows that most respondents have hypertension self-management in the sufficient category. The results of this study are in line with the research of Puswati, and Yuzela (2021) namely that out of 66 respondents there were 44 respondents (66.7%) who had hypertension self-management in the moderate or sufficient category.

The results of this study indicate that the influence of telenursing education on Self Care management is said to be good. Because as many as 60 respondents were divided into two parts, namely 30 who were given telenursing education on Self Care management and 30 who were not given telenursing education. of the 60 respondents who had been given telenursing education and those who were not given telenursing education had very different characteristics. Success in self-care for hypertension patients cannot be separated from a person's knowledge, attitude and compliance in implementing a healthy lifestyle . Someone who understands hypertension and its various causes will take the best possible action so that the disease does not continue (Sefty Rompas, 2015).

CONCLUSION

Based on the results and discussion of research on the influence of telenursing education on dietary compliance of hypertension sufferers in the Manding Health Center Work Area, it can be concluded that Respondents before (pre-test) and after (post-test) were given self-care management education intervention in the treatment group, there was an effect. Respondents before (pre-test) and after (post-test) without being given self-care management education intervention in the control group, there was no effect.

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