

Effect of Health Literacy on Family Ability in Hypertension Management

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ABSTRACT

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Management of hypertension cannot be done by the patient alone, so they need family assistance. Health Literacy is the ability to read, write and understand information related to health, in this case, hypertension management. This research aims to know the effect of health literacy on a family's ability to manage hypertension in the Balibo Health Center Work Area. Design is a quantitative research design Quasi Experiment. The total population is 110 people, the sample size is 38 intervention groups and 38 control groups. The sampling technique is Simple Random Sampling. The results of the study were the ability of the family in the intervention group in the management of hypertension pretest, namely the inadequate ability of 9 people (23.7%) and middle ability of 29 people (76.3%). Posttest, namely middle ability 6 people (15.8%) and adequate ability 32 people (84.2%). The pretest control group had the inadequate ability of 17 people (44.7%) and middle ability of 21 people (55.3%), posttest namely there were inadequate abilities of 13 people (34.2%) and middle ability of 25 people (65.8%). The results of the hypothesis test in the intervention group were p-value, namely $p = 0.000 < \alpha = 0.05$, and the control group $p = 0.285 > \alpha = 0.05$. The conclusion is that there are differences in family abilities in managing hypertension before and after being given health literacy interventions in the intervention group. Whereas in the control group, there was no significant difference. So it can be concluded that there is an effect of health literacy on family abilities in hypertension management in the Work Area of the Balibo Health Center in 2020. Suggestions for further research are expected to emphasize the functional, communicative, and critical scales and relationships on the characteristics of respondents and involve hypertensive patients.

Keywords: Health Literacy, Family Ability, Hypertension Management

INTRODUCTION

Global hypertension is a burden that is defined as blood pressure ≥ 140 mmHg systolic or ≥ 90 mmHg diastolic on antihypertensive treatment, then it is projected to

increase from 918 million adults in 2000 to 1.56 billion in 2025. (Burnier and Egan 2019). In Indonesia, data regarding the level of community health literacy is still very limited. Research conducted by Soemitro (2014), regarding the level of health literacy of hypertensive patients in Malang Regency, shows that around 65.35% of respondents have a poor level of health literacy (Andryani et al 2017).

The level of community health literacy regarding hypertension in an area is very diverse. The 2018 Basic Health Research data shows that the prevalence of hypertension has increased compared to the 2013 Riskesdas data, namely the hypertension prevalence rate in 2013 was 25.8% while in 2018 it became 34.1% of the total adult population. In South Sulawesi Province, the prevalence of hypertension in 2013 was 28.1% while in 2018 it was 31.7% of the total adult population based on examination (Balitbangkes, 2018).

In Bulukumba Regency, the prevalence of hypertension in 2019 was 14,975 people recorded at the Bulukumba Health Office based on health insurance. Whereas at the Balibo Health Center, reports on non-communicable disease data coverage, in this case hypertension, amounted to 245 people in 2017, 265 people in 2018 and 270 people in 2019. Prevention efforts that can be done by patients are to improve hypertension management, such as changing diet patterns, doing activities regularly, healthy behavior and routine medication. According to research (2018) stated that in patients who were known to be diagnosed with hypertension, there were still many who did not change their diet patterns, according to him the lack of attention given by the family regarding hypertension management was the reason why they did not change their behavior. Thus, as a family member in caring for patients is one of the main tasks of the family.

Hypertension management cannot be done by the patient alone, so a hypertensive patient really needs help or family support. In this case, the family is needed to be able to assist patients in implementing non-pharmacological management of hypertension. According to Setiadi in 2008 in Adriani (2018) family tasks in the health sector are having the ability to recognize health problems, the ability to make decisions to deal with health problems, the ability to care for sick family members, the ability to modify the environment for families to stay healthy and the ability of families to utilize health facilities available in the environment. Hypertension requires intervention for its management. One of them is the

management of hypertension. Required setting a diet low in salt and fat, lifestyle changes, stress management, health control, regular exercise and treatment of hypertension. In carrying out hypertension management, ability in the role of the family is very necessary for the management of hypertension care in hypertensive patients. In addition, so that the family's ability to carry out hypertension management is carried out properly, it is necessary for the family to have adequate knowledge about hypertension. Modifying lifestyle and changing behavior requires patients and their families to be able to read and understand hypertension control, such as how to prevent hypertension from recurring, how to choose healthy foods, how to control stress, and how to use health services properly and correctly. So that knowledge, beliefs, and attitudes related to healthy behavior are referred to as Health Literacy.

Health Literacy is an ability to read, write and understand information related to health, in this case hypertension management and hypertension control. Health Literacy is not just reading information simply but must involve the ability to understand instructions on prescriptions, control cards, health education pamphlets and the ability of patients to make decisions about their health based on the information they have obtained. (Mafutha, Mogotlane et al. 2017). Research conducted by Mafutha et al. in 2017, with the research title Development of a Health Literacy Assessment Tool for Hypertension in Primary Care Health Clinics in South Africa, Gauteng, namely the results of the study there was a strong positive correlation between LAB (Learning Ability Battery) and HHLAT (Hypertension Health Literacy Assessment Tool) or there was strong relationship between health literacy and ability to learn about hypertension management, HHLAT showed that only 37 (19%) of patients had a low level of hypertension health literacy.

The phenomenon that occurs in the working area of the Balibo Health Center, health literacy has not been implemented in this place. Based on the preliminary study, only health education through counseling is carried out for patients in increasing knowledge about hypertension such as health education to increase knowledge by inviting the community to participate in counseling activities in villages and counseling in the Prolanis program.

Indicators of the success of the prolanis counseling program were decreased blood pressure, no complications and participants' knowledge of hypertension

increased. However, in reality, in the community there is still 1 in 3 adults who take hypertension medication and still have blood pressure $> 140/90$ mmHg. Of course, this needs to be increased promotively through home care based actions by involving family members to improve hypertension management through health literacy. The indicator of health literacy is that families have the ability or capacity to obtain, process, and understand the content of health service information and then apply it in everyday life to change unhealthy behaviors to become healthy.

METHODS

The research was conducted in the Working Area of the Balibo Health Center. The research design is qualitative with a quasi-experimental design approach. The independent variable is health literacy and the dependent variable is the family's ability to manage hypertension. The total population of hypertension sufferers in the Balibo Health Center Work Area who are being monitored is 110 people. The intervention sample size was 38 people and the control sample size was 38 people.

The intervention was carried out 4 times. The first meeting was an introduction to health literacy management of hypertension, pre-test and entering the respondent's Whatsapp number into the Whatsapp group. The second meeting was held online in the Whatsapp group by explaining material on Health Education on Hypertension, namely Beware of hypertension, control blood pressure, Efforts to control hypertension through food regulation, 4 anti-hypertension tips and Action to reduce hypertension sufferers. The third meeting was conducted online on the Whatsapp Group by explaining in detail how families were able to find and carry out health literacy by finding out based on health care, disease prevention and health promotion.

The fourth meeting was to carry out an evaluation with a post test and explain that the Whatsapp group regarding hypertension management for families who have family members suffering from hypertension can be used onwards to share information about hypertension and members can be added. Meanwhile, in the control group, there were 4 interventions with different treatments.

Data analysis is shown to answer research objectives and test research hypotheses. For this, the statistical test that will be used is the Marginal Homogeneity test. The P value parameter, namely $p > 0.05$, is said to be insignificant and $p < 0.05$ is said to be significant (Sopiyuddin, 2014).

RESULTS

Based on table 1 in the intervention group, it can be seen that of the 38 respondents in the family's ability to manage hypertension before being given the health literacy intervention, there were 9 people (23.7%) who lacked ability (23.7%), while 29 people (76, 76) had sufficient ability 3%) and Adequate Capability (strong) none. Meanwhile, based on table 1, it can be seen that of the 38 respondents to the family's ability to manage hypertension after being given a health literacy intervention, there were 6 people with Moderate Ability (15.8%), 32 people with Enough Ability (strong). (84.2%) and no Inadequate Ability. The results of the hypothesis test showed that the p value was $p = 0.000$, which was smaller than the value $\alpha = 0.05$, thus there was an effect of health literacy on the family's ability to manage hypertension.

Table 1. Family Ability in Hypertension Management intervention group before and after being given Health Literacy

Pre Test intervention	Frequency (f)	Percentage (%)	P Value
<i>Inadequate Ability</i>	9	23,7	0,000
<i>Midlle Ability</i>	29	76,3	
<i>Adequate Ability</i>	0	0	
Post Test Intervention			
<i>Inadequate Ability</i>	0	0	
<i>Midlle Ability</i>	6	15,8	
<i>Adequate Ability</i>	32	84,2	
Total	38	100	

Based on table 2 in the control group, it can be seen that of the 38 respondents, the family's ability to manage hypertension before being given basic treatment, namely, there were 17 people (44.7%) inadequate ability (44.7%), 21 people (55% moderate) ability (sufficient) .3%) and no Adequate Ability (strong), whereas after being given treatment of Inadequate Ability (low) as many as 13 people (34.2%), Middle Ability (enough) as many as 25 people (65.8%) and no Adequate Ability (strong). The results of the hypothesis test showed that the p value, namely $p = 0.285$, was greater than the value of $\alpha = 0.05$, thus there was no effect of health literacy on the family's ability to manage hypertension in the control group.

Table 2. Family Ability in Hypertension Management Control Group before and After Given Health Literacy

Pre Test Control	Frequency (f)	Percentage (%)	P Value
<i>Inadequate Ability</i>	17	44,7	0,285
<i>Midlle Ability</i>	21	55,3	
<i>Adequate Ability</i>	0	0	
Post Test Control	Frequency (f)		
<i>Inadequate Ability</i>	13	34,2	
<i>Midllew Ability</i>	25	65,8	
<i>Adequate Ability</i>	0	0	
Total	38	100	

DISCUSSION

Differences in family ability in managing hypertension before and after being given treatment in the intervention group

The results of this study show that there are differences in family abilities in managing hypertension before and after being given health literacy interventions. Family ability in hypertension management before being given health literacy interventions described weak abilities in hypertension management lower than families with adequate abilities in hypertension management. So that it can be seen that the intervention group has a threshold of ability to manage hypertension in the sufficient category, this can be influenced by the level of education and access to family information about hypertension. It can be seen in table 1 that the level of education and access to information in the intervention group is higher than the control group.

After being given a health literacy intervention regarding how to access, assess, understand and apply hypertension information that is guided by health care, disease prevention, and health promotion, as well as by understanding the contents of the leaflet namely Beware of hypertension, control blood pressure, Efforts to control hypertension through food regulation, 4 tips anti-hypertension and action to reduce hypertension sufferers, it was found that the ability of the family to increase and it was described that the ability to manage hypertension was dominated by the strong category. It can be seen that the knowledge of information on how to access and then apply the information can be well understood by the respondents. Structured education is one way to change respondents' knowledge for the better.

This research is supported by the theory of Nutbeam (2015) and WHO (2018) that health literacy is an individual's ability to obtain, process, and understand health

information obtained to make decisions and take appropriate actions that will impact health status. The ability referred to is not only the ability to read brochures or leaflets, but also the ability to use the health information as effectively and optimally as possible.

The results of this study are also in line with research by Petandung (2018) with the research title namely The Effect of Structured Education with Telephone Health Coaching on Health Literacy Levels and HbA1C Levels in Type 2 Diabetes Mellitus Patients, in his research it was found that there were differences in HbA1C levels before and after being given education structured and health literacy. So this study illustrates that the power of structured information can change one's knowledge resulting in differences in levels before and after the intervention.

Differences in family ability in managing hypertension before and after being given treatment in the control group

The results of the study revealed that there was no significant difference between the family's ability to manage hypertension before and after being given basic treatment by explaining how to obtain health information and how to maintain the health of families suffering from hypertension. A brief and unstructured explanation is a factor in the family's lack of understanding of how to properly manage hypertension so that family members who suffer from hypertension have a risk of complications.

The above explanation is reinforced by Chenli Wang's statement (2017) in his research which stated that good health management and knowledge about health are factors associated with the emergence of complications in patients with hypertension, which means that the level of health knowledge and management of hypertension in patients with hypertension will be directly proportional to the level complications due to hypertension. This means that good management will reduce the risk of complications in hypertensive patients.

The effect of health literacy on the family's ability to manage hypertension in the intervention group and the control group

In this study, the management of hypertension to prevent complications cannot be carried out alone by the patient, so triggering is needed to involve the family, one of which can be done is to increase the family's ability to manage hypertension through health literacy. The health literacy intervention provided resulted in an increase in family knowledge and ability to access health information, how to

understand and apply the information obtained to change behavior and make decisions about family health.

This research is reinforced by the theory of Andryanis (2017) and Ishikawa (2019) stating that good health literacy is able to influence patient behavior when undergoing treatment. In implementing health literacy, the community is expected to be actively involved in managing their health and be able to make decisions related to their health. Health decisions that are made require health information that can be accessed and understood according to the cultural and social background of the community. Skills in understanding and applying information about health issues have a major impact on health behavior and health outcomes.

The research is supported by the research results of Clement (2009) in D'earth (2012) entitled *A Rapid Evidence Review of Interventions for Improving Health Literacy: Insights Into Health Communication*, namely the intervention used is literacy education and health management education regarding hypertension and prevention of cardiovascular disease others prove the occurrence of changes in knowledge and taking action on family and individual health decisions.

This research is also supported by research conducted by Tambing (2018) with the research title *health literacy and risk factors for hypertension in officials and education staff at Cenderawasih University*. Based on the research results, health literacy has a correlation with the incidence of hypertension. This study shows that by having good health literacy, the chances of not having hypertension are higher than if you do not have good health literacy. In addition, research conducted by Dunn-Navara, et al (2012) stated that increasing health literacy is necessary to increase knowledge.

Health literacy is a concept of health education and behavior-based communication that aims not only to change lifestyles but also to achieve awareness of the effects of health and encourage individuals and communities to act in overcoming health problems, so that it plays a major role in a person's quality of life (Jayasinghe, 2016) .

Whereas in the control group, the family's ability to manage hypertension before treatment was found to be lacking in family ability, after being given basic treatment by explaining how to get health information and how to maintain the health of families who suffer from hypertension, of less ability and sufficient ability in

hypertension management there were only 3 people who have less ability to increase to sufficient ability. The results of the hypothesis test in the control group obtained a p value, namely $p = 0.285$, which was greater than the value of $\alpha = 0.05$, thus there was no effect of health literacy on the family's ability to manage hypertension in the control group.

According to the results of research conducted by the Assessment of Adult Literacy in Tambing's research (2018), states that 80% of the population whose health literacy is very low is caused by not receiving health information. According to Sorensen (2012), access to health information is the first domain of health literacy that must be owned by an individual, followed by the individual's ability to obtain health information; understand (referring to the ability to understand accessed health information); assess (referring to the ability to interpret, filter, and evaluate health information that has been accessed); and apply (referring to the ability to communicate and use) health information to make decisions and maintain and improve health.

Based on the results of the study, regarding the family's ability to manage hypertension, the highest score was obtained after the intervention, namely on the list of questions about where to get information related to hypertension care and finding out where to look for health workers when bad symptoms of hypertension occur, while the lowest answer before intervention is the ability to control by how to exercise and do regular activities. Factors that we can know regarding the impact on health literacy interventions related to how a person accesses, understands, evaluates and applies health information or hypertension management are age, education, occupation, blood pressure monitoring scale, length of time family members suffer from hypertension and access to health information.

Berdasarkan karakteristik responden yang dapat kita ketahui mampu mempengaruhi melek kesehatan keluarga dalam melakukan manajemen hipertensi adalah usia, pendidikan dan akses informasi kesehatan. Usia yang sangat tua tidak dapat menulis dan membaca dengan jelas serta kurang mampu memahami informasi yang diberikan. Namun dalam penelitian ini umur homegen artinya kesetaraannya bisa diterima karena masih dibawah umur 50 tahunan. Sedangkan berdasarkan pendidikan, dalam penelitian yang dilakukan oleh Handayani (2018) menyatakan

bahwa tingkat pendidikan bukan merupakan faktor yang berhubungan dengan *health literacy*.

Then another factor that can affect health literacy in terms of family ability in hypertension management is access to information. In this study, access to online information is higher than access to offline information such as print media, where we know that print media is usually obtained in newspapers or at the posyandu when there is health education, whereas currently we are given sophisticated technology and can get health information through gadgets while TV broadcasts not enough.

This is reinforced by the results of Denuwara's research (2017) which states that access to media is related to the level of health skills and the level of health literacy. Likewise, the results of research by Nurjannah (2016) were found in student FGDs saying that the TV shows about health that they watched were only Dr. Oz Indonesia. These results provide the basis that improving health literacy should be done by providing health information via mobile phones and the internet, especially social media. According to Gray (2005) states that the internet is an important source of health information for adolescents besides friends and other adults.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that there were differences in family abilities in hypertension management before and after being given health literacy interventions in the intervention group, namely there was an increase in ability. There were no significant differences in the control group in family abilities in hypertension management before and after being given basic treatment. , There is an influence of health literacy on the family's ability to manage hypertension. Future research is expected to conduct research on the theme of health literacy in nursing with more emphasis on the functional, communicative, critical scale and involving hypertensive patients and the relationship to the characteristics of the respondents.

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