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Counseling to Prolanis Participants about Diet for Hypertension

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***Abstract*— Hypertension is the main risk factor for death. Hypertension cases at the Puskesmas Ngemplak Simongan were included in the top 10 visits. The purpose of this study was to improve prolanis participant's knowledge about diet for hypertension at the Puskesmas Ngemplak Simongan. This study was an experimental study with a pre-post test and conducted in May 2019 with the population in this study include all hypertension Prolanis participants as much as 30 participant. Data obtained by interviewing questionnaires pre and post intervention giving knowledge, then analyzed using a paired T-test with p <0.05. The results showed that after an counselling there was an knowledge improvement of prolanis participants who were categorized as good, increasing from 53.6% to 86.7%. The mean value of knowledge in prolanis participants before and after the intervention also increased, from 74.31 to 86.27. The results of paired T test showed a significance increase in knowledge of prolanis participants after counselling (P <0.001). Giving counseling to prolanis participants could improve the knowledge related to the diet for hypertension. It is recommended that patients could manage their diet better to control blood pressure which accompanied to physical activity and adhere to taking the drug.**

***Keywords*— Hypertension, salt diet, knowledge, prolanis**

I. INTRODUCTION

Hypertension is the main risk factor for death. The World Health Organization (WHO) stated that the number of people with hypertension will continue to increase along with the increasing population in the coming 2025, estimated at around 29% of the world's citizens affected by hypertension. Factors that influence the occurrence of hypertension are lifestyle, compliance with drug consumption, and knowledge of diet for hypertension [1]. Knowledge is important because the beginning of changing one's attitude and behavior towards his health condition [2].

In 2013 there were 65 million people in Indonesia who suffered from hypertension. The prevalence of 6-15% in adults, 50% of them are not aware of being hypertensive so they tend to become severe hypertension because they do not avoid and do not know the risk factors, and 90% are essential hypertension. Based on the study of Pratami F (2016) shows that knowledge about diet for people with hypertension is still relatively low, with 3 out of 5 people not knowing about low salt diets [3].

A low salt diet is a food restriction with salt composition 1000-1200mg, 600-800 mg, and 200-400mg / day for mild, moderate, and severe hypertension, respectively (WHO, 2014). Hypertensive patients should have a good level of knowledge about the salt diet, because it will be able to change behaviour in controlling blood pressure. Geaney et al (2015) study in 828 participants stated that someone with good knowledge has a diet pattern 6 times better than someone with low knowledge [4]. Counseling is one method for providing information in order to improve knowledge [2].

Prolanis patients are patients who take prolanis program from BPJS Kesehatan (Indonesia Health Insurance Program), where patients are guaranteed to get medication for their chronic disease conditions, such as hypertension for 1 month each month [5]. Therefore, drug delivery programs that are already running well have hopes that they will be successful in controlling hypertension. So, supporting behaviors such as diet hypertension need to be done. Ngemplak Simongan Health Center is one of the Puskesmas in Semarang City that has a diagnosis of hypertension in the top 10 occurrences of disease in 2018, so it is feasible to conduct research. Based on the background exposure above, it is necessary to conduct research on the knowledge of hypertensive diet in prolanis patients.

II. METHODS

The design of this study is an experimental study with a pre-post test approach to determine the knowledge of prolanis participant about diet for hypertension before and after counseling. The participants in this study were all Prolanis patients in the Puskesmas Ngemplak Simongan, as many as 30 patients [6]. Participants will be given a pretest containing 17 questions about diet for hypertension, then counseling will be given about the diet and given a post test with the same questionnaire. Patient assessment is done by calculating the correct answer and changing it to percentage. Kolmogorov Smirnov test shows that distribution of data was normal, then data were analyzed using paired T test with p value <0.05.

III. RESULTS AND DISCUSSION

TABLE I. Descriptive Data of Respondents

Characteristic	N	%	*p value*
Age (years)			
41 – 50	6	20	0.001
51 – 60	15	50	
61 – 70	9	30	
Sex			
Male	10	33.3	0.068
Female	20	66.7	
Formal Education			
Not educated	3	10	0.000
Primary school	4	13.3	
Junior high school	8	26.7	
Senior high school	14	46.7	
University	1	3.3	
Occupation			
Not working	4	13.3	0.000
Entrepreneur	12	40	
Civil servants	1	3.3	
Retired	2	6.8	
Housewife	10	33.3	
Non-government employee	1	3.3	

There have been used paired T-test to see the significant relationship between pre and post intervention group. There were 60 participants in this research, of whom (N=10 or 33.3%) were males and (N=20 or 66.7%) were females. Average age was 56.3. This number of patient was given a pre- questionnaire before counselling intervention, then the same one on post intervention to know how counselling could improve their ability to answer which represent their knowledge improvement.

Descriptive statistic such as the age, sex, last formal education, and job or occupational activity are presented in Table I. It showed that the most level of education was senior high school graduates (N=14 or 46.7%) and the lowest number of education was bachelor degrees (N=1 or 3.3%). There were still participant who really had no education in their lifetime (N=3 or 10%). Occupational descriptive data showed that the most participants were working as entrepreneur (N=12 or 40%), and the second were housewife (N=10 or 33.3%). The lowest number of job were civil servant and non-government employee (N=1 or 3.3%, both).

TABLE II. Distribution of Knowledge in Prolanis Participants Pre and Post Intervention

Knowledge Category	Pre-Intervention		Post Intervention	
	F	%	F	%
Poor (≤ 55%)	0	0	0	0
Middle (56%-75%)	14	46,7	4	13,3
Good (76%-100%)	16	53,3	26	86,7
Total	30	100	30	100

Based on table II, it is known that the level of knowledge of prolanis participants about diet for hypertension before being given counselling is mostly in the good category as many as 16 respondents (53.3%) and after being given counseling there is an increase in respondent's knowledge became 26 categories (86.7%).

TABLE III. Difference Mean of Knowledge in Prolanis Participants Pre and Post Intervention

Data	Mean	SD
Pre-Intervention	74,31	11,19
Post Intervention	86,27	10,17

Table III shows that there was an increase in mean of knowledge in prolanis participants before and after intervention, from 74.31 to 86.27.

TABLE IV. Statistic Data Analysis

Data	Normality Test*	Paired T Test
Pre-Intervention	0.144	0.001
Post Intervention	0.050	

**Shapiro Wilk Test*

Normality test with Kolmogorov Smirnov was performed to knew the distribution of data. Pre and post data obtained were normal p>0.005 (0.114 and 0.050, respectively). In tend to understand the improvement of participant's knowledge about diet for hypertension, T test analysis was applied. Results found that the pre- and post- intervention knowledge had a significance improvement with p value <0.005 (*p=0.001*).

Based on characteristics descriptive, it is known that the majority of respondents have a high school education level as many as 14 respondents or 46.7%. The higher the level of education of a person, the easier it will be for someone to receive the information obtained so that they can increase their knowledge, conversely the lower the level of education of a person it will be more difficult for someone to receive information so that the knowledge obtained is not optimal. The process of developing attitudes in response to new insight will also be hampered. On the other hand, low education can also cause limitation of intellectual power, so that it is still influenced by the surrounding environment, such as local culture and the influence of others who dominate someone in shaping their knowledge [7].

While related to the employment status of the most respondents as entrepreneurs (12 respondents or 40%), there are 4 respondents or 13.3% who do not work and as housewives as many as 10 respondents or 33.3%. The employment status of the respondents influences the behaviour of the respondents. Someone who works will have a shorter time to pay attention to their own needs and family. Vice versa, if someone does not work then he will have more time to pay more attention to the needs of himself and his family [8].

To determine the effect of counselling about diet for hypertension on prolanis participant's knowledge, it is necessary to know the difference mean level of knowledge before and after the intervention period. There was a noticeable improvement mean level knowledge of prolanis participants before and after the intervention, from 74.31 to 86.27.

In addition, based on statistical tests (Table IV) also showed that there was an significance improvement of knowledge on participants ($p = 0.001$). This means, there is an influence of counselling on respondent's knowledge. Before counselling, there were still prolanis participants who did not know about a good diet for hypertension and after counselling, there was an increase in prolanis participant's knowledge. This result was consistent to Salaudeen, Fifiantyas and Aghamolaei which shows that health education is statistically influential in increasing knowledge [9][10][11].

Education is a process of ongoing interaction between humans and the environment and produces changes in knowledge, skills and attitudes. Through the education process someone will learn who initially did not know to know. The several factors that can influence education as stated by Notoatmojo, are communication, social and training. Communication that is well established will provide knowledge, attitudes, beliefs and so forth. Good social conditions will provide availability of facilities, while good training will have an influence on attitudes and behaviour [12].

The low level of knowledge of nutrition can lead to indifference to the use of certain food ingredients, even though these foods are sufficiently available and contain nutrients. Knowledge of nutrition for each individual is usually obtained from every experience that comes from various sources, including mass media, electronic media, as well as user manuals from close relatives. This knowledge can be improved by forming self-confidence so that one can behave according to everyday life [13].

Based on the study of Rufiati, Hamida, and Zulaekah, they found that the use of extension media can influence the increase in knowledge [14][15][16]. This shows that training, counselling or other forms of refreshment are necessary for hypertensive prolanis participants to update their knowledge who have never been exposed to information about diet for hypertension. This education is certainly not only limited to diet for hupertension but for other things where the need for increased knowledge is needed in various aspects because they have been faced with problems related to the treatment of hypertension. With the education they get, they are expected to be able to apply the dietary behaviour of hypertension in their daily lives, and can influence other people to behave in a healthy manner, especially other hypertensive patients. According to Gustina, it proves that there is an influence between sources of information and knowledge [17].

Knowledge is one of the very important domains in determine of actions. Providing interesting counselling will be easy to remember and practiced by someone. Education makes hypertensive prolanis participants understand and are aware of the importance of hypertensive diets in tandem with the treatment of hypertension being undertaken so that they are motivated to make improvements that are expected to be their healthy behaviour in their daily lives. With increasing knowledge can motivate someone to change their behaviour. This is in accordance with the research of Wakhidiyah, Widagdo, Nuryanti, which proves that knowledge influences behaviour [18][19][20].

High salt intake can interfere with the natural sodium balance in the body. The sodium level in the body can increase, causing sodium retention, then this can increase the pressure given by blood flow to the blood vessel walls. Finally, high blood pressure or hypertension occurs. This is also in accordance Riska's study which states that one of the factors associated with the incidence of hypertension in productive age (25-54 years) is salt consumption (p value = 0.004, OR = 5.675) [21].

According to the Ministry of Health of the Republic of Indonesia, salt causes a buildup of fluid in the body because it draws fluid outside the cell so that it is not removed, thereby increasing blood volume and pressure [22]. In about 60% of cases of primary (essential) hypertension there is a decrease in blood pressure by reducing salt intake. In people who consume 3 grams of salt or less, the average blood pressure is low, while in the community, salt intake is around 7-8 grams, the average blood pressure is higher.

Therefore, people with hypertension are advised to reduce their salt intake, even though they have taken drugs to lower their blood pressure. Reducing salt intake can help control blood pressure. Reducing salt intake from 10 grams to 6 grams per day can reduce blood pressure. In the end, it can reduce 14% and 9% of deaths from stroke and coronary heart disease, respectively, in patients with hypertension [23].

A low salt diet is proven to help people with high blood pressure to control their blood pressure. In fact, taking medication only is not enough to be able to control blood pressure, it must be accompanied by diet. Hypertension sufferers are advised to consume only 6 grams of salt a day or about 2300 mg of sodium per day. Including a salt which added to the dish and mixed in food, as in packaged foods.

In implementing a low salt diet, it does not mean only reducing salt intake, but also other foods that contain hidden salt. About 80% of the salt that enters our body is usually obtained from processed foods, including bread, biscuits, cereals, fast food, and others. The rest 20% comes from salt added when cooking or table salt.

The DASH diet is a healthy diet that is intended to help control blood pressure and cholesterol. DASH itself stands for Dietary Approaches to Stop Hypertension. This diet is done by reducing the intake of sodium (salt), fat, and cholesterol by increasing the intake of protein, fiber, and vitamins and minerals from foods that are consumed daily. The DASH diet recommends eating a number of servings daily from various

food groups. The number of servings needed can vary depending on how many calories you need per day. Reducing salt consumption includes all the salt eaten every day, including salt in packaged foods, snacks, dishes, and additional salt at the dinner table. Simply, the key to the success of the DASH diet is to eat more fruits and vegetables, reduce foods that are high in saturated fat, cholesterol, and trans fats, eat more whole grain foods, fish, poultry, and nuts, limit the use of salt, sweets, sweet drinks, and red meat. The portion of the DASH diet that can be applied to the daily menu includes whole grains: 7-8 servings daily, vegetables: 4-5 servings daily, fruit: 4-5 servings daily, low-fat or fat-free dairy products: 2 -3 servings per day, meat, poultry and fish: 2 or less servings daily, nuts, seeds, and dried beans: 4-5 servings per week, fat and oil: 2-3 servings per days, and sweet foods limit to less than 5 servings per week [24].

IV. CONCLUSION

In this study it was found that giving counseling to prolanis participants could improve the knowledge related to the diet for hypertension (P = 0.001) whose hopes could influence the behaviour of prolanis participants so that they wanted to practice a hypertensive diet along with the treatment they were taking.

In addition, it is suggested to respondents to better manage their diet, increase physical activity, and explore knowledge about hypertension to control high blood pressure. In addition, health services are expected to hold nutritional education on hypertensive patients every month, especially reminding about hypertension diet.

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