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## Education on hypertension prevention behaviors for community in Wetland area

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### ABSTRACT

Based on the results of community diagnosis in Aluh-Aluh Besar village at neighborhood level, it was found that the main problem priority was hypertension. Hypertension is a non-communicable disease which is a public health problem and characterized by an increase in a person's blood pressure. This condition can lead to various health complications that endanger lives and increase the risk of heart disease, stroke and even death. But in reality, there are still many people, especially those in the Aluh-Aluh Besar village at neighborhood level who do not yet understand about hypertension and its prevention efforts. Therefore, it is necessary to increase knowledge, attitudes and behavior through community empowerment to prevent and control hypertension in the community. Activities carried out in the form of providing information and education about hypertension online using the WhatsApp Group. The instruments used were electronic-based health promotion media and evaluation sheets using Google Form. The results of the evaluation of the activities indicated that there was a change in the knowledge, attitudes and behavior of the community regarding the prevention of hypertension. It is hoped that the community involved in this activity will know more about efforts to prevent hypertension and avoid causative factors that can aggravate the patient's condition. In addition, health officers in providing health education are expected to pay more attention to the social environmental conditions of the community.

**KEYWORDS:** Education, Hypertension, Prevention, Knowledge, Attitudes, Behavior

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## I. INTRODUCTION

Hypertension defined as a condition which systolic and diastolic blood pressure increases beyond the normal limit of a person's blood pressure<sup>[1]</sup>. A person is diagnosed with hypertension if the systolic blood pressure >140 mmHg and diastolic blood pressure >90 mmHg. The number of people with hypertension continues to increase now. In fact, this disease doesn't only affect the elder, but young people too<sup>[2]</sup>. This case can occur because the pattern or lifestyle of the community that doesn't pay attention to a healthy lifestyle<sup>[3]</sup>.

Hypertension is still one of the non-communicable disease that still occurs and be a big public health problem in various region, including Aluh-aluh Besar Village, Aluh-aluh District, Banjar Regency, South Kalimantan Province. The village of Aluh-aluh Besar has an area of 6,50 km<sup>2</sup> with a lowland landscape and located in a coastal area. Aluh-aluh Besar is the capital village of the Aluh-aluh District, with a distance of ±30 from the regency capital with a 90 minutes travel time. The locals houses are divided into two, land areas with paved roads and coastal areas where the road is only a walkway directly to the river area.

The prevalence of hypertension is estimated to increase from 26% in 2020 to 29,2% in 2025<sup>[4]</sup>. Hypertension is one of the main public health problem, because hypertension is known as the silent killer which is often no realized by the patient. Hypertension can also cause complications in the form of stroke, kidney failure, and coronary heart disease<sup>[5]</sup>.

Riset Kesehatan Dasar (Riskesdas) data shows an increase in the prevalence of hypertension in Indonesia. Riskesdas 2013 data showed that there had been an increase in hypertension. In 2007, the number of hypertension patient reached 7,6%, then it became 9,5% in 2013. Based on data from Riskesdas 2013, South Kalimantan Province is the highest province in Kalimantan region in hypertension case. The prevalence of hypertension in South Kalimantan has decreased in 2013. In 2007, the prevalence was 31,7% to 30,8%, but increased again in 2018 to 44,1%<sup>[7]</sup>.

Based on data of Health Profile of Banjar District (2017), the number of hypertension patients in Banjar Regency in 2017 reached 31,544 cases<sup>[8]</sup>. The hypertension patients from Aluh-Aluh Besar village at neighborhood level, which was obtained by the group was 30 people. However, this could be more than what has been recorded, considering that there are still residents who haven't been asked for their data.

The people in South Kalimantan like salty foods. They often eat the food in large quantities and portions. This case also occurs to the villagers in the

Aluh-aluh Besar Village, because the area has a coast where there's also a lot of consumption of salty food such as dried fish. This case supported by the profession of some villagers who are fishermen<sup>[9]</sup>.

Lack of awareness regarding the application of healthy lifestyle and the danger of hypertension will result in the incidence of hypertension and its complications. Therefore, an activity is needed to give health promotion and provide health, communication, information, and education about hypertension to the public to foster a sense of awareness of the importance of health and hypertension. This has to be done because hypertension itself can be fatal and cause complications in society. Therefore, it is necessary to have efforts to increase knowledge, attitudes, and behavior through community empowerment to prevent and control hypertension in the community that is currently occurring on the Aluh-Aluh Besar village at neighborhood level by online.

## II. MATERIALS AND METHODS

Planning is a process or plan making that will be used to reach goals<sup>[10]</sup>. Planning defined as a process or a management function in estimating the needs of the group in the future. In the actuation, our team perceive various limitations<sup>[11]</sup>. Therefore, with our planning, we hoped that the activities we made up will be effective and efficient.

The form of planning that carried out in programmes is conducting advocacy with the village chief, neighborhood association chief, and the local community leader to build an atmosphere and invite the villagers to willing and participate in the program. The preparation and planning stages are carried out by formulating methods and materials that will be presented for educational activities. After the planning and preparations were completed, our team continued the implementation stage, namely online community empowerment through the WhatsApp group.

The aim of the community empowerment activities are to increase knowledge, attitudes and behavior in preventing and controlling hypertension in the community. Activities carried out in the form of providing education about hypertension online using WhatsApp Group to the public such as community leaders and community of Aluh-Aluh Besar village at neighborhood level. Educational materials were distributed in the form of videos, posters and booklet about hypertension given by our team. The instruments used to evaluate were electronic-based health promotion media and evaluation sheets using a questionnaire on Google Form.

Data analysis was carried out descriptively to fill out a questionnaire filled out by extension participants. After the questionnaire examination was carried out, the next step was to lever the data, recap the data, analyze the data and compile the team activity reports.

### III. RESULT

The result of the evaluation on the knowledge variable about hypertension after group has given the intervention to the population in Aluh-Aluh Besar village at neighborhood level, it was found that there was no average difference between before and after the intervention given.

**Table 1. Knowledge Questionere Evaluation**

Questionnaire	Percentage
The other nam of hypertension is high blood pressure	88,9%
Hypertension cause heart failure	77,8%
Hypertension cause heart stroke	88,9%
Hipertension patient doesn't need any medicine	100%
Overweight cause hypertension	44,4%
Patient can smoke, if the symptoms gone	77,8%
Smoke and alcohol trigger hypertension	88,9%
Eat fatty food with control can prevent hypertension	100%
Salty food doesn't affect the blood pressure	77,8%
Exercise can prevent hypertension	100%

Based on the results of the analysis, it is known that the community already has good knowledge (100%), especially about the therapy and treatment of hypertension patient, efforts to prevent hypertension from the aspect of consumption patterns avoiding fatty foods, and the importance of physical activity for sufferers through exercise activities.

The result of the evaluation on the attitude variable about hypertension after group has give the intervention to the population in Aluh-Aluh Besar village at neighborhood level, it was found that there was difference between before and after the intervention given.

**Table 2. Attitude Questionnaire Evaluation**

Questionnaire	Percentage
Hypertension patient must check their blood pressure regularly	100%
Lack of rest increase blood pressure	100%
Not get any treatment while head still dizzy even when had enough rest	88,9%
Sleep over exercise	88,8%
Eat meat/ with coconut milk will increase blood pressure	44,4%
Always follow education activities about hypertension	100%
Hypertension patient doesn't need to avoid salt	66,7%
Get checked out if the neck feels happy for a long time	100%
Take vitamins, so don't need to exercise	100%
The increase of blood pressure isn't dangerous	88,9%

Based on the results of the analysis, it is known that the community already has a good attitude (100%), especially understanding about hypertension prevention and therapy tips, such as efforts to carry out physical activity, check blood pressure, participate in counseling activities, take adequate rest, and reduce consumption of foods that can cause hypertension.

The result of the evaluation on the behavior variable about hypertension after group has give the intervention to the population in Aluh-Aluh Besar village at neighborhood level, it was found that there was no average difference between before and after the intervention given.

**Table 3. Behavior questionnaire Evaluation.**

Questionnaire	Percentage
Controlling blood pressure while feeling the symptoms of hypertension	88,9%
Doesn't control emotions when angry	66,7%
Controlling blood pressure regularly	88,9%
Keep taking medicines, even though the symptoms are gone	77,8%
Always controlling body weight	88,9%
Aavoid alcoholic drink	88,9%
Take a break, even when the tasks pile up	88,9%
Eat high cholesterol food	66,7%
Doesn't reduce salt/salty food consumption	66,7%
Avoid smoking	55,6%

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Based on the results of the analysis, it is known that the community already has good behavior (88,9%), especially about hypertension control measures including control and checking blood pressure if you feel symptoms of hypertension, exercising regularly, controlling body weight, avoiding alcohol consumption, and taking good rest. sufficient to reduce the risk of a rise in blood pressure.

#### IV. DISCUSSION

##### *a) The evaluation on the knowledge variable about hypertension after group has given the intervention*

According to table 1 the community already has good knowledge (100%). This is relevant with the research conducted by Wijaya et al (2020) that efforts to prevent hypertension can be done by avoiding fatty foods (a balanced diet for people with hypertension), because managing a diet is highly recommended for people with hypertension to avoid and limit foods that can increase levels. blood cholesterol and increase blood pressure<sup>[12]</sup>. The research conducted by the team is also relevant with the research of Rihiantoro and Widodo (2017), that hypertension can be prevented by doing physical activities. This can happen because by doing physical activity, the heart rate tends to be normal because the heart does not need to work hard so that the pressure on the artery walls is not too large which makes blood pressure not increase significantly<sup>[13]</sup>.

Meanwhile, the community still misunderstand (55.6%) about the factors that cause hypertension, especially in conditions of obesity and overweight and consume salty foods. Most of the people only know that the causes of hypertension are due to the lack of physical activity and consumption of alcohol and smoking.

This is relevant with the research conducted by Papatungan et al (2020) which states that public knowledge is low because of the factors that cause hypertension, one of which is influenced by a person's nutritional status<sup>[14]</sup>. In another study conducted by Hamzah et al (2021), the culture of consuming salty foods has an effect on the incidence of hypertension<sup>[15]</sup>.

This is relevant with the research conducted by Sunarmi (2019) which states that there is no significant effect between knowledge before and after health education is given about hypertension diet by the culture of people who like to consume salty foods<sup>[16]</sup>.

##### *b) The evaluation on the attitude variable about hypertension after group has give the intervention*

According to table 2 community already has a good attitude (100%). This is relevant with the

research of Zaenurrohmah and Rachmayanti (2017), that regular blood pressure measurements can be considered as a control measure, because they can detect an increased blood pressure early<sup>[17]</sup>. Ainiyah and Wijayanti's research (2019) states that the existence of counseling provided by the health center and related parties can be a promotional and preventive step against hypertension<sup>[18]</sup>. This study is also relevant with the research of Salman et al (2018), that there is a relationship between rest patterns and the incidence of hypertension because short sleep duration can increase sympathetic nervous system activity and stimulate stress, which in turn can lead to hypertension. Emotional changes such as impatience, irritability, stress, fatigue, and pessimism caused by lack of sleep duration can increase the risk of increased blood pressure<sup>[19]</sup>.

Meanwhile, people still have less attitudes (55.6%) about the dangers/complications of hypertension. Most of the people only know that hypertension will only cause a stroke. This is relevant with research conducted by Abdu (2018) which states that the attitude of individuals who are less aware of the complications of hypertension, one of which is influenced by individual knowledge. In its implementation, health behavior does not occur automatically because it requires several factors, namely knowledge, attitudes, predisposing factors, supporting factors that are manifested in the physical environment and the availability of health facilities, which are needed<sup>[20]</sup>.

##### *c) The evaluation on the behavior variable about hypertension after group has give the intervention*

According to table 3 the community already has good behavior (88,9%). This is relevant with research conducted by Zaenurrohmah (2017) that routinely measuring blood pressure is an important step to maintain blood pressure. This is because high blood pressure and prehypertension often occur without symptoms. Checking blood pressure regularly is a way to make sure there is high blood pressure or not<sup>[17]</sup>. Increased blood pressure that lasts for a long time (persistent) can cause damage to the kidneys (kidney failure), heart (coronary heart disease) and brain (causing stroke) if not detected early and received adequate treatment. So the need to check blood pressure regularly. In addition, maintaining body weight and regular physical activity can also reduce the risk of an increase in blood pressure.

Meanwhile, people still have less hypertension management behavior (33.3%) regarding the behavior of consuming foods that cause hypertension, especially foods that contain high cholesterol, such as red meat, fried foods, and offal. Most of the people only know that the causes of hypertension are due to the lack of physical activity and consumption of



alcohol and smoking. This is known because people do not know what foods are prohibited for people with hypertension.

This is relevant with research conducted by Diah Sulastri (2020) which states that hypertension management behavior in low society is related to factors that cause hypertension, one of which is influenced by the consumption of hypertension-triggering foods that contain high fat and cholesterol<sup>[21]</sup>. In another study conducted by Heni (2017) states that the habit of consuming foods containing high cholesterol has a major effect on the increase in blood pressure<sup>[22]</sup>.

This condition can be caused by a lack of focus and attention from the community at the time of education. Even though behavior is based on positive knowledge and attitudes, this behavior will be positive and lasting<sup>[23]</sup>. In addition, according to Dewi (2010) in Hepilita (2019) which explains the Theory and Measurement of Knowledge, Attitudes, and Human Behavior, the three things are related to each other, good attitudes and behavior must be based on good knowledge as well <sup>[24]</sup>.

## V. CONCLUSION

The knowledge, attitudes and behavior of the community regarding the prevention of hypertension are good enough due to the provision of education on prevention of hypertension, and the people involved in this activity become more aware of efforts to prevent hypertension so that it can be applied to everyday life. The community should increase knowledge about health regarding hypertension through being active and attending education about the importance of preventing and routine blood pressure checks to keep it normal, as well as health problems that occur in Aluh-Aluh Besar village at neighborhood level, especially activities carried out by team and Puskesmas. The community is expected to pay more attention to clean and healthy living habits in order to create a better health degree. Health workers are also expected to provide education related to complications and factors that cause hypertension, which emphasizes nutritional status and consumption of salty foods.

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