

# Tension House Program and Anti-Hypertension Gymnastics in an Attempt to Resolve Hypertension (RT 011 Wonorejo Village)

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Hypertension is one of the non-communicable diseases that is the most common cause of death and the number of sufferers is still increasing every year. Hypertension patients are found in various regions, including Wonorejo Village, Satui Subdistrict, Tanah Bumbu Regency. Based on the survey results, it was found that the number of hypertension sufferers in Wonorejo RT.011 was 23.4%. After getting this health problem, a program was formed to deal with people with hypertension. The programs are tension house and anti-hypertension gymnastics. The purpose of this program is to deal with hypertension problems and prevent additional cases. At the beginning of the tension house activity, counseling was conducted regarding hypertension. During counseling, residents were also given *pretest* and *posttest* sheets to measure their knowledge before and after counseling. After the counseling, the home tensi was carried out by anti-hypertension cadres. Anti-hypertension gymnastics activities were carried out by cadres and student groups with participants from RT 011 villagers.

**Keywords:** hypertension, physical activity, cadres, community empowerment.

## I. INTRODUCTION

Non-communicable diseases are diseases that do not cause symptoms and do not cause complaints for the sufferer, making it difficult to detect (Fuadah & Rahayu, 2018). The prevalence and mortality rates of non-communicable diseases are increasing in Indonesia. This makes non-communicable diseases an important issue that requires support to prevent and control the disease. The importance of maintaining health to prevent non-communicable diseases is because the cause of non-communicable diseases is not only one like infectious diseases. It is necessary to control risk factors so that a person can reduce their risk of developing a non-communicable disease (Putri et al., 2019). The main risk factors that contribute to non-communicable diseases include unhealthy diet, lack of physical activity, tobacco use, and alcohol abuse. Therefore, most of these diseases are preventable as they eventually develop early in life due to lifestyle aspects (Budreviciute et al., 2020). One of the non-communicable diseases that are commonly found in Indonesia is hypertension.

Hypertension is a condition experienced by a person when their blood pressure is chronically elevated for systolic pressure  $\geq 140$  mmHg and diastolic pressure  $\geq 90$  mmHg (Maulidah et al., 2022). Hypertension is often classified into primary hypertension and secondary hypertension, based on presence or absence of an identifiable cause (Sihotang et al., 2020). Hypertension is a degenerative disease that is commonly found in the elderly (Lusiyana, 2020). Hypertensive disease is often experienced without specific symptoms when it occurs. Its appearance, which has no specific symptoms, makes hypertension a silent killer. This situation can endanger sufferers who are not aware of their condition, because they do not take antihypertensive drug regularly. A person suffering from hypertension has a risk of suffering from other degenerative diseases, especially when they do not regularly take antihypertensive drugs. Examples of degenerative diseases include coronary heart disease, myocardial infarction, congestive heart failure, and kidney disease (Nurhidayati et al., 2018).

The emergence of hypertension, which has no specific symptoms, has led to a high number of cases in various countries in the world. According to WHO, the highest global prevalence of hypertension is occupied by Africa with a percentage of 27%, while according to the Indonesian Ministry of Health in 2019, Southeast Asia occupied the third position with a prevalence percentage of 25% of the total population. The number of people with hypertension tends to increase every year. The prevalence rate of hypertension in Indonesia increased to 34.1% previously in 2013, the prevalence was 25.8%. North Sulawesi Province ranked first with the largest percentage of hypertension in Indonesia, at 13.21%. South Kalimantan Province has a percentage of 9.98% (Kementrian Kesehatan

Republik Indonesia, n.d.).

Satui district is one of the sub-districts in Kabupaten Tanah Bumbu. There are a total of 12 sub-districts in Tanah Bumbu Regency, with 5 villages and 144 villages, one of which is Wonorejo Village. The population of Wonorejo Village in 2019 was 3,078 people with 1,552 male residents and 1,526 female residents. Many of the local people work as employees, both private and state-owned enterprises. However, not a few people take advantage of the surrounding land conditions and make many people also work as farmers. Many of the farms in Wonorejo Village are oil palm and rubber plantations. The habit that residents do when working is smoking. This behavior still cannot be separated from some individuals. The number of smokers in RT.011 is 9 out of a total of 47 respondents.

Based on the results of a survey conducted in RT.011 Wonorejo Village, the results obtained through primary data collection in February 2022, that 11 respondents (23.4%) out of a total of 47 respondents. The condition of residents knows that they suffer from hypertension, but there are no people who diligently consume antihypertensive drugs. The factors that cause some of these residents to suffer from hypertension are heredity, smoking behavior, lack of activity, and intake that does not pay attention to nutritional content.

Based on the background of the problems previously described, it is necessary to carry out interventions in the form of tension house and anti-hypertension exercises aimed at reducing hypertension cases in RT.011 Wonorejo Village. Tension house is carried out with the aim of monitoring the blood pressure of residents of RT.011 Wonorejo Village, so that when there are residents who have blood pressure above the average it can be followed up by the local village midwife and also other health workers. The purpose of anti-hypertension gymnastics is for residents to carry out physical activity because of the low frequency of physical activity of local residents.

## II. IDENTIFY, RESEARCH AND COLLECT IDEA

Community service activities carried out in RT.011 Wonorejo Village, Satui District, Tanah Bumbu Regency began in July-August 2022. Based on the problems that have been found previously, the purpose of this activity is to reduce the number of people with hypertension and keep the blood pressure of residents in normal numbers. The program carried out in the form of counseling and tension house and anti-hypertension exercises. The target of this activity is the entire community of RT.011 Wonorejo Village, the activity is carried out in the courtyard of the mushalla in the local area. The following are details of community service activities carried out in RT.011 Wonorejo Village:

### 1. Cadre Formation and Training

The first activity carried out was the formation of cadres, because in RT.011 itself does not yet have health cadres. Cadres are an extension of the facilitator, formed to bridge the health program from the facilitator with the aim that in the future the program can continue to be implemented and the program objectives can be achieved (Lusiyana, 2020). In line with research conducted by Selfia, et al (2021), it is necessary to form and train cadres in order to increase cadres' knowledge about how to prevent and overcome hypertension. The existence of cadres is expected to help the community to pay more attention to the symptoms that appear on themselves. The existence of cadres can also help health workers to follow up on people who have hypertension. Then, the formation of cadres was carried out on July 28, 2022. The selected cadres are residents who have the knowledge and ability to use a tensimeter, read the results, and interpret them. Furthermore, two residents of RT.011 were determined to be capable of becoming anti-hypertension cadres.

### 2. Hypertension Counseling and Tension house 1

According to Nelwan's research in 2019 shows that the action of providing counseling (health promotion) is effective in increasing the level of community knowledge. Counseling related to hypertension was held on July 29, 2022. The material was delivered by student groups using lecture and discussion methods. The lecture method was chosen considering that the participants came from diverse backgrounds. The advantages of this method are that the activity committee and extension workers can easily master the activities and participants, the number of participants present can be done in large numbers, preparation and implementation are relatively easy, economical enough to convey information, and the most effective in overcoming the lack of understanding of counseling participants (Asli et al., 2019). In a study conducted by Maghfira A., et al (2019) many participants liked the lecture method and experienced a significant change in scores for the questionnaire, for the better.

Before the presentation of the material, residents first fill out a *pretest* so that their basic knowledge can be measured. Furthermore, the material presented at the counseling is certainly related to hypertension, starting from the definition, to hypertension prevention. After the presentation of the material, a discussion session was opened so that residents could ask questions related to hypertension. After all the questions were answered, the residents were again given a *posttest* so that their understanding could be known after the counseling. The last, a tension house 1 activity was carried out, which aims to measure the blood pressure of residents.



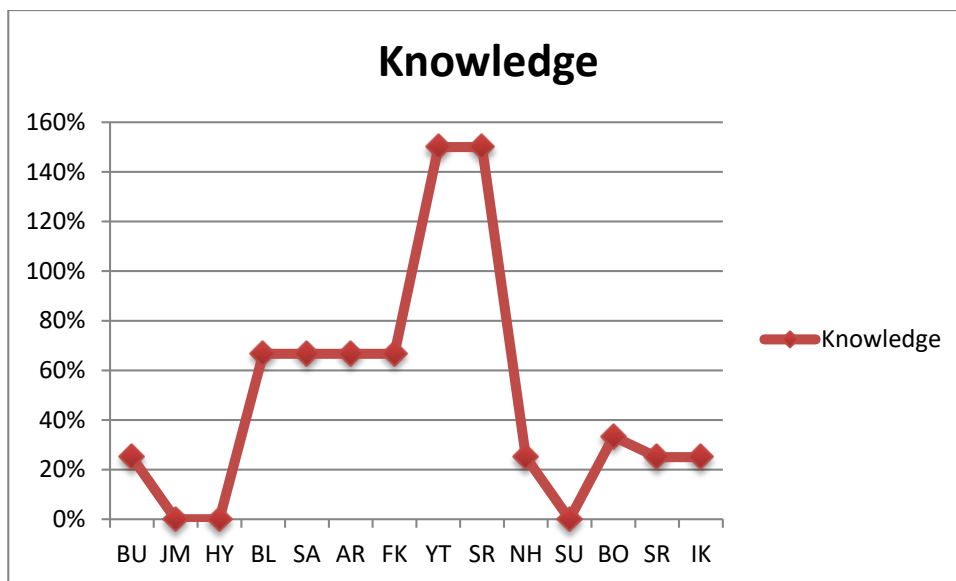
**Figure 1** Hypertension Counseling

### 3. Anti-hypertension Gymnastics

According to Sakinah's research in 2022 hypertension can be prevented by reducing risk factors for hypertension. Hypertension sufferers must also be aware of lifestyle by changing lifestyle with anti-hypertension exercises to improve health (Sakinah et al., 2022). If you do this anti-hypertension gymnastics physical activity regularly and continuously, then blood pressure will stabilize in the normal category and blood vessels will be more elastic. The mechanism of lowering blood pressure after exercise is because exercise can relax the blood vessels. So that with the widening of blood vessels, blood pressure will drop (Anggraeni et al., 2022). Gymnastics activities were carried out on August 9, 2022, with the aim of inviting residents to move actively to meet daily physical activity needs. The benefits of fulfilling daily physical activity are adequate oxygen in the blood and avoiding several health problems (Siregar et al., 2020). According to the results of research conducted by Sumah (2019), it is proven that the implementation of gymnastic activities can have a significant effect on the amount of blood pressure. Anti-hypertensive gymnastics is more influential than several other factors studied such as knowledge, age, low salt diet, smoking habits, and alcohol consumption. There were 16 participants who attended the gymnastics activity. The exercise was led by a group of students and RT.011 cadres. Residents who attended the gymnastics activities were quite active in following the movements that had been practiced.

### III. WRITE DOWN YOUR STUDIES AND FINDINGS

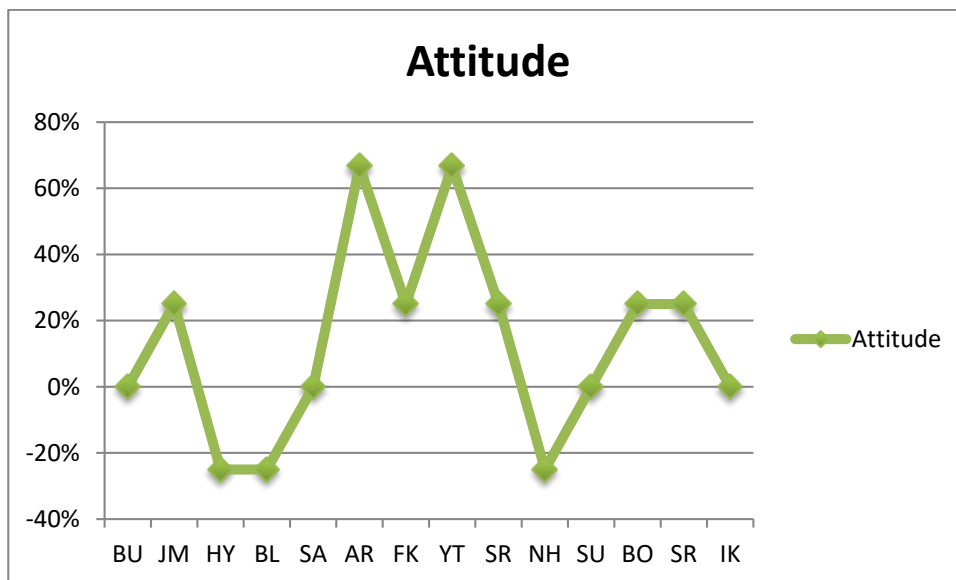
During counseling activities, residents are given a *pretest* and *posttest* with the aim of knowing the difference in residents' knowledge before and after the provision of material related to hypertension. Residents get 10 questions each with a processing time of 10 minutes for the *pretest* and *posttest*. The questions consist of knowledge and attitude aspects. In the knowledge aspect, there are 2 questions and for the attitude aspect there is 1 question that is still wrongly answered by residents. Based on the results of the *pretest* and *posttest*, residents experienced an increase in matters related to hypertension. There was a 40% increase in understanding in the knowledge aspect. In the attitude aspect, there was an increase of 11%. This increase is expected to make residents take better care of themselves so as not to get hypertension.



**Figure 2** Graph of Knowledge Questionnaire Results for Residents of RT.011 Wonorejo Village

Based on the graph, the percentage change in residents' knowledge can be seen. After being given exposure to material related to hypertension, residents gradually understand and can fill out questionnaires with the right answers. The minimum score that must be achieved by residents is 80, if residents get a score less than that it will be considered deficient. The graph above shows that there were 3 residents who did not change their score. Among the 3 residents who did not change their score, there was one resident who scored below the minimum score in both the *pretest* and *posttest*. There were also residents who experienced significant changes in their scores, reaching a change value of 150%.

Before the presentation of the material, there were still some residents who incorrectly answered the questions on the questionnaire. There were 7 people (50%) who still incorrectly answered questions related to the definition of hypertension and examples of risk factors originating from individuals for hypertension. It can be seen that there are still many residents who do not fully understand the definition of hypertension. Therefore, it is necessary to provide additional information for residents related to hypertension, especially the limits of normal blood pressure. When future residents receive frequent exposure to information related to hypertension, they understand more and can slowly change their attitudes. Changes in attitude that occur over time can become changes in behavior. Behavior change is based on the provision of knowledge until awareness arises in the individual. Then they will behave according to his knowledge. This is mentioned by Notoadmodjo (2007)(Nurhidayah et al., 2019).



**Figure 3** Results of the Attitude Questionnaire for Residents of RT.011 Wonorejo Village

The graph above displays the percentage change in residents' knowledge regarding attitudes related to hypertension. The results showed that not all residents experienced an increase, there were 4 residents who experienced no change and 3 residents who

experienced a decrease in value. Residents who did not experience a change in results had received a score of  $\geq 80$  since the *pretest*. The attitude aspect of the questionnaire aims to see the understanding of local residents regarding examples of behavior that are at risk of hypertension. During the *pretest*, many residents made mistakes regarding smoking behavior. As many as 92% of residents still answered this question incorrectly. The question presented the relationship between smoking behavior and the incidence of hypertension. Residents answered that smoking behavior has no relationship with the incidence of hypertension. However, overall, residents have a good understanding in responding to hypertension. According to research conducted by Umbas et al in 2019, toxic chemicals in cigarettes can cause high blood pressure or hypertension. One of these toxic substances is nicotine, where nicotine can increase adrenaline which makes the heart beat faster and work harder, the frequency of heart rate increases and heart contractions increase, causing blood pressure to increase (Umbas et al., 2019). Supported with research conducted by Telaumbanua and Rahayu in 2019, smoking is a risk factor for cardiovascular disease. Therefore, people with hypertension are encouraged to quit smoking to reduce the risk of cardiovascular disease complications (Telaumbanua & Rahayu, 2020).

#### IV. CONCLUSION

The community empowerment program in RT.011 Wonorejo Village took place from July-August 2022. The activities were in the form of counseling as well as tension house and anti-hypertension exercises. The increase in residents' knowledge was seen during counseling, the media used *pretest* and *posttest* questionnaires. The percentage increase in the knowledge aspect of residents is 40% and in the attitude aspect is obtained by 11%. Furthermore, anti-hypertension gymnastics was attended by 16 residents and 2 cadres. In addition, there are also routine blood pressure measurement activities once every 2 weeks by cadres. In the future, cadres are expected to share information about hypertension and monitor residents' health conditions.

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