

PROMOTING "CERDIK" BEHAVIOR AND IMPROVING DIETARY HABITS TO REDUCE HYPERTENSION IN ELDERLY

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Abstract

Non-communicable diseases (NCDs) represent the predominant cause of mortality on a global scale, contributing to 73% of deaths within Indonesia, with 26% of these fatalities occurring among adults. Hypertension ranked as the third most prevalent cause of death following stroke and tuberculosis, continues to pose a substantial public health challenge within the Indonesian context. Within the jurisdiction of Pancasan Community Health Center, it is identified as one of the regions exhibiting the highest prevalence of hypertension, with 53 documented cases. This community service initiative was designed to tackle hypertension through health education interventions specifically aimed at the residents of RW 09, Pasir Jaya Urban Village. The program concentrated on advocating for the "CERDIK" behavioral model and enhancing the dietary practices of individuals in Pasir Jaya Urban Village suffering from hypertension. By employing pre-test and post-test questionnaires, the efficacy of health education disseminated via presentations and video materials was meticulously assessed. The findings indicated a notable enhancement in awareness regarding the prevention and management of hypertension. This intervention was effective in cultivating awareness and facilitating behavioral modifications essential for preventing non-communicable diseases, thereby improving public health outcomes, particularly among the elderly demographic.

Keywords: Cerdik, Dietary Habits, Elderly, Hypertension, NCDs

INTRODUCTION

Non-communicable diseases have become the leading cause of death worldwide. Based on data from the World Health Organization (WHO), it was reported that in 2016, 40 million people worldwide suffered from non-communicable diseases. Non-communicable diseases contribute to 73% of deaths in Indonesia, with 26% occurring in adults. One of the non-communicable diseases in Indonesia is hypertension (Hamzah et al., 2021).

Hypertension is a disease that causes the third highest number of deaths after stroke and tuberculosis, with a Proportional Mortality Rate of 6.7%. The issue of hypertension in Indonesia remains a concern because, based on the Basic Health Research (Riskesmas) data from 2013,

the prevalence of hypertension is relatively high at 25.8% (Riset Kesehatan Dasar, 2013). Meanwhile, data from the National Health Indicator Survey (Sirkesnas) in 2016 showed an increase in the prevalence of hypertension among the population aged 18 years and older to 32.4% (Balitbangkes, 2016).

Deaths caused by non-communicable diseases (NCDs) are expected to continue increasing worldwide, with the highest rates occurring in middle- and low-income countries. The increase in the incidence of NCDs can also reduce human resource productivity and the quality of the nation's future generations. This also impacts the burden on the government due to the high handling costs (Hamzah et al., 2021).

Based on the Pancasan Community Health Center profile survey in 2020, Hypertension is one of the priority issues among non-communicable diseases and is included in the top 10 outpatient diseases at the Pancasan Pancasan Community Health Center. Pasir Jaya Urban Village, which is one of the highest RW areas with hypertension cases in the Pancasan Community Health Center working area, recorded 53 cases. Based on the results of the problem identification in Pasir Jaya Urban Village, it show that 73.6% of residents have a high-salt diet and 32.1% have a high-fat diet. Nutrition education has proven to be significant in improving the understanding of dietary guidelines among hypertension sufferers, especially the DASH diet, which emphasizes a pattern of low sodium, high potassium, and fiber intake. The increase in knowledge is positively correlated with diet adherence and better health conditions (Larasati & Yulian, 2024).

Based on the results of the problem identification, a health education program was conducted through health counseling regarding CERDIK behavior and dietary improvements for hypertension patients. The activity was conducted with the aim of increasing knowledge and understanding related to CERDIK behavior and improving eating habits among hypertension patients. The media used in this activity included PPT and videos.

IMPLEMENTATION METHOD

The program intervention model is carried out through promotive and preventive efforts to increase the awareness, knowledge, willingness, and ability of the target group to improve health and further support behavior and dietary habit changes that contribute to reducing cases and managing hypertension in the elderly. The target of this program is the elderly and their caregivers in RW 09, Pasir Jaya Urban Village. The activity was carried out on November 22, 2021, at the Al-Muhibbin Mushola RW 09. The program was carried out in two stages, namely:

1. Survey related to genetics (family history of hypertension), eating habits, smoking behavior, physical activity, and participation in posbindu activities. This survey is conducted to identify baseline conditions, evaluate the effectiveness of counseling, and understand community needs.
2. Direct education/counseling to the target audience through materials presented with PPT and video. The material presented includes CERDIK education (Regular health check-ups, Avoiding cigarette smoke, Regular physical activity, Healthy and balanced diet, Sufficient rest, and Stress management).

The instruments used in this activity include a survey questionnaire on the condition of the elderly and a pre-post test questionnaire to measure the increase in target knowledge. The follow-up to monitor the success of the program is carried out through monitoring and evaluation by observing eating habits via a WhatsApp group to review the program's target food menus sent over a week.

RESULTS AND DISCUSSION

The health counseling program was attended by 23 people, residents who attended not only patients with hypertension but also accompanying family members. The method applied in this activity is a lecture held in the room with a communication and education approach regarding CERDIK behavior and diet in hypertension.



Figure 1. Implementation of Educational Activities

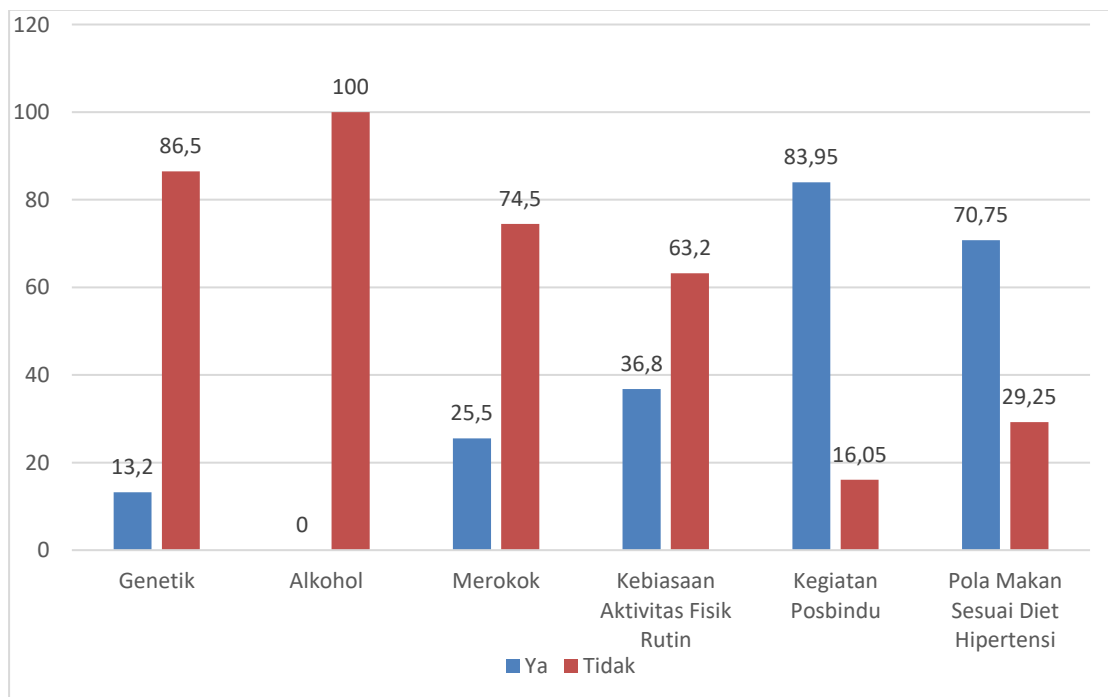


Figure 2. Elderly Condition Survey Results

Family History of Hypertension

The survey results in Figure 1 show that 13.3% of respondents have a family history of hypertension. Individuals with a family history of hypertension are at a higher risk, up to four times more, in the population, especially in developed countries, with grandparents having the greatest frequency (KC et al., 2023).

Smoking Habit

Respondents with a smoking habit accounted for 25.5%. Individuals with a smoking habit show a higher susceptibility to the onset of hypertension compared to those who do not smoke. Smoking stimulates the sympathetic nervous system to trigger an increase in heart rate and constriction of blood vessel structures. Additionally, the factor of exposure to cigarette smoke can also induce oxidative stress, which can cause damage to endothelial cells and disrupt vascular function, further leading to increased peripheral retention that exacerbates hypertensive conditions (Jareebi, 2024). Exposure to cigarette smoke is also correlated with a 14% increase in the likelihood of hypertension, especially when associated with active smokers (Cao et al., 2024).

Physical Activity

The respondents' physical activity habits are still low, as indicated by the survey results, where the majority (63.2%) of respondents do not engage in physical activity/exercise regularly at least 3 times a week. Physical activity plays an important role in the management of hypertension, especially in the elderly. The consistency of physical activity habits correlates with a decrease in systolic and diastolic blood pressure. Empirical studies show that low to moderate-intensity aerobic exercises, such as walking and cycling, can effectively reduce blood pressure levels in the elderly with hypertension (Sikone et al., 2024). A meta-analysis study conducted through 3 articles shows that physical activity can reduce systolic blood pressure by

0.96 times more compared to other interventions or no intervention and 0.20 times more for diastolic blood pressure compared to other interventions or no intervention (Addini et al., 2023). Regular physical activity not only helps in regulating blood pressure but also improves overall cardiovascular function, which is very important for elderly individuals prone to hypertension-related complications.

Participation in Posbindu

The survey of respondents' participation in Posbindu activities shows that the majority of respondents actively participate in Posbindu activities (83.95%). Programs specifically designed for the elderly population in Indonesia, such as the Integrated Elderly Health Service Post (Posyandu Lansia) or Posbindu, play an important role in improving accessibility to health services. This program provides free blood pressure check-ups and health education that are very beneficial for the elderly. The program is oriented towards efforts to enhance the knowledge and engagement of elderly individuals to foster an environment that supports their health. A cross-sectional study that has been conducted shows that individuals who access Posbindu have a higher chance of having better knowledge related to hypertension (Mashuri et al., 2024).

Eating Habits

The respondents' eating habits based on the survey results are quite good, with only 29.25% of respondents not following a diet suitable for hypertension. In the detailed analysis of the dietary questionnaire, it was found that 73.6% of respondents had a habit of consuming salty foods (such as salted fish, salted eggs, or foods that are processed with more salt and contain a lot of salt, etc.), and 67.9% had a habit of consuming saturated fats such as meat, offal, chicken, eggs, and whole milk.

The results of research conducted on the elderly in the Prolanis program at Puskesmas Jarak Kulon show that there is a correlation between a fat-sodium diet and hypertension (Heryanti et al., 2024). A high-sodium diet and increased blood pressure are conditions that correlate with several factors such as fluid retention, which causes high blood flow in the arteries. In addition, it is related to increased systemic peripheral retention, changes in endothelial function and arterial structure, changes in sympathetic activity, and modulation of autonomic neurons in the cardiovascular system (Grillo et al., 2019). A high-fat diet can also cause an increase in blood pressure through mechanisms involving calcium channels in the smooth muscle of blood vessels, vascular retention, and high blood pressure (Wilde et al., 2000).

Impact of Intervention

The result of this hypertension counseling program is an increase in knowledge in the elderly as seen from the results of the pre-test and post-test. The correlation between counseling and increasing knowledge is extensively substantiated across multiple disciplines, especially within the realms of health education and behavioral modification. Previous research conducted on the elderly showed an increase in knowledge about the prevention of non-communicable diseases through clever education, with a difference in the average knowledge scores between

the pre-test and post-test. Another study also showed similar results regarding the effectiveness of educational activities for the elderly in preventing non-communicable diseases, indicating that there was an increase in knowledge among the elderly after the DASH diet education intervention with a p-value of 0.000 (Gusty, 2023).

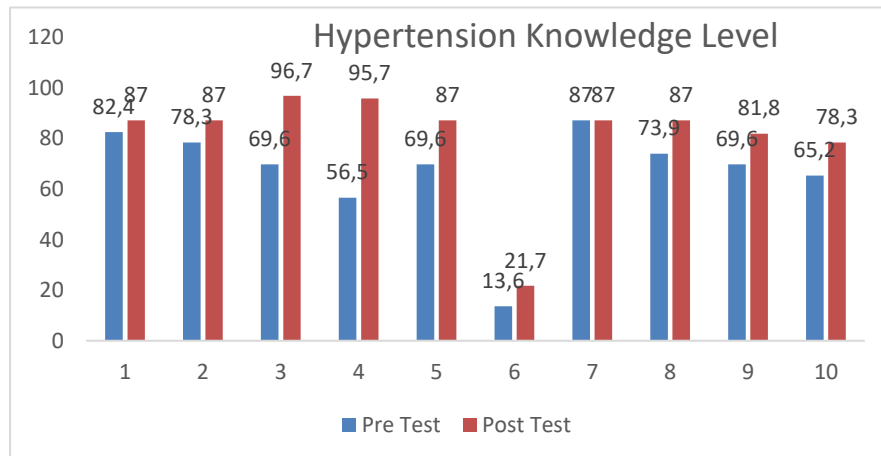


Figure 3. Hypertension Knowledge Level Based on Pre and Post-Test Results

Based on the results of monitoring and evaluation, the achievement of the program's success indicators shows that out of the total participants, there were 23 respondents, 10 respondents experienced changes in food selection and processing, and 13 others have not yet experienced changes towards a healthy diet. Therefore, pocketbooks were provided to improve dietary habits.

CONCLUSION

The high prevalence of hypertension in the Pancasan Community Health Center work area indicates the need for intervention to reduce the number of hypertension cases, especially in the elderly. One intervention that can be done is to implement a health education program on CERDIK behavior and improving dietary habits in hypertension sufferers to increase knowledge and understanding which is then expected to create better behavioral changes. The results of the pre-test and post-test questionnaires after the program implementation showed an increase in participants' knowledge and attitudes regarding the prevention of hypertension. Based on these results, it can be concluded that this program is running well and can achieve the expected success indicators.

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