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## IMPROVING FARMERS' HEALTH THROUGH EDUCATION AND EARLY DETECTION OF NON-COMMUNICABLE DISEASES IN CIOYOD VILLAGE, BAYONGBONG, GARUT

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### ABSTRACT

Farmers are a community group that is vulnerable to non-communicable diseases (NCDs) due to heavy physical work, environmental exposure, and low literacy and access to health services. Non-communicable diseases often develop without early symptoms, so many cases are not detected early on. This activity aims to improve the health status of farmers through health education and early detection of non-communicable diseases in Kampung Cioyod, Bayongbong District, Garut Regency. The implementation method uses a promotive and preventive approach based on community empowerment, which includes the stages of preparation, health education, early detection of NCDs, health counseling, and monitoring and evaluation. Health education was conducted interactively to increase farmers' knowledge and awareness of risk factors, prevention, and control of NCDs. Early detection was carried out through blood pressure checks, blood sugar level tests, and body mass index measurements. The results of the activity showed an increase in farmers' knowledge and positive attitudes towards healthy living behaviors, as well as the discovery of farmers with risk factors and early indications of NCDs that were previously unknown. This activity is effective in increasing health awareness and early detection of NCDs among farmers, and has the potential to improve productivity and community welfare in a sustainable manner.

**Keywords:** Farmers; Health Education; Early Detection; Non-Communicable Diseases; Public Health

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## 1. INTRODUCTION

Farmers are a community group that plays a strategic role in supporting national food security while also sustaining the regional economy, especially in rural areas (Agustina & Andriani, 2023). However, despite this important role, farmers are a group that is vulnerable to various health problems (Darmiati, 2020). Work activities that require high physical exertion, long working hours, continuous exposure to sunlight, and working conditions that are not conducive to health are the main risk factors for the emergence of various health disorders. In addition, limited access to health services and low health literacy means that health problems among farmers often go undetected and are not treated optimally (Susanto, 2021).

One of the health issues that is currently a serious concern is the increasing prevalence of non-communicable diseases (NCDs), such as hypertension, diabetes mellitus, heart disease, stroke, and chronic obstructive pulmonary disease (Masyarakat et al., 2023). Non-communicable diseases are characterized by slow development, long duration, and often no symptoms in the early stages (Kodir & Margiyati, 2019). This situation causes many sufferers to only become aware of their illness when it has entered an advanced stage and requires more complex treatment and higher costs (Rohimah et al., 2020). Among farmers, the risk of NCDs is increasing due to an unbalanced diet, smoking, lack of regular physical activity outside of routine work, and a lack of regular health checkups.

Cioyod Village, Bayongbong Subdistrict, Garut Regency, is a rural area where the majority of the population works as farmers. The socio-economic characteristics of the community, which is dominated by low to medium levels of education and uncertain incomes, affect the priorities for meeting basic needs, with health often not being a primary concern. Many farmers still view health checkups as something to be done only when they are already experiencing serious complaints, so preventive measures and early detection of disease have not yet become a habit in their daily lives (Pengabdian Masyarakat et al., n.d.).

Limited knowledge about risk factors and early signs of NCDs is also a significant problem (Salham & Amalinda, 2020). Most farmers do not understand the relationship between lifestyle, dietary patterns, smoking habits, and work stress and the onset of non-communicable diseases (Perceka et al., 2022). On the other hand, access to accurate and easy-to-understand health information is still limited, both in terms of media and ongoing educational activities (Afrizal, 2020). Geographical conditions and distance to health care facilities also pose obstacles for farmers to undergo regular health checkups, especially for those who have to leave their daily work in order to obtain health services (Organization, 2022; Vijaykumar et al., 2021).

Health problems among farmers not only affect individuals, but also have broad social and economic implications (Perceka, 2018). Farmers who suffer from non-communicable diseases tend to experience a decline in work productivity, an increase in absenteeism, and a reduction in family income. In the long term, this condition can worsen the welfare of farming families and increase their dependence on other family members (Popkin & Ng, 2022). In addition, the increase in cases of NCDs that are not treated early has the potential to add to the burden on health services at the community health center and referral hospital levels (Rofiqoch, 2020).

Therefore, efforts to improve farmers' health need to be carried out comprehensively and sustainably through a promotive and preventive approach. One effective strategy is through targeted health education based on community needs. Health education is expected to increase farmers' knowledge and awareness of the importance of maintaining health, recognizing NCD risk factors, and applying healthy behaviors in their daily lives (Nugraheni & Hartono, 2018). Education that is conducted in a participatory and contextual manner will be more easily accepted and applied by the farming community (Wahyudin & Perceka, 2019).

In addition to education, early detection of noncommunicable diseases is an important step in preventing and controlling NCDs. Early detection activities, such as blood pressure checks, blood sugar levels, body mass index, and other risk factors, enable the identification of health problems at an early stage (Masitha et al., 2021). Thus, farmers can immediately obtain appropriate referrals or follow-up before the disease develops into a more severe condition. Early detection also plays a role in increasing individuals' awareness of their health conditions, thereby encouraging behavioral changes towards a healthier lifestyle (Mutia & Oktarlina, 2019).

The program to improve farmers' health through education and early detection of non-

communicable diseases in Cioyod Village, Bayongbong District, Garut Regency, is expected to have a tangible positive impact on improving the health of the farming community (Lungguh Perceka & Rusyani, 2025). This program does not only focus on curative aspects, but rather emphasizes prevention and community empowerment so that they are able to maintain and manage their health independently. With improved farmer health, it is hoped that work productivity and community welfare will also increase, thereby supporting sustainable regional health and socio-economic development (Tallo et al., 2022).

## **METHODS**

The implementation method for this activity was designed using a promotive and preventive approach based on community empowerment, involving farmers as the main subjects of the activity. This method emphasizes increasing knowledge, changing behavior, and the community's ability to independently and continuously detect non-communicable diseases (NCDs) early (Mintarsih et al., 2023). The activity was implemented in several stages as follows:

### **1. Preparation Stage**

The preparation stage is the initial step aimed at ensuring that the activity runs effectively and in accordance with the needs of the target community. Activities in this stage include:

#### **2. Coordination and Permits**

The implementation team coordinates with the village government, community leaders, farmer group leaders, and local health centers to obtain permits, support, and agreements for the implementation of activities. This coordination also aims to determine the time, location, and target participants of the activities.

#### **3. Identification of Community Problems and Needs**

Identification was carried out through focus group discussions (FGD) and brief interviews with farmers to explore common health problems, levels of knowledge about NCDs, and habits related to healthy living. The results of the identification were used as the basis for developing educational materials and early detection activities.

##### **a. Development of Educational Materials and Media**

The team developed educational materials that are simple, contextual, and easy for farmers to understand, covering an introduction to NCDs, risk factors, early signs and symptoms, prevention, and the importance of regular health checkups. The media used included leaflets, posters, and visual aids.

##### **b. Preparation of Equipment and Personnel**

Preparation includes the procurement of simple health examination equipment, such as blood pressure monitors, blood sugar testing kits, scales, and height measuring devices, as well as the division of tasks among the implementation team according to their respective competencies.

### **4. Activity Implementation Stage**

The implementation stage is the core of community service activities that actively involve farmers. Activities at this stage consist of:

#### **a. Farmer Health Education**

Health education is carried out through interactive lectures, discussions, and question and answer sessions. The educational material covers:

- b. Understanding and types of non-communicable diseases,**
- c. Risk factors for NCDs among farmers,**
- d. Healthy lifestyle (balanced diet, physical activity, adequate rest, and stress management),**
- e. The dangers of smoking and alcohol consumption,**
- f. The importance of regular health checkups and early detection of non-communicable diseases.**

Education is conducted using a participatory approach so that farmers can share their experiences and health problems, making the material easier to understand and apply in everyday life.

### **5. Early Detection of Non-Communicable Diseases**

Early detection is carried out after the education activities by involving farmers as participants in the examination. The examination includes:

- a. Blood pressure measurement for hypertension detection,**
- b. Checking blood sugar levels,**

- c. Body mass index (BMI) measurement,
- d. Brief interview regarding health history and risk factors for non-communicable diseases.

The results of the examination are recorded and communicated directly to the participant, accompanied by a simple explanation of their health condition. Participants who are identified as having risk factors or abnormal results are given further education and are advised to undergo further

examination at the nearest health facility.

#### 6. *Individual Health Counseling*

Health counseling is conducted briefly and personally for farmers who have risky examination results. Counseling aims to provide recommendations for behavioral changes, such as regulating diet, physical activity, and healthy living habits, as well as providing motivation to follow up on health examinations.

#### 7. Monitoring and Evaluation Stage

Monitoring and evaluation are conducted to assess the effectiveness and success of the activities that have been carried out. Activities at this stage include:

##### a. Participant Knowledge Assessment

The evaluation is conducted using simple pre-tests and post-tests to measure the increase in farmers' knowledge about NCDs and their prevention.

##### b. Evaluation of Early Detection Results

Health examination data was analyzed descriptively to determine the risk profile of NCDs among farmers in Kampung Cioyod.

##### c. Feedback from Participants and Stakeholders

Feedback was obtained through brief discussions with participants and village officials to determine the benefits of the activity and suggestions for improvement for future activities.

#### 8. Follow-up and Sustainability Phase

As a sustainability effort, this activity was complemented by:

- a. Recommendations for the formation of health cadres or farmer group representatives to act as health promoters,
- b. Coordination with community health centers for follow-up monitoring of farmers at risk of NCDs.
- c. Provision of educational materials as reference materials for the community.

This follow-up stage is expected to ensure the sustainability of the program and increase the independence of the farming community in maintaining health.

## RESULT AND DISCUSSION

### 1. Results

Health improvement activities for farmers through education and early detection of non-communicable diseases (NCDs) in Kampung Cioyod, Bayongbong District, Garut Regency, were carried out according to the planned stages. The target of the activity was active farmers who are members of farmer groups and the surrounding community, with the number of participants attending showing enthusiasm and good participation. The farmers' attendance at this activity reflects a real need for accessible health information and services that are appropriate to their circumstances.

#### a. *Health Education Outcomes*

The implementation of health education showed an increase in participants' understanding of non-communicable diseases (Nuraisyah et al., 2022). Based on the results of a simple pre-test and post-test evaluation, there was an increase in farmers' knowledge regarding the definition of NCDs, risk factors, early signs and symptoms, and prevention efforts through a healthy lifestyle. Before the educational activities, most participants were unable to name the types of NCDs and risk factors associated with their activities and lifestyle. After the education activity, participants began to understand the relationship between smoking habits, an unbalanced diet, lack of rest, and work stress with the emergence of NCDs.

In addition to increasing knowledge, health education also encourages participants to change their attitudes towards the importance of maintaining good health (Adekayanti et al., 2023). Farmers showed interest in adopting healthy lifestyles, such as reducing cigarette consumption, paying attention to their diet, and realizing the importance of regular health checkups. Interactive discussions during the

education sessions provided a space for participants to share their personal experiences related to common health complaints, making the material presented more relevant and contextual.

*a. Results of Early Detection of Non-Communicable Diseases*

Early detection results show that a number of farmers have risk factors and early indications of PTM. Blood pressure checks found that several participants had blood pressure above normal levels, indicating a risk of hypertension (Maliangkay et al., 2023). In addition, random blood sugar level checks showed that some participants had values above the normal range, potentially leading to a risk of diabetes mellitus. Body mass index (BMI) measurements also showed that some participants were in the overweight category (Masan et al., 2021).

These findings indicate that some farmers in Kampung Cioyod have NCD risks that they were previously unaware of. Most participants admitted that they had never undergone routine health checks and only learned about their health conditions after participating in this activity. The results of these examinations were then conveyed individually to the participants, accompanied by simple explanations and follow-up advice, including recommendations to undergo further examinations at the nearest health facility.

*b. Counseling and Follow-up Results*

Individual health counseling activities have a positive impact on increasing participants' awareness of their health conditions (Anisa et al., 2021). Farmers identified as being at risk of NCDs receive recommendations related to lifestyle changes, such as regulating their diet, increasing appropriate physical activity, and managing stress. This counseling also serves as initial motivation for farmers to be more concerned about their health and not to delay further examinations.

## 2. Discussion

The results of the activities show that education and early detection approaches are effective strategies in improving farmers' health knowledge and awareness (FV, 2020). The increase in knowledge that occurred after the educational activities is in line with the concept of health promotion that emphasizes behavioral change through increased individual understanding and awareness. Education that is delivered in a simple, interactive manner and is relevant to the context of farmers' lives has proven to be more easily accepted and understood by participants (Gayatri et al., 2022).

The finding of farmers with NCD risk factors confirms that non-communicable diseases are a real health problem in rural areas, including among farmers. This condition is reinforced by the characteristic of NCDs that often do not cause symptoms in the early stages, so that without early detection, the disease has the potential to develop into a more severe condition (Maryam et al., 2022). Therefore, early detection activities play an important role as a preventive measure to prevent complications and reduce the burden of health in the future (Putri et al., 2024).

The low frequency of routine health checkups among farmers indicates barriers to access and low priority given to health. Through this activity, farmers not only receive health checkup services, but also gain an understanding that health checkups are not only conducted when they are sick, but also as a preventive measure. This marks the beginning of a paradigm shift among farmers in viewing health as a long-term investment.

Individual counseling reinforces the results of education and early detection by providing more personalized and practical recommendations. Counseling helps participants understand simple steps they can take in their daily lives to reduce the risk of NCDs. This approach is in line with the principle of community empowerment, where individuals are encouraged to play an active role in maintaining their own health.

Overall, the results of the activities show that the program to improve farmers' health through education and early detection of NCDs in Kampung Cioyod has had a positive impact on increasing farmers' knowledge, awareness, and early detection of health problems. However, the sustainability of the program is a challenge that needs to be addressed. Support from the village government, health centers, and local health cadres is essential so that similar activities can be carried out regularly and reach more farmers.

Thus, this activity not only provides short-term benefits in the form of increased knowledge and early detection of NCDs, but also has the potential to have a long-term impact on improving the health,

productivity, and welfare of the farming community in Kampung Cioyod, Bayongbong District, Garut Regency.

#### CONCLUSION AND RECOMMENDATIONS

Farmers are a community group that is vulnerable to non-communicable diseases (NCDs) due to heavy physical work, environmental exposure, and low literacy and access to health services. Non-communicable diseases often develop without early symptoms, so many cases are not detected early on. This activity aims to improve the health status of farmers through health education and early detection of non-communicable diseases in Kampung Cioyod, Bayongbong District, Garut Regency. The implementation method uses a promotive and preventive approach based on community empowerment, which includes the stages of preparation, health education, early detection of NCDs, health counseling, and monitoring and evaluation. Health education was conducted interactively to increase farmers' knowledge and awareness of risk factors, prevention, and control of NCDs. Early detection was carried out through blood pressure checks, blood sugar level tests, and body mass index measurements. The results of the activity showed an increase in farmers' knowledge and positive attitudes towards healthy living behaviors, as well as the discovery of farmers with risk factors and early indications of NCDs that were previously unknown. This activity is effective in increasing health awareness and early detection of NCDs among farmers, and has the potential to improve productivity and community welfare in a sustainable manner.

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