

## Health check-ups as an effort for early detection of non-communicable diseases in Glidag hamlet

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### Abstract

Non-communicable diseases (NCDs) such as hypertension, diabetes mellitus, and hyperuricemia (gout) remain a major health problem in rural communities. This community service activity aims to detect early risk factors for NCDs and raise public awareness through free health checks and health education. The implementation method includes checking blood pressure, blood sugar, and uric acid levels, accompanied by providing individual outcome-based education. The activity was conducted in Glidag Hamlet, targeting women from the Aisyiyah religious study group and the Family Welfare Movement (PKK). The results showed that the majority of participants experienced hypertension and high uric acid levels, while high blood sugar levels were found in only a small number of participants. Thus, this activity not only serves as early detection but also successfully raises awareness in Glidag Hamlet regarding the importance of preventing NCDs.

**Keywords** :hypertension, hyperuricemia, diabetes mellitus, non-communicable diseases, health checks

### 1. Introduction

In Glidag Hamlet, Logandeng Village, Playen District, Gunungkidul Regency, there is a group of women studying the Aisyiyah Koran and the Family Welfare Movement (PKK) who are quite active in community activities. However, the level of awareness of conducting regular health checks is still relatively low. Therefore, this Community Service Program is aimed at health checks in the form of checking blood pressure, blood sugar levels, and uric acid levels as an effort to detect risk factors for Non-Communicable Diseases (NCDs) early and provide education on their prevention. Based on the results of the free health checks, one of the most common NCDs suffered by residents of Glidag Hamlet is hypertension and gout.

Non-communicable diseases (NCDs), also known as degenerative diseases, are a public health problem due to their high global morbidity and mortality rates. They are diseases that cannot be transmitted from one person to another.(Ministry of Health, 2022). According to World Health Organization data, Non-Communicable Diseases were the cause of 68% of deaths worldwide in 2012, and this figure continues to rise until in 2016, approximately 71% of deaths worldwide were caused by Non-Communicable Diseases (NCDs), which killed 36 million people per year. Factors that contribute to the occurrence of NCDs include uncontrollable and controllable risk factors. Uncontrollable risk factors include heredity, gender, and age. Controllable risk factors include obesity, lack of exercise or physical activity, smoking, coffee consumption, education, occupation, and diet.(Rahayu et al., 2021).

Hypertension is one of the highest prevalence of non-communicable diseases (NCDs) in Indonesia. Non-communicable diseases or Common NCDs in rural communities include hypertension and gout. Studies show that age, obesity, and high salt consumption increase the risk of hypertension in women.(Febianti et al., 2022). In addition, the prevalence of hypertension in DIY is also recorded as higher than the national figure, thus placing DIY as the province with the 4th highest prevalence of hypertension in Indonesia.(Yogyakarta Health Office, 2022) The study results show that hypertension sufferers are spread across all regencies/cities in the Special Region of Yogyakarta. Based on the number of cases, Sleman Regency is recorded as the region with the highest number of hypertension sufferers, while Gunungkidul Regency ranks highest in terms of prevalence compared to other regencies/cities. Therefore, if a priority scale for hypertension management is implemented, these two regencies should be the primary focus of intervention.(Somantri, 2022) Meanwhile, hyperuricemia is closely related to a diet high in purines, such as red meat, organ meats, processed foods, some vegetables, and nuts.(Ridhoputrie et al., 2019) Unlike hypertension and gout, high blood sugar levels are only found in a small percentage of the Glidag Hamlet community.

Efforts to prevent non-communicable diseases (NCDs), in addition to early detection, include lifestyle changes such as reducing salt and sugar consumption and increasing physical activity. Furthermore, public awareness about controlling NCD risk factors, particularly hypertension and gout, must be increased through ongoing health education and counseling.(Wijayanti & Fauzia, 2023).

Thus, the Community Service Program in Glidag Hamlet, focused on health checks, is highly relevant. This activity not only aims to detect hypertension, high blood sugar, and hyperuricemia (gout) early, but also to increase the knowledge and awareness of the Glidag Hamlet community regarding the importance of regular health checks. By involving women from the Aisyiyah religious study group and the Family Welfare Movement (PKK), this activity is expected to strengthen women's role as the primary drivers of family health, while simultaneously fostering a culture of regular health checks within the Glidag Hamlet community.

## **2. Method**

This health screening was conducted in Glidag Hamlet, Logandeng Village, Playen District, Gunung Kidul Regency, and involved two main target groups: Aisyiyah women's study group members and PKK women's groups. The health screenings were conducted at two different locations:

- Nurul Falah Mosque: Blood pressure and blood sugar levels were checked during the Aisyiyah recitation by women.
- Glidag Hamlet Hall: Blood pressure and uric acid level checks were carried out for PKK mothers.

This activity is carried out in several stages, namely:

### **2.1. Preparation Stages**

In the initial phase, coordination was conducted with the Aisyiyah religious study group and the Family Welfare Movement (PKK) to determine the schedule, location, and technical aspects of the activity. In addition, the KKN students prepared the necessary logistics and medical equipment, including a digital sphygmomanometer, a glucometer with strips, and a uric acid level tester. Initial outreach to participants was also conducted to provide information on the purpose of the activity, examination procedures, and the importance of early detection of non-communicable diseases (NCDs).



**Picture 1. Blood pressure check at Aisyiyah mothers' recitation**

## **2.2. Activity Implementation Stage**

The health check-up was carried out systematically by first registering the participants' identities. Next, participants' blood pressure was measured using a digital sphygmomanometer, and random blood sugar was measured using a glucometer for the Aisyiyah women's study group, while blood pressure and uric acid levels were measured for the PKK women's group. All test results were recorded, then summarized and analyzed. The check-ups were carried out in shifts to ensure order and participant comfort.



**Picture 2. Glucose examination in the recitation of Aisiyah mothers**

### **2.3. Educational Stage**

The educational phase is provided after the participants receive their test results, making it more personalized and relevant to each individual's condition. Participants with normal results are motivated to maintain a healthy lifestyle, while those with abnormal results receive more in-depth education on simple preventative measures such as reducing salt, sugar, saturated fat, and high-purine foods, encouraging increased fruit and vegetable consumption, and increasing regular physical activity. Furthermore, participants are emphasized the importance of regular health check-ups. This education is delivered in simple language to ensure it is easily understood by all participants.



**Picture 3. Health check-up for PKK mothers**

### **3. Results and Discussion**

The health screenings were conducted at two different locations: at the Nurul Falah Mosque for Aisyiyah women's religious study groups, where blood pressure and random blood sugar levels were checked, and at the Glidag Hamlet Hall for PKK women, where blood pressure and uric acid levels were checked. These activities were conducted in person.

In the initial observation stage, students held discussions with the Aisyiyah religious study group administrators and PKK cadres. This discussion aimed to explore health issues that frequently occur in Glidag Hamlet, as well as determine the schedule, location, and technical implementation of the activities. After conducting initial observations and discussions with the Aisyiyah religious study group administrators and PKK cadres, community service activities were formulated in the form of health checks and education related to blood pressure, blood sugar levels, and uric acid. The activity began with registering the participants' identities, then blood pressure and random blood sugar levels were checked with a glucometer for the Aisyiyah religious study group women, and uric acid levels were checked for the PKK women. After the examinations, the results were recorded individually, then education was provided based on the results obtained.

The number of participants who attended was quite enthusiastic, as evidenced by the participation of women from both the Aisyiyah group and the PKK women who came voluntarily. The results of the health checks showed that the majority of participants had blood pressure above the normal limit, so they could be categorized as having hypertension. This is in line with the 2018 Basic Health

Research data which states that the prevalence of hypertension in Indonesia is quite high, especially in the adult and elderly age groups. In addition, the results of the uric acid level checks in the PKK women's group also showed that quite a number of participants had high uric acid levels, which can be caused by a pattern of consuming foods high in purines such as red meat, offal, and processed foods. Meanwhile, random blood sugar levels tested in the Aisiyah women's group showed that only a small number of participants had results above the normal limit, so the prevalence of diabetes mellitus in this activity was relatively lower compared to hypertension and hyperuricemia (gout).

After the test results are obtained, participants will receive direct education based on their individual test results. Participants with normal results will be encouraged to maintain a healthy diet and lifestyle, while those with abnormal results will receive direct education on limiting their intake of salt, sugar, and foods high in purines such as red meat, offal, processed foods, some vegetables, nuts, and the importance of regular physical activity and regular health checks.



**Picture 4. Group photo during health check-up activities at Aisiyah recitation**



**Picture 5. Group photo during health check-up activities for PKK mothers**

#### **4. Conclusion**

A community service activity in the form of a health checkup conducted in Glidag Hamlet, Logandeng Village, Playen District, Gunung Kidul Regency, successfully attracted the active participation of women from the Aisiyah religious study group and the Family Welfare Movement (PKK). The results showed that most participants had blood pressure above normal limits, making hypertension a dominant health problem. Meanwhile, high uric acid levels were also found in quite high numbers among PKK participants, while the prevalence of high blood sugar was relatively low.

These examination results confirmed that hypertension and hyperuricemia (gout) were more common than diabetes mellitus in the Glidag Hamlet community. The education provided, based on the examination results, is expected to increase participants' understanding of the importance of early detection and risk factor management for non-communicable diseases (NCDs).

Thus, this activity not only serves as early detection, but also to increase awareness of the Glidag Hamlet community regarding a healthy lifestyle, including regulating diet, limiting consumption of salt, sugar, and foods high in purine, as well as the importance of regular physical activity and routine health checks.

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