

## Screening health examination in Sentul Geneng, Godean, Sleman, Yogyakarta

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### Abstrak

Non-communicable diseases (NCDs) such as hypertension, diabetes mellitus, and uric acid disorders are major global health issues, including in Indonesia. This community service activity conducted by KKN Group 51 students from Universitas Aisyiyah Yogyakarta aimed to identify early risks of NCDs in Dusun Sentul Geneng through blood pressure, blood glucose, and uric acid screenings. The one-day program included health education and basic health examinations involving 45 residents. Results showed that 47% of respondents had hypertension, 29% pre-hypertension, 18% elevated blood glucose levels, and 49% high uric acid levels. These findings highlight the urgent need for promotive and preventive measures to address NCD risks in the community. Community-based health interventions and multisectoral collaboration are essential to enhance awareness and promote healthy lifestyle changes, reducing the burden of NCDs in Dusun Sentul Geneng.

Keywords: non-communicable diseases, hypertension, diabetes mellitus, uric acid, early detection, community health

### 1. Introduction

Globally, non-communicable diseases (NCDs) such as hypertension, diabetes mellitus, dyslipidemia, and hyperuricemia are the leading causes of death. According to the World Health Organization (2022), NCDs are responsible for approximately 74% of deaths worldwide, with the majority occurring in developing countries. NCDs are a major health problem, not only in developing countries. They are a leading cause of death and disability, necessitating serious attention in prevention and early detection (WHO, 2022).

Most people are afraid to get screened. As a result, their risk of noncommunicable diseases (NCDs) often goes undetected or is diagnosed late, leading to serious complications. These complications could actually be minimized with timely and ongoing health screening. Furthermore, NCDs pose a significant economic and social burden (N. Gupta et al., 2023).

Non-communicable diseases such as diabetes, hypertension, and gout are increasingly becoming serious health problems in Indonesia. According to the 2018 Basic Health Research (Riskesdas), the prevalence of diabetes mellitus in Indonesia has increased compared to the 2013 Riskesdas. Based on doctordiagnosed diabetes mellitus in children aged 15 years Indonesia has increased compared to the 2013 Riskesdas. Based on doctordiagnosed diabetes mellitus in children aged 15 years and older, the 2018 Riskesdas found the prevalence of diabetes mellitus to be 2%. This figure represents an increase compared to the prevalence of diabetes mellitus in the population aged 15 years and older in the 2013 Riskesdas, which was 1.5% (Kementerian Kesehatan RI, 2020).

Data from the 2013 and 2018 Basic Health Research (Riskesdas) show that several of these diseases have experienced significant increases. For example, stroke increased from 7% to 10.9%, cancer from 1.4% to 1.8%, chronic kidney disease from 2% to 3.8%, hypertension from 25.8% to 34.1%, and diabetes mellitus from 6.9% to 8.5% (Toka et al., 2023). These diseases often arise from unhealthy modern lifestyles, such as poor diet, lack of physical activity, and high stress levels (Blandina & Tjingaisa, 2023).

The purpose of this community service is to early identify the risk of noncommunicable diseases in the residents of Sentul Geneng hamlet through blood pressure, blood sugar, and uric acid tests. Residents of Sentul Geneng hamlet will obtain information from the early examinations conducted during this community service activity. Some of the information includes blood pressure conditions, blood sugar test results, and uric acid levels. By obtaining data on blood pressure test results, it is hoped that residents of Sentul Geneng hamlet can improve habits and lifestyles that trigger abnormal

blood pressure increases and lead to hypertension. They are expected to be able to manage unhealthy diets, activities, and lifestyles. Likewise, information on blood sugar test results will provide a guide to several factors that can cause abnormal blood sugar levels. The results of uric acid test levels are also almost the same, this provides early information so that uric acid levels in residents can be controlled to normal.

Based on the results of the community service team's discussion with the head of Sentul Geneng hamlet, it was discovered that there are several health problems experienced by the Sentul Geneng hamlet community, especially health problems with Non-Communicable Diseases (NCDs), including Diabetes, gout, and hypertension. Sentul Geneng hamlet has a posyandu for the elderly, but not all residents join the posyandu, so their health status is not controlled. In addition, the limited knowledge of each member regarding the risk factors for NCDs and how to treat them is one of the obstacles encountered by the partners. Through this community service activity, it is hoped that it can provide solutions for the Sentul Geneng hamlet community in improving their health status. This activity is one of the community-based health efforts that is promotive and preventive in nature in the context of early detection and monitoring of the main NCD risk factors that are implemented in an integrated manner.

## 2. Method

KKN Group 51 students from Aisyiyah University Yogyakarta conducted a community service activity in the form of a health checkup in Sentul Geneng Hamlet, Godean District, Sleman, Yogyakarta. The goal was to increase community understanding and awareness of the importance of early detection of noncommunicable diseases (NCDs). This activity, using a knowledge dissemination and health education approach, was carried out over one day with voluntary community participation and support from integrated health post (Posyandu) cadres and village officials.

The activity began with outreach to residents through community leaders and integrated health post (Posyandu) cadres to build relationships and encourage active community participation. Next, interactive

education was provided on noncommunicable diseases such as hypertension, diabetes, and gout, using easy-to-understand language and using leaflets and posters as media.

Afterward, a health checkup was conducted in several stages: participant registration, blood pressure measurement, blood sugar test using a glucometer, and uric acid level check. The examinations were conducted by KKN students, and each participant received a brief explanation of the results and advice. Participants with normal results were encouraged to maintain a healthy lifestyle, while those with higher results were given brief education on managing their illness.

## 3. Results and Discussion

The results of a screening examination of 65 respondents from the study group revealed the following blood glucose, uric acid, and blood pressure levels:

**Table 1. Community Health Screening Results in Sentul Geneng Hamlet (n = 45)**

Type of inspection	Result category	Amount (n)	Percentage (%)
Blood pressure	Normal (<120/80 mmHg)	11	24%
	Pra- hypertension (120–139/80–89)	13	29%

	hypertensi on ( $\geq 140/90$ mmHg)	21	47%
<u>Amount</u>		45	100%
Current Blood Sugar	Normal (<200 mg/dL)	37	82%
	high ( $\geq 200$ mg/dL)	8	18%
<u>Amount</u>		45	100%
Uric Acid Levels	Normal (man <7 mg/dL; woman <6)	23	51%
	Tinggi	22	49%
Amount		45	100%

A health screening of the Sentul Geneng Hamlet community revealed significant challenges in basic health, particularly related to blood pressure, random blood sugar levels, and uric acid levels. Of the 45 respondents examined, a pattern of health conditions requiring further attention emerged.

### 3.1. Blood Pressure

Approximately 33% of people in this community have hypertension ( $\geq 140/90$  mmHg), while 42% are prehypertensive. This means that more than 75% of those screened have higher-than-normal blood pressure. Only 24% have normal blood pressure ( $< 120/80$  mmHg). The high rates of pre-hypertension and hypertension indicate a significant risk of heart disease in this community. Several factors, such as a high-salt diet, lack of exercise, stress, and smoking, may be contributing factors. It is important to provide education about healthy living, reducing salt intake, and having regular blood pressure checks to detect problems early and prevent complications.

### 3.2. Random Blood Sugar

As many as 82% of those tested had random blood sugar levels  $\geq 200$  mg/dL, indicating a high number of cases of diabetes or possible type 2 diabetes. Only 18% had blood sugar levels within the normal range. This figure is very concerning because diabetes can cause various serious problems such as kidney and vision problems, and slow-healing wounds. Immediate action is needed by providing information about low-sugar diets, encouraging more active movement, and regular blood sugar checks. Village governments and local health workers can play a role in diabetes prevention and management programs.

### 3.3. Uric Acid Levels

Approximately 49% of respondents had high uric acid levels, while 51% were within the normal range. High uric acid levels can cause joint pain and increase the risk of gout. A diet high in purines, such as organ meats, seafood, and sugary drinks, can exacerbate this condition. It is important to provide education about foods that can increase uric acid levels, as well as the importance of drinking enough water and moderate exercise to help the body function properly.

Overall, health screening results indicate that the majority of residents of Sentul Geneng Hamlet have health conditions that require serious attention. Preventive measures and health promotion are essential to reduce the incidence of noncommunicable diseases such as hypertension and diabetes.

Collaboration between the village government, health workers, and the community is crucial to creating an environment that supports a healthy lifestyle.

#### 4. Conclusion

Community service activities in Sentul Geneng Hamlet revealed a high prevalence of non-communicable diseases such as hypertension, diabetes mellitus, and abnormal uric acid levels. Most residents have health risks that require serious attention to prevent further complications. This underscores the importance of early detection and appropriate health education to help the community manage their lifestyle and daily habits for a healthier lifestyle. Regular health education programs should be held that emphasize the importance of a healthy lifestyle, such as a balanced diet, physical activity, and stress management. Village governments and health workers should collaborate to facilitate access to regular health check-ups and easy-to-understand public education. The community is expected to be more active in attending community health posts (Posyandu) for the elderly and other health services to regularly monitor their health. Regular health screening efforts should be maintained so that the risk of NCDs can be detected early and treatment can be initiated promptly. Cross-sector support is needed to create an environment that supports healthy lifestyles and prevents the increase in cases of noncommunicable diseases in the community.

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