

# Medical Check-ups and Counseling for Early Disease Detection and Health Knowledge Improvement



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**Abstract:** Non-communicable diseases (NCDs) such as hypertension, diabetes mellitus, and hyperuricemia are among the major public health challenges in Indonesia. Health promotion and disease prevention efforts through medical check-ups and education are important strategies to increase public awareness and enable early detection of NCD risk factors. This community service program was conducted in Adatongeng Village, Turikale District, Maros Regency, involving 12 residents. The intervention consisted of three stages: anamnesis, vital signs examination including blood pressure, and blood sugar and uric acid level tests. Counseling was then provided on healthy lifestyle practices, including a balanced diet, regular physical activity, and the importance of routine medical check-ups. The results showed active community participation in both the examinations and educational sessions, as well as increased awareness of the importance of early detection and prevention of NCDs. This activity suggests that integrating medical check-ups and education is an effective strategy in health promotion and disease prevention efforts to improve community quality of life.

**Keywords:** Disease prevention; Health counseling; Health promotion; Medical check-up; Non-communicable diseases.

## 1. Introduction

Non-communicable diseases (NCDs) such as hypertension, diabetes mellitus, and hyperuricemia are major public health challenges in Indonesia. According to the 2023 Indonesian Health Survey, the prevalence of hypertension among adults aged  $\geq 18$  years reached 30.8%, while diabetes mellitus was 11.7% based on direct examination results (Ministry of Health of the Republic of Indonesia, 2023). Global data also indicate that Indonesia ranks fifth worldwide in the number of people living with diabetes, with 11.3% of adults—equivalent to approximately 20.4 million individuals—affected (IDF, 2024). Long-term projections estimate that the prevalence of diabetes in Indonesia will increase from 9.19% in 2020 to more than 16% in 2045, driven by lifestyle changes, urbanization, and population aging (Pamungkas et al., 2024).

Health promotion and disease prevention strategies through health screenings and community outreach have been recognized as effective approaches to reduce NCD risk factors. Several community-based initiatives in Indonesia have demonstrated the benefits of such interventions. For example, in Citaringgul Village, Bogor, screening activities revealed a prevalence of hypertension of 62.9%, elevated random blood glucose in 17.5%, and hyperuricemia in 11.3% of residents (Hastuti et al., 2021). Similar findings were reported in Bantul, Yogyakarta, where 11.54% of participants were classified as having prediabetes, 7.69% as having diabetes, and 16.67% as having hyperuricemia (Susanti et al., 2023). These findings highlight that many individuals remain unaware of their health conditions until screenings are conducted.

In addition to medical check-ups, community outreach plays a crucial role in improving public awareness of healthy lifestyles. Education on balanced nutrition, physical activity, and routine health examinations has been shown to encourage positive health behavior changes (Jørgensen et al., 2015; Simmons et al., 2018; Nurdiana & Fitriyani, 2020; Arumsari et al., 2022).

Adatongeng Village, located in Turikale District, Maros Regency, South Sulawesi Province, was selected as the site for this community service program. Based on 2021 data, the village covers 3.09 km<sup>2</sup> with a population of approximately 8,209 people (population density: 2,656 people/km<sup>2</sup>) (STEKOM, 2025). Its strategic location near the Trans-Sulawesi Highway and proximity to Dr. La Palaloi Regional Hospital make it a potential center for education and health services in Maros Regency (STEKOM, 2025).

Given these conditions, residents of Adatongeng Village are highly mobile but may still lack adequate awareness regarding early detection and prevention of NCDs. Therefore, this program aimed to improve community knowledge and awareness through medical check-ups and participatory educational outreach activities.



## 2. Materials and Methods

This community service activity was implemented using a participatory and educational approach, engaging the community not only as recipients but also as active participants in each stage of the program. Health check-ups were conducted using a station-based system to streamline the process and improve service effectiveness.

At stage 1, participants underwent anamnesis conducted by students and healthcare workers to obtain a brief medical history, main health concerns, and relevant past medical history. They were then directed to stage 2, where vital signs were measured, including blood pressure, body temperature, and pulse rate. This step aimed to determine each participant's baseline physiological condition before further testing. Next, at stage 3, a simple laboratory screening was conducted, including blood glucose and uric acid tests, as part of the early detection of degenerative diseases commonly found in the community.

Following the complete health check-up, a health education session was delivered. The education emphasized the importance of maintaining a healthy lifestyle through balanced nutrition, regular physical activity, prevention of degenerative diseases, and the need for routine medical check-ups. The session also included an interactive discussion, allowing participants to raise personal health concerns and receive direct responses from the implementation team.

As a follow-up, examination results were systematically recorded, and participants with identified abnormalities or health risks were advised to seek further examination at the nearest health facility. This activity was designed not only to facilitate early detection of health problems but also to enhance public awareness of the importance of adopting a healthy lifestyle.

## 3. Results and Discussion

The community service activity conducted in Adatongeng Village, Turikale District, Maros Regency, was attended by 12 residents, consisting mostly of adults and the elderly. The health check-ups consisted of three stages: registration and brief history taking, vital signs and anthropometric measurements, and simple laboratory tests including random blood glucose and uric acid levels.

The examination results revealed the presence of several non-communicable disease (NCD) risk factors among participants. Three individuals were found to have hypertension with blood pressure  $\geq 140/90$  mmHg, one individual had a high blood glucose level above 200 mg/dL, and two individuals were identified as having prediabetes. Additionally, two individuals had hyperuricemia, while four participants were classified as overweight or obese based on their body mass index.

Alongside the medical check-ups, health education was provided on the importance of early detection of NCDs, a balanced diet low in sugar, salt, and fat, and recommendations for at least 30 minutes of daily physical activity. Participants showed strong enthusiasm, as reflected in the numerous questions raised regarding blood pressure management, dietary practices, and prevention of metabolic complications.

Although the number of participants was relatively small, the proportion of detected NCD cases was considerable. This finding aligns with the 2023 Indonesian Health Survey, which reported the prevalence of hypertension among individuals aged  $\geq 18$  years at 30.8% and diabetes mellitus at 11.7% (Ministry of Health of the Republic of Indonesia, 2023). Similar outcomes were also observed in community service activities in Bogor and Bantul, where many residents only became aware of their health conditions after undergoing screenings (Hastuti et al., 2021; Susanti et al., 2023).

The outreach component of this activity further enhanced community knowledge and awareness. This is consistent with previous research demonstrating that health education interventions can promote positive behavior change, particularly regarding dietary control, physical activity, and adherence to routine health check-ups (Jørgensen et al., 2015; Simmons et al., 2018; Nurdiana & Fitriyani, 2020; Arumsari et al., 2022). Therefore, these activities serve not only as an effort for early detection of NCDs but also as preventive measures to foster healthier lifestyles within the community.



Figure 1. TTV Examination



Figure 2. Residents's Anamnesis



**Figure 3.** Health Counseling



**Figure 4.** Implementation of community service in Adatongeng Village, Turikale District, Maros Regency

#### 4. Conclusions

The community service program in the form of health check-ups and counseling in Adatongeng Village was successfully implemented with the participation of 12 residents. The activity demonstrated strong community enthusiasm and revealed several cases of hypertension, diabetes mellitus, hyperuricemia, and obesity, highlighting the importance of regular health screenings. The counseling component provided residents with practical knowledge on healthy lifestyles, balanced nutrition, physical activity, and the value of early detection.

These findings emphasize that integrating health check-ups with counseling plays a vital role in raising awareness and encouraging healthier behaviors. It is recommended that community members undergo regular health examinations and maintain a healthy lifestyle as preventive measures against NCDs. Furthermore, local governments and health workers are encouraged to expand and sustain similar programs to reach larger populations, especially vulnerable groups. Educational institutions are also expected to utilize community service programs as platforms for applying knowledge, strengthening community collaboration, and supporting national efforts to control NCDs.

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