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MEDICAL SCREENING THROUGH COMMUNITY-BASED SOCIAL SERVICE PROGRAMS FOR SUSTAINABLE PUBLIC HEALTH IMPROVEMENT STRATEGY IN CIKEAS UDIK, BOGOR REGENCY

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ABSTRACT

Epidemiological transition in Indonesia has been marked by rising prevalence of non-communicable diseases (NCDs), including hypertension, diabetes mellitus, and metabolic disorders, which often remain undetected at early stages. Limited access to healthcare services and inadequate early detection at community level exacerbate risk of complications and increase public health burden. This activity to improve community health status through social service–based health screening and treatment as an effort for early detection and initial management of health problems in Cikeas Udik, Bogor. This activity employed an integrated approach comprising health education, screening, basic medical, and referral. Program was conducted on September 13, 2025, involving 105 adult and elderly participants. Health assessments included medical history taking, blood pressure measurement, random blood glucose testing, cholesterol and uric acid examinations, followed by medication provision according to clinical indications and referral when necessary. Most participants were female (75.2%) and adult age group (70.5%). Hypertension was the most frequently identified diagnosis (37.1%), followed by acute respiratory infections and dyspepsia. Proportion of participants demonstrated elevated levels of blood glucose, cholesterol, and uric acid. Five main categories of medications were analgesics, antihypertensive agents, oral antidiabetic, antacids, and multivitamins. Community-based health social service activities are effective in improving access to healthcare services, facilitating early detection of NCDs, and providing medical treatment and health education. This approach has the potential to contribute to sustainable improvements in community health through integrated, community-oriented healthcare services.

Keywords: Social Service, Health Screening, Non-Communicable Diseases, Community Health Services, Public Health.

1. INTRODUCTION

The epidemiological transition in Indonesia over the past decade has demonstrated a marked shift in the burden of disease from the predominance of communicable diseases toward a growing prevalence of non-communicable diseases (NCDs) and chronic conditions requiring long-term management. NCDs such as hypertension, diabetes mellitus, dyslipidemia (hypercholesterolemia), and other metabolic disorders often develop asymptomatically in their early stages, yet substantially contribute to cardiovascular disease, stroke, renal impairment, reduced productivity, and escalating health expenditures at both household and health system levels. Globally, hypertension remains a major public health challenge. The World Health Organization (WHO) reports a very large population affected by hypertension, with a significant proportion remaining undiagnosed or inadequately controlled, underscoring the urgent need for early detection and effective management as a public health priority (WHO, 2025).

Globally, an estimated 41 million deaths occur each year due to non-communicable diseases (NCDs), accounting for approximately 74% of all deaths worldwide. The majority of NCD related deaths around 77% occur in low and middle income countries (WHO, 2023a). NCDs account for more than two-thirds of all deaths, with the largest proportions attributable to cardiovascular diseases, diabetes, and related metabolic disorders (Li et al., 2025). The leading causes of death are cardiovascular diseases (17.9 million deaths), cancer (9.3 million), chronic respiratory diseases (4.1 million), and diabetes (2.0 million). In addition, non-communicable diseases are strongly associated with modifiable risk factors, including tobacco use, insufficient physical activity, harmful alcohol consumption, air pollution, and unhealthy dietary patterns, all of which substantially increase the risk of morbidity and premature mortality (WHO, 2023b). Developing countries face more complex challenges due to limited access to healthcare services, low levels of health literacy, and substantial disparities in early detection at the community level. Population based studies indicate that a large proportion of individuals with hypertension and diabetes in the community remain undiagnosed or do not receive adequate treatment, highlighting active community-based screening as a critical strategy for the effective control of non-communicable diseases (Beaney et al., 2020; Geldsetzer et al., 2019).

In Indonesia, the double burden of disease remains a major public health challenge. At the same time, NCD's such as hypertension, diabetes, and dyslipidemia continue to rise including acute respiratory infections, tuberculosis, and skin diseases remain prevalent as leading causes of primary healthcare visits. Delayed diagnosis and low treatment coverage of non-communicable diseases contribute substantially to the increasing incidence of cardiovascular disease, stroke, renal failure, as well as to declines in quality of life and population productivity (Liana et al., 2023). Studies conducted across various regions indicate that hypertension, diabetes, acute respiratory infections, and musculoskeletal disorders are among the most frequently managed conditions in primary healthcare facilities. This pattern underscores the need for healthcare approaches that extend beyond curative care to include preventive and promotive interventions, particularly through community-based activities (Ramadhan et al., 2025).

At the national level, the Indonesian government continues to strengthen surveillance and control of non-communicable diseases through

risk factor screening and early detection in primary healthcare services and community settings. This commitment is reflected in the Indonesian Health Survey (SKI) and national health profile publications, which position non-communicable diseases as a priority issue for reinforcing preventive and promotive health services as well as case finding (SKI, 2023). In line with this approach, the definition and scope of NCD screening developed by Indonesian Ministry of Health within SATUSEHAT ecosystem encompass the assessment of multiple risk factors and conditions, including hypertension and diabetes mellitus, as well as examinations related to uric acid levels and other metabolic conditions relevant to early detection in community settings (Kemenkes RI, 2025).

Simple health parameter assessments, such as blood pressure measurement, random blood glucose testing, cholesterol level assessment, and uric acid examination have been shown to be effective as initial steps for the early detection of cardiometabolic risk in community settings. Numerous studies demonstrate that community-based screening using these basic assessments is capable of identifying high-risk individuals and serves as an entry point for therapeutic interventions, health education, and appropriate referral for further care (MacDonald et al., 2023). Furthermore, integrating clinical examinations, basic laboratory testing, and physician consultations within a single continuum of care can enhance community adherence to treatment regimens and follow-up healthcare services (Alhuwayfi et al., 2024).

A health-oriented social service approach that incorporates physical examinations, physician assessments, basic laboratory testing, medication provision, and referral systems represents a relevant community-based intervention model for addressing limitations in access to healthcare services, particularly in rural areas. Community engagement and intervention studies indicate that such integrated services not only increase the detection of new cases of non-communicable and common diseases but also strengthen community health literacy and promote the sustained utilization of formal healthcare services (Andayani et al., 2022; Ojeda et al., 2025).

Based on the foregoing, the activity entitled “Medical Screening Through Community-Based Social Service Programs for Sustainable Public Health Improvement Strategy in Cikeas Udik, Bogor Regency” is relevant and strategic. This program represents a form of community service undertaken by Universitas Esa Unggul, involving health screening and medical treatment delivered through a social service initiative. The program aims to conduct basic screening for non-communicable diseases in Cikeas Udik Village, Bogor Regency, and to provide medical treatment in accordance with physicians’ recommendations at the time of examination as a means of improving community health. The assessments include medical history taking, blood pressure measurement, uric acid testing, random blood glucose assessment, and cholesterol measurement. This activity not only enhances access to basic healthcare services at the village level but also strengthens early detection of non-communicable diseases, reduces delays in diagnosis, initiates safe and standardized clinical management, and ensures continuity of care through an established referral system. Ultimately, this approach is expected to contribute to sustainable improvements in community health

status through the integration of basic clinical services, health education, and the strengthening of referral systems in the Bogor Regency.

2. PROBLEM STATEMENT AND RESEARCH QUESTIONS

Cikeas Udik Village, Bogor Regency, as an area characterized by diverse social and environmental dynamics, faces potential risks of cardiometabolic and other prevalent community diseases that require responses through community-based healthcare approaches. Therefore, the implementation of community service activities in the form of "Medical Screening Through Community-Based Social Service Programs for Sustainable Public Health Improvement Strategy in Cikeas Udik, Bogor Regency" represents a relevant strategy to obtain an overview of community health conditions, facilitate early detection of risk factors and the most prevalent diseases, provide appropriate initial treatment, and ensure referral for cases requiring further management. This activity is expected to contribute to sustainable improvements in community health status through the strengthening of preventive, promotive, and curative services at the community level.

The local context of Bogor Regency reflects a similar level of urgency. Data from local government sources indicate that hypertension is among the diseases with the highest incidence managed in primary healthcare centers across Bogor Regency, underscoring the need to strengthen early detection activities and integrated follow-up care extending to the village level (Pemkab. Bogor, 2025). Cikeas Udik Village, as part of Bogor Regency, is situated in an area characterized by high population mobility and dynamic socio-economic conditions, which may influence dietary patterns, levels of physical activity, and stress as factors closely associated with the risk of hypertension, diabetes, and dyslipidemia. In such a context, health-oriented social service initiatives should not be merely ceremonial in nature but must be designed as sustainable entry points to healthcare services, encompassing case identification, initiation of basic therapy within the scope of service authority, assurance of early treatment adherence, and the establishment of effective referral networks.

The selection of blood pressure, uric acid, random blood glucose, and cholesterol as the primary screening parameters was intended to represent the most prevalent metabolic risk factors and conditions with substantial impacts on morbidity, while remaining feasible for assessment through simple, rapid, and relatively low-cost methods in field settings. These assessments were subsequently followed by counseling, initiation of appropriate early treatment, or referral as indicated (PB Perkeni, 2021). In addition to cardiometabolic risk screening, this activity was also designed to address healthcare needs related to the "top ten most common conditions" typically encountered in primary care settings. In practical terms, the disease profile in primary healthcare centers is generally dominated by upper respiratory tract infections, hypertension, digestive disorders (dyspepsia/gastritis), skin conditions, musculoskeletal pain, and metabolic diseases, all of which require a combination of curative services (medical treatment), preventive interventions (risk factor education), and referral when danger signs or complications are identified (Pemkab. Bogor, 2025). Accordingly, health oriented social service activities in Cikeas Udik Village should be designed as comprehensive services encompassing physical

examinations, medical history taking and physician assessments, basic laboratory testing (blood glucose, cholesterol, and uric acid), medication provision in accordance with clinical indications and safety standards, and structured referral to healthcare facilities when necessary.

The "screening–treatment–referral" service model implemented in community-based activities is also supported by evidence from community service initiatives and non-communicable disease screening programs, demonstrating that measurements of blood pressure, random blood glucose, and cholesterol levels in community settings are effective in identifying high-risk groups and serve as a foundation for counseling and subsequent follow-up (Gunawan, 2025). However, to achieve sustainable impact, activities should not end at the screening stage. Robust mechanisms are required for systematic documentation of results, individual and family-level health education, strengthening early treatment adherence (for example, in newly detected cases of hypertension, diabetes, or hyperlipidemia), and the establishment of referral networks for individuals with markedly elevated findings, signs of complications, or comorbidities requiring further evaluation. Accordingly, the research questions regarding this community service activity include:

a. What is the distribution of participants and age groups among individuals participating in the health social service activity?
b. What is the distribution of blood pressure levels among participants in the health social service activity?
c. What is the distribution of the most prevalent diseases in Cikeas Udik Village?
d. What is the distribution of laboratory examination results (random blood glucose, uric acid, and cholesterol levels) among participants in the health social service activity?
e. What types of medications were received by participants in the health social service activity?

The community service activity was conducted at the Majelis Taklim Attosiyah study center in Cikeas Udik Village. The target partner location was Cikeas Udik Village, situated in Gunungputri Subdistrict, Bogor Regency, West Java Province.

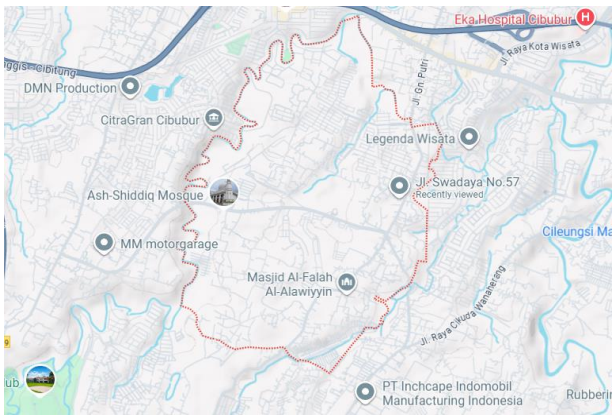

Figure 1. Map of Cikeas Udik Village

3. LITERATURE REVIEW

a. Definition of Non-Communicable Diseases

Non-communicable diseases (NCDs) are a group of chronic conditions that are not caused by infectious agents, are not transmitted from person to person, and generally develop slowly with a prolonged course of prolonged disease. NCDs often require long-term management and contribute substantially to disability, reduced quality of life, and premature mortality (Allen et al., 2023; WHO, 2023b)

Non-communicable diseases represent a major global public health challenge due to their close association with lifestyle changes, urbanization, population aging, and social determinants of health. In low- and middle-income countries, including Indonesia, non-communicable diseases have emerged alongside communicable diseases, resulting in a double burden of disease (Ngowi et al., 2023).

b. Types of Non-Communicable Diseases

Health organizations and scientific literature classify non-communicable diseases into several major categories:

1) Cardiovascular diseases, including hypertension, coronary heart disease, and stroke.
2) Diabetes mellitus, particularly type 2 diabetes mellitus, is closely associated with insulin resistance.
3) Chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (COPD).
4) Cancer, encompassing both solid tumors and hematological malignancies.
5) Other metabolic disorders, including dyslipidemia and hyperuricemia (elevated uric acid levels).

This group of diseases accounts for the largest proportion of global mortality and disability (Asriwati, 2021).

c. Causes of Non-Communicable Diseases

The causes of non-communicable diseases are multifactorial, involving interactions among biological, behavioral, environmental, and social factors. Unlike communicable diseases, non-communicable diseases do not have a single causative agent but develop as a result of the cumulative exposure to multiple risk factors over time (Allen et al., 2023). Modern lifestyle changes, such as diets high in sugar, salt, and fat, low levels of physical activity, and exposure to chronic stress are major drivers of the increasing burden of non-communicable diseases across countries (Bollyky et al., 2023).

d. Risk Factors for Non-Communicable Diseases

Risk factors for non-communicable diseases can be broadly classified into two major groups:

1) Behavioral Risk Factors
   a) Tobacco smoking and use of tobacco products
   b) Harmful alcohol consumption
   c) Unhealthy dietary patterns and food choices
   d) Physical inactivity

2) Metabolic and Social Risk Factors
   a) Hypertension
   b) Hyperglycemia
   c) Dyslipidemia
   d) Obesity
   e) Advanced age
   f) Family history
   g) Low socioeconomic status and limited access to healthcare services

   Evidence indicates that metabolic risk factors often remain undetected in the community due to the lack of routine health examinations (Beaney et al., 2020; Geldsetzer et al., 2019).

e. Prevention of Non-Communicable Diseases

Prevention of non-communicable diseases emphasizes promotive and preventive approaches implemented sustainably at the individual, community, and health system levels. Prevention strategies include:

1) Promotion of healthy lifestyles, such as balanced diets, regular physical activity, and smoking cessation.
2) Health education and community health literacy increase awareness of non-communicable disease risks.
3) Screening and early detection, including blood pressure measurement, blood glucose testing, cholesterol assessment, and body mass index evaluation.
4) Community-based interventions, which have been shown to be effective in reaching high-risk populations (Cai et al., 2019; Karmakar et al., 2021).

Integrated preventive approaches can reduce the incidence of non-communicable diseases and lower long-term healthcare costs (Munday et al., 2019).

f. Management of Non-Communicable Diseases

The management of non-communicable diseases is comprehensive and continuous, encompassing:

1) Non-pharmacological management, such as lifestyle modification and behavioral counseling.
2) Pharmacological therapy, tailored to the type and severity of the disease.
3) Regular monitoring and follow-up, to prevent complications.
4) Referral systems, for patients with severe conditions or complications.

Primary healthcare service models that integrate screening, treatment, and referral have been shown to improve disease control and enhance patient adherence to therapym(Marthias et al., 2021; Sarrafzadegan et al., 2025; Setiadi et al., 2022; Wang et al., 2024).

4. METHODOLOGY

a. Research Methods

This community service activity employed an integrated approach comprising health education, health screening, basic medical services, and referral, implemented in the form of a health-oriented social service

program. This approach integrated health education sessions, health examinations, physician consultations, basic laboratory testing, medication provision, and referral, as recommended in community-based healthcare service models for early disease detection and improved access to healthcare services (Cai et al., 2019; Karmakar et al., 2021).

Health education methods were used to enhance community knowledge and awareness of non-communicable diseases, particularly hypertension and diabetes mellitus. Health screening methods were applied to enable early detection of risk factors and health conditions through measurements of blood pressure, random blood glucose levels, cholesterol, and uric acid. Subsequently, basic medical services were provided through physician examinations, medication administration based on clinical indications, and referral to healthcare facilities for participants requiring further management.

b. Number of Participants

The activity was conducted on September 13, 2025. Participants in this community service program were residents of Cikeas Udik Village, Bogor Regency, who voluntarily attended the health-oriented social service activity. A total of 105 participants took part in the program, consisting of adults and older adults with existing health complaints as well as individuals seeking preventive health examinations. The participants included both men and women from diverse social and economic backgrounds.

c. Steps of Community Service Implementation

The implementation of the community service activity was carried out through several stages as follows:

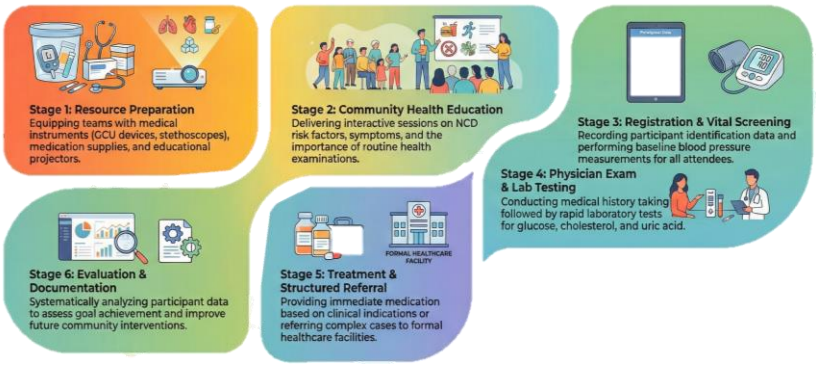

Figure 2. Flowchart of the Six Stages of Community Health Service Implementation (Source: Modified by AI generated, 2025)

1) Preparation Stage

The community service team prepared all facilities and equipment required for health education and health examination activities. Educational equipment included a projector, LCD screen, laptop, pointer, and educational materials presented in slide format. For health examination activities, a registration desk was arranged along with blood pressure measurement devices (both digital and manual

sphygmomanometers), stethoscopes, patient record logbooks, and stationery. At the physician examination station, physical examination instruments such as stethoscopes, medical flashlights, spatulas, and reflex hammers were provided. Meanwhile, basic laboratory testing station was equipped with glucose–cholesterol–uric acid (GCU) testing devices, lancets, test strips, gloves, alcohol swabs, and other supporting materials. In addition, team prepared medications according to needs of health social service program, including drugs for hypertension, diabetes, hypercholesterolemia, hyperuricemia, infections, respiratory tract disorders, gastrointestinal disorders, pain management, as well as vitamins and topical medications.

2) Health Education Stage
   The activity commenced with health education session for participants focusing on non-communicable diseases, particularly hypertension and diabetes mellitus. The session was delivered through presentation media and interactive discussions aimed at enhancing participants' understanding of risk factors, signs and symptoms, preventive measures, and the importance of routine health examinations.
3) Registration and Initial Screening Stage
   Participants who attended the activity registered at the registration desk. During this stage, participant identification data were recorded, and blood pressure measurements were conducted as an initial screening. The examination results were documented in patient logbooks to serve as a basis for subsequent assessments.
4) Health Examination and Basic Laboratory Testing Stage
   Participants underwent medical examinations conducted by physicians, including medical history taking and physical examination. This was followed by basic laboratory testing involving measurements of random blood glucose, cholesterol, and uric acid levels using GCU devices. These assessments aimed to facilitate early detection of risk factors and metabolic conditions commonly found in the community.
5) Treatment and Referral Stage
   Based on the results of clinical and laboratory examinations, physicians provided medical treatment in accordance with clinical indications and primary healthcare service standards. Participants also received brief education regarding medication use and recommendations for healthy lifestyle practices. Participants whose examination results required further management or additional investigations were referred to the nearest healthcare facilities.
6) Evaluation and Documentation Stage
   All stages of the activity were systematically documented and evaluated to assess the achievement of community service objectives, including the number of participants examined, identified health conditions, and follow-up actions provided. The evaluation results were used as a basis for improving and further developing subsequent community service activities.

5. RESULTS AND DISCUSSION

a. Results

The community service team conducted data collection accompanied by health examinations among community members participating in the program to obtain an overview of the health status of the village population. The results of the analysis of participant characteristics involved in this activity are presented as follows:

Table 1. Sex Distribution of Respondents

Sex	Number	Percentage
Male	26	24,8%
Female	79	75,2%
Total	105	100.0%

A total of 105 participants were included in the health social service activity. Females constituted most participants, accounting for 75.2% (n = 79), while males represented 24.8% (n = 26). As shown in Table 2, most participants were adults aged 19–60 years, comprising 70.5% of the total sample.

Figure 3. Registration and Blood Pressure Measurement

Table 2. Age Group Distribution of Respondents

Age Group	Number	Precentage
Adults (19-60 years)	74	70,5%
Older adults (>60 years)	31	29,5%
Total	105	100.0%

The health social service activity commenced with the delivery of educational materials by the head of the community service team as part of the implementation of the university's Tri Dharma mandate. The free medical service program included health education sessions covering nutrition, anemia, and tuberculosis, followed by basic health assessments consisting of measurements of body weight, height, and blood pressure. Participants subsequently received medical consultations,

communication–information–education (CIE) from physicians, basic laboratory screening including blood glucose, uric acid, and cholesterol testing, medication provision based on clinical indications, and referral to healthcare facilities when required.

Figure 4. Health Education Session Delivered by Team Leader

The medical services provided during this activity were delivered by a multidisciplinary team of students and healthcare professionals from the Faculty of Health Sciences (FIKES), including physicians, nurses, midwives, and public health practitioners. The activity also involved collaboration with healthcare professionals from Satya Negara Hospital Jakarta, Gunung Putri Primary Healthcare Center, and local health cadres. The involvement of multiple stakeholders reflects inter-institutional collaboration in implementation of health screening and healthcare service delivery for the community of Cikeas Udik Village.

Table 3. Distribution of Blood Pressure Categories

Blood Pressure Category	WHO Criteria		n	%
	Systolic (mmHg)	Diastolic (mmHg)		
Hypotension	<90	<60	5	4,8%
Normal	<130	<85	28	26,7%
Elevated	130-<140	85-<90	21	20,0%
Hypertension Stage 1	140-<160	90-<100	20	19,0%
Hypertension Stage 2	160-<180	100-<110	29	27,6%
Hypertension Stage 3	≥180	≥110	2	1,9%
Total Patients			105	100,0%

Blood pressure assessment showed that 28 participants (26.7%) had normal blood pressure, defined as systolic <130 mmHg and diastolic <85 mmHg. A total of 21 participants (20.0%) were classified as having elevated blood pressure, with systolic values of 130–139 mmHg and diastolic values of 85–89 mmHg. In addition, 19.0% of participants were

identified with stage 1 hypertension, while 27.6% were classified as having stage 2 hypertension.

Table 4. Ten Most Common Diagnoses Identified during Health Social Service Activity

No	Diagnosis	Number	Percentage
1	Hypertension	39	37,1%
2	Acute Respiratory Infection (ARI)	16	15,2%
3	Dyspepsia	10	9,5%
4	Low Back Pain (LBP)	10	9,5%
5	Diabetes Mellitus	9	8,6%
6	Cephalalgia	5	4,8%
7	Myalgia	5	4,8%
8	Neuralgia	4	3,8%
9	Dyslipidemia	4	3,8%
10	Hyperuricemia	3	2,9%
Total		105	100%

Figure 5. Medical Examination by General Practitioner

As presented in Table 4, analysis of the ten most frequent diagnoses indicated that hypertension was the most prevalent condition among participants, accounting for 37.1% of cases. This was followed by acute respiratory infections (15.2%), dyspepsia and low back pain (each 9.5%), and diabetes mellitus (8.6%).

Table 5. Distribution of Laboratory Examination Results

Random Blood Glucose (RBG) Examination	n	Percentage
Total Examinations	105	100%
Normal	70	67%
Decreased RBG (<80 mg/dL)	0	0%
Elevated RBG (>200 mg/dL)	35	33%
Uric Acid Examination	n	Percentage
Total Examinations	105	100%

Normal (male)	17	16%
Normal (female)	63	60%
Elevated uric acid (male >7 mg/dL)	9	9%
Elevated uric acid (female >6 mg/dL)	16	15%
Cholesterol Examination	n	Percentage
Total Examinations	105	100%
Normal (<200 mg/dL)	76	72%
Elevated cholesterol (>200 mg/dL)	29	28%

Laboratory screening results, including random blood glucose, uric acid, and cholesterol measurements, are presented in Table 5. Most participants had random blood glucose levels within the normal range (63.0%). Most participants also exhibited normal cholesterol levels, defined as <200 mg/dL. Furthermore, uric acid assessment indicated that most female participants were within the normal range (60.0%), while 15.0% of participants had elevated uric acid levels (>6 mg/dL).

Figure 6. Laboratory Assessment

The subsequent stage of the activity involved medication provision tailored to diagnoses established through physician examinations. Analysis of the pharmacotherapy services indicated that five main categories of medications were administered, namely analgesics, antihypertensive agents, oral antidiabetic drugs, antacids, and multivitamins. Dosage forms provided to adult patients included caplets, tablets, and syrups, whereas pediatric patients received syrup formulations only. Overall, a total of 22 medication types were utilized during the activity, comprising 2,040 tablets or caplets, 20 bottles of syrup, and topical formulations including one antifungal cream and one ophthalmic cream.

Figure 7. Medication Provision and Education

Table 6. Analysis of Medications Utilized

Medication analysis:
1. Five major medication categories were used: analgesics, antihypertensive agents, oral antidiabetic drugs, antacids, and multivitamins.
2. Adult medications were provided in caplet, tablet, and syrup formulations, while pediatric medications were administered exclusively in syrup form.
3. A total of 22 medication types were utilized, comprising 2,040 caplets or tablets, 20 bottles of syrup, and topical preparations, including one antifungal cream and one ophthalmic cream.

Head of Atthosiyah Majelis Taklim, as the local partner of the community service program, expressed appreciation and gratitude to Faculty of Health Sciences (FIKES), Universitas Esa Unggul, for implementation of this health social service activity. Participating community members reported positive experiences and perceived direct benefits from the program. Upon completion of the activity, a joint documentation session was conducted involving physicians, administrators and members of Majelis Taklim, volunteers, local community members, as well as organizing teams from FIKES Universitas Esa Unggul and Faculty of Dentistry, Universitas Indonesia.

b. Discussion

The findings of health social service activity identified hypertension, acute respiratory infections, and dyspepsia as the most prevalent diagnoses among participants. These findings are consistent with national and global data indicating that non-communicable diseases constitute a major public health challenge. In Indonesia, the prevalence of major non-communicable diseases—such as diabetes mellitus, chronic obstructive pulmonary disease, cancer, and cardiovascular diseases—remains high. National data indicate that the prevalence of diabetes mellitus increased from 6.9% to 8.5%, hypertension from 25.8% to 34.1%, stroke from 7.0% to 10.9%, and cancer from 1.4% to 1.8% (Nurdin & Rahayu, 2024; Siam et al., 2024). The World Health Organization projects that mortality attributable to non-communicable diseases will continue

to rise globally, with the highest mortality rates expected to occur in low- and middle-income countries (Nurdin & Rahayu, 2024).

Hypertension was the most frequently identified diagnosis among screened participants. This finding is consistent with the well-documented characteristics of hypertension as one of the most prevalent non-communicable diseases in community and its tendency to remain undetected in the early stages. Hypertension is defined as a condition characterized by systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg, which significantly increases the risk of morbidity and mortality due to cardiovascular disease, stroke, and renal failure (Mills et al., 2020; NCD-RisC, 2021). The condition is often referred to as a "silent disease" because most affected individuals remain asymptomatic until serious complications develop, underscoring the critical importance of active community-based screening.

Hypertension risk factors identified in the community are multifactorial, encompassing non-modifiable factors such as age, sex, and family history, as well as modifiable factors including unhealthy dietary patterns, physical inactivity, obesity, psychological stress, and smoking habits. This classification of risk factors is consistent with findings from recent epidemiological studies, which emphasize that interventions targeting modifiable risk factors have a substantial impact on the prevention and control of hypertension (Syarli & Arini, 2021).

Regular physical activity is well recognized as a key component in blood pressure control and the prevention of cardiometabolic diseases. Recent evidence indicates that exercise improves cardiovascular and vascular function, reduces both systolic and diastolic blood pressure, increases high-density lipoprotein (HDL) cholesterol levels, and lowers the risk of atherosclerosis and insulin resistance (Diaz & Shimbo, 2013; Piercy et al., 2018). Accordingly, education on active lifestyles delivered through health social service activities constitutes an essential component of sustainable non-communicable disease control efforts.

In addition to hypertension, examination results indicated that acute respiratory infections and dyspepsia were among the most common diagnoses identified among participants. These findings reflect the persistence of a double burden of disease within the community, where communicable diseases continue to coexist alongside non-communicable diseases. Acute respiratory infections remain a leading cause of primary healthcare visits, particularly in areas characterized by air pollution exposure, extreme weather variability, and high population density (GBD, 2018). Meanwhile, dyspepsia is frequently associated with irregular dietary patterns, psychological stress, and the use of certain medications, conditions commonly observed among both working-age adults and older populations.

These findings are consistent with national and global evidence indicating that non-communicable diseases continue to dominate population disease patterns. Globally, non-communicable diseases account for more than 70% of all deaths, with the greatest increases occurring in low-and middle-income countries (GBD, 2018). In Indonesia, the prevalence of hypertension, diabetes mellitus, stroke, and cardiovascular diseases has shown a sustained upward trend, underscoring

the critical importance of early detection and the strengthening of community-based healthcare services (Nurdin & Rahayu, 2024).

In addition, health social service activity identified cases of hyperuricemia among proportion of participants. Hyperuricemia is a metabolic disorder characterized by serum uric acid levels >7 mg/dL in men and >6 mg/dL in women. This condition is associated with an increased risk of gouty arthritis, renal disease, and cardiovascular disease (Dalbeth et al., 2021; Sulistiawati, 2021). Early detection of hyperuricemia through basic laboratory testing is therefore a critical step in preventing complications and improving overall quality of life within the community.

The implementation of health social service activities integrating physical examinations, basic laboratory testing, physician consultations, medication provision, and referral was effective in identifying key community health problems and delivering necessary early interventions. Such integrated, community-based service models have been reported to be effective in increasing the detection of non-communicable diseases, improving early treatment adherence, and enhancing community awareness of the importance of routine health examinations (Hassan et al., 2025; Seidu et al., 2016).

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We assume that high prevalence of hypertension, diabetes mellitus, dyslipidemia, and hyperuricemia observed in this activity are associated with limited access to routine health examinations at community level and substantial exposure to lifestyle-related risk factors, including unhealthy dietary patterns, low levels of physical activity, and psychological stress, although these factors were not quantitatively assessed in this activity. In addition, it is assumed that most laboratory examination results remaining within normal ranges were influenced by participant characteristics, which were predominantly composed of individuals in the productive adult age group, as well as by variations in individual health conditions at the time of examination. The high level of community participation in this health-oriented social service activity is also assumed to reflect considerable demand for accessible and immediate healthcare services and to indicate that community-based approaches integrating screening, early treatment, and health education represent an effective entry point for early disease detection and the enhancement of community health awareness, although the long-term effects on behavioral change and treatment adherence could not be evaluated within this activity scope.

6. CONCLUSION

This community service activity in the form of a health-oriented social service program provided tangible benefits to the residents of Cikeas Udik Village, particularly to the 105 participants who underwent health examinations. Blood pressure measurements and basic laboratory assessments indicated that most participants had values within normal ranges. High levels of community participation and engagement were observed throughout the activity, reflecting both the need for and interest in community-level healthcare services. Through this program, community awareness regarding the importance of maintaining and monitoring health is expected to increase and identified health conditions can be appropriately managed through medical treatment and health education provided by examining physicians.

Future researchers are encouraged to develop community service activities using a more comprehensive design, including pre-intervention and post-intervention assessments, like as incorporation of lifestyle-related variables and health risk factors, and expansion of both number and characteristics of target populations to enable more thorough evaluation of program impact. Meanwhile, local primary healthcare centers are expected to institutionalize basic health screenings as routine activities for early disease detection, strengthen follow-up of screening outcomes through systematic monitoring and referral mechanisms, and enhance cross-sectoral collaboration and sustained health education to support improvements in community health status.

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