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Optimization Of Early Detection Coverage of Non-Communicable Diseases (NCD) At The Ngadiluwih Health Center UPTD, Kediri Regency

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ABSTRACT
This community service activity aims to improve the skills of health cadres in optimizing the coverage of early detection of non-communicable diseases using the SAKTI application at the Ngadiluwih Health Center UPTD, Kediri Regency. Non-communicable diseases have increased every year and are one of the leading causes of death, which is of national and global concern at this time. Based on the results of a preliminary study at the Ngadiluwih Health Center in 2023, it was found that the non-communicable disease control program in 2023 had not reached the target; therefore, it was necessary to strengthen the Primary Service Integration (ILP) at the Ngadiluwih Health Center, Kediri Regency.
The data collection method used a questionnaire that was administered before (Pre-test) and after (post-test) the implementation of the activity. The results of the statistical analysis showed a significant increase in knowledge and skills. The average pre-test value was 6.23, and the average post-test value increased to 8.88. The significance value of the Wilcoxon Test was 0.000 ($p < 0.05$), which indicated that the increase in knowledge and skills was statistically significant. This increase indicates that the counseling method carried out successfully increased the knowledge and skills of cadres on the use of the SAKTI Application, and they were able to conduct independent screening in the community.

Keywords : Non-communicable diseases, Primary Service Integration, SAKTI Application

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INTRODUCTION

Indonesia is currently facing the triple burden of health challenges, one of which is non-communicable diseases (NCDs)(Muhsinah & Misbah, 2023). Non-communicable diseases, also known as NCDs, are health conditions caused by metabolic disorders and characterized by slow progression, often going undetected in the early stages of symptoms(Al-falaq et al., 2025). Non-communicable diseases are not transmitted from person to person through any medium and are chronic in nature. Non-communicable diseases are also known as NCDs and have been a global problem(Fitriana et al., 2024).

According to the WHO (2023), non-communicable diseases cause at least 41 million deaths each year, which is equivalent to 17 million people dying before the age of 70. According to WHO data, cancer causes 9.3 million deaths, chronic respiratory diseases cause 4.1 million deaths, and diabetes causes 2 million deaths, including chronic kidney failure due to diabetes. These four diseases account for 80% of premature deaths due to NCDs(Hermanto, H., Silalahi, D. M. D., & Destriani, 2025). According to a 2023 report by the Directorate General of Disease Control and Prevention of the Indonesian Ministry of Health, more than half of the disability-adjusted life years (DALYs) lost in Indonesia are caused by non-communicable diseases, with 69% of these caused by stroke, 8.6% by malignant neoplasms, and 7.7% by ischemic heart disease(Ministry of Health of the Republic of Indonesia, 2023c). According to the Indonesian Health Survey report, 75% of deaths in Indonesia are caused by non-communicable diseases, with cardiovascular diseases such as coronary heart disease and stroke having been the main causes(Ministry of Health of the Republic of Indonesia, 2023a).

The increase in NCD cases can lead to higher healthcare costs and for productivity among the population to have been reduced. To prevent NCDs from increasing further, early detection of diseases and monitoring of NCD risk factors in the community are necessary(Gozali et al., 2022). In addition, NCDs cause high healthcare costs, which have been a burden on the community and the government. Therefore, early detection programs are needed to detect NCDs early and monitor risk factors(Sa'adah, A. L., Saputro, A. A. A., & Kurnia, 2025).

Early detection is a process of revealing the possibility of having a disease. In order to avoid illness, early detection is necessary to recognize conditions so that factors that cause disorders and their symptoms can be identified as a form of diagnostic detection(Dhone, F. Y., & Niron, 2025). In general, the detection that is commonly carried out is recognizing abnormal symptoms (irregularities/abnormalities) in a disease. Early detection is an important step in disease management. The earlier the detection is carried out, the greater the chance of controlling and managing the condition(Suharto, D. N., & Rantesigi, 2025).

In improving the effectiveness of non-communicable disease screening, one of the preventive and educational programs is the prevention of chronic complications and increasing individual knowledge and communication in recognizing health problems through early detection. By conducting health checks such as glucose, cholesterol, and uric acid tests, individuals are motivated to make positive lifestyle changes(Muhammad Noer Rizki et al., 2023). Therefore, screening and health consultation activities are designed to assess the health status of the community and provide consultations for the prevention of chronic complications(Saraswati, 2024). Early detection provides opportunities for timely interventions, such as lifestyle changes, treatment, or disease management through regular medical supervision(Sudayasa, I. P., Alifariki, L. O., Jamaluddin, J., Saida, S., & Mulyawati, 2023)

According to the Indonesian Minister of Health Regulation No. 43 of 2019(Puskesmas, 2019). Community health centers (Community Health Center) are health facilities that provide public health and individual health services at the primary level, prioritizing promotive and preventive efforts in their working areas. Services at community health centers prioritize promotive and preventive efforts without neglecting curative and rehabilitative efforts(Asiah et al., 2022). In improving screening and detection of non-communicable diseases (NCDs), Community Health Center collaborates with its networks (PIS-PK approach), strengthens community empowerment efforts related to NCD control (strengthening posbindu, pos UKK), improves service quality by strengthening primary health services as the front line (gatekeeper) and the referral system between FKTP and FKRTL, and increases multisectoral actions related to the Healthy Living Community Movement (GERMAS)(Muharry, A., Nurohman, T., &

Noorikhsan, 2022).

The Community Health Center will divide and establish its organizational structure based on clusters, namely: Cluster 1: Management, Cluster 2: Mother and Child, Cluster 3: Adults and the Elderly, Cluster 4: Communicable Disease Control, and Cross-Cluster(Ministry of Health of the Republic of Indonesia, 2023b). The integration of primary services aims to bring comprehensive and quality access to and services for health that are promotive, preventive, curative, rehabilitative, and/or palliative at every stage of life for the community. In the pilot project for the implementation of service integration in Cluster 3, the focus will be on strengthening integrated PTM services, including the detection of risk factors and treatment compliance for PTM (hypertension and DM), as well as comprehensive geriatric patient assessment (P3G) screening and the implementation of TB infection management.(Ministry of Health of the Republic of Indonesia, 2022)

Based on the results of a preliminary study at the Ngadiluwih Community Health Center in 2023, it was found that the non-communicable disease control program in 2023 had not yet achieved its targets for several non-communicable diseases. The coverage of controlled diabetes mellitus (DM) patients has not yet reached 49.9% of the annual target of 58%, controlled hypertension patients reached 24.2% with a target of 63%, the coverage of DM patients receiving services according to standards is 97.5% of the target of 100%, and the coverage of minimum service standards for hypertension patients is 85.7% of the 100% target. Programs that are still low include mental health services at 52.4%, early detection of cervical and breast cancer at 6.5%, early detection of stroke at 31.7% of the 70% target, early detection of heart disease at 23.4% of the 70% target, resulting in a total achievement of 65.20% for all non-communicable disease programs(Ngadiluwih Community Health Center, 2023). The general objective of this community service is to analyze the optimization of early detection coverage for non-communicable diseases (NCDs) at the Ngadiluwih Community Health Center in Kediri Regency.

METHOD

The implementation method, preparation stage, coordination with non-communicable disease program holders, administrative management, coordination with community health centers related to the preparation of socialization materials for the Sakti application, with the theme of counseling, is the socialization of the Sakti application (integrated active health screening). The targets of the counseling activity are 26 primary service integration (ILP) cadres, Asman Toga cadres, and Posyandu cadres. This activity was held on Thursday, October 17, 2024, at the meeting hall of the Ngadiluwih Community Health Center UPTD in Kediri Regency. The community service activity was carried out by conducting a pre-test before presenting the material using a presentation medium (PowerPoint) and an LCD screen and projector. Seating arrangements were set up in a classroom-style layout facing the projector and LCD screen, as well as the presenter and materials. Cadres used their personal mobile phones and internet data packages for practical exercises. The evaluation phase focused on assessing the cadres' skills in filling out non-communicable disease screening forms using the SAKTI application. The evaluation of the activity's implementation was conducted by measuring participants' knowledge improvement through pre-test and post-test assessments, followed by statistical analysis.

RESULTS

Community service was held in October 2024 with a focus on socializing the use of the SAKTI application to increase the coverage of early detection of non-communicable diseases. One of the strategies in increasing early detection coverage is through socialization provided to cadres to increase the achievement of early detection of non-communicable diseases at the Ngadiluwih Community Health Center UPTD using the SAKTI application. Increased knowledge is needed to improve cadres' understanding of early detection using the SAKTI application. By increasing their knowledge, it is hoped that cadres will have a better understanding and be more active in the early detection program at the Ngadiluwih Community Health Center.

According to Nuriiyah et al., (2025) cadres play a very important role in providing services directly to the community because they actively engage and interact with the community. Health cadres play a dual role as health educators, health service providers (through integrated health service posts and integrated nutrition service posts), and direct assistants in the community(Siregar Esli Zuraidah, 2021). In addition, cadres also play a role in supporting the community to identify health management actions that are appropriate to the problems they face. Thus, the knowledge and skills possessed by a cadre are very important. This condition can optimize awareness in the early detection of risk factors for non-communicable diseases, so that early detection coverage can be fulfilled(Nuriiyah, S., Yasarah, H., Nabila, A. A., Ruswanti, D., Sari, I. R., & Mustajab, 2025).

Figure 1. Participant attendance record

Figure 2. Socialization of the SAKTI Application

Figure 3. Practical Use of the SAKTI Application

In measuring knowledge in this community service program, pre-tests and post-tests were conducted to measure knowledge before and after the intervention. The following are the pre-test and post-test scores of the cadres who participated in this community service program:

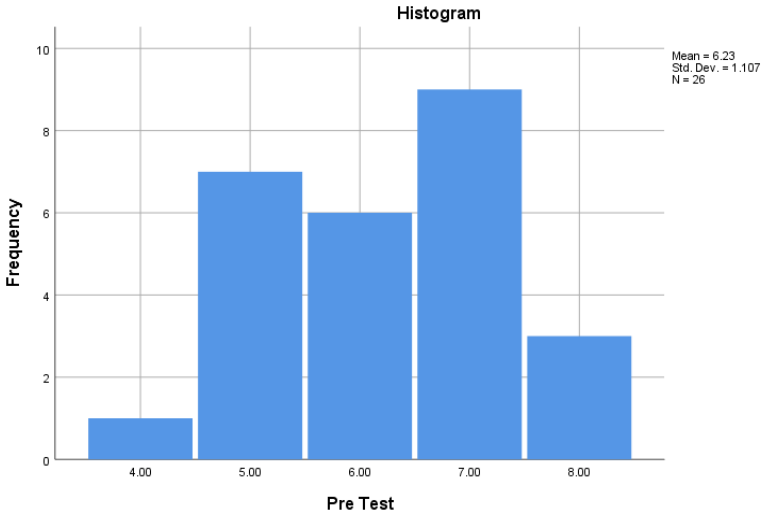

Chart 1. "Frequency Distribution of Participants' Pre-Test Scores

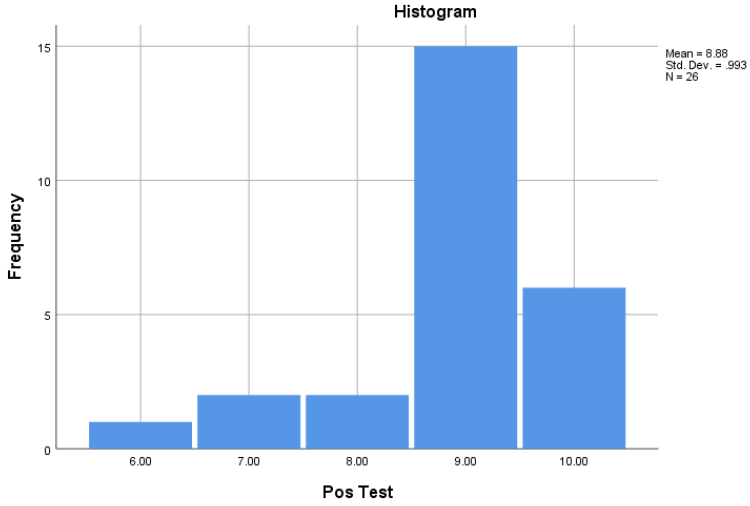

Chart 2. "Frequency Distribution of Participants' Post-Test Scores

It is known that the average score before the socialization was 6.23, and the average score after the socialization was 8.88. This shows that there was an increase in the average score after the socialization. However, to reinforce the results of the community service evaluation, the researchers conducted a statistical test. The following are the results of the statistical test:

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test	.218	26	.003	.904	26	.019
Pos Test	.354	26	.000	.781	26	.000

a. Lilliefors Significance Correction

Based on the normality test results, the sig. value in the Shapiro-Wilk test for the pretest and posttest values is 0.019 and 0.000, respectively, which in this case is <0.05, meaning that the distribution value is not normal. Therefore, the statistical test used is the Wilcoxon test.

Test Statistics[a]

	Pos Test - Pre Test
Z	-4.219[b]
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test
b. Based on negative ranks.

Based on the statistical test results, a p-value of 0.000 (<0.05) was obtained, indicating an increase in knowledge after the socialization intervention. According to Sari et al., 2025, education or counseling is an important intervention that needs to be carried out periodically. This is so that the knowledge gained is continuously updated in line with developments in science. This will have a positive impact on the capabilities of cadres, thereby improving the quality of cadre services in the early detection of NCDs. With the increased capabilities of cadres and continuous updates, the community will be motivated to take early detection actions, and service coverage can be fulfilled(Sari, I. R., Yasarah, H., Nuriiyah, S., Nabila, A. A., Ruswanti, D., & Mustajab, 2025). In the context of the findings by Kusumawati et al. (2024), which indicate that educational activities and mentoring of health cadres in Tawang Village, Sukoharjo, were also able to increase the knowledge of health cadres by 11.41% in the early detection of non-communicable disease risk factors. This reinforces the evidence that interventions such as socialization and training, whether through digital applications like SAKTI or through mentoring methods, can enhance cadres' understanding and skills in efforts to detect non-communicable diseases early(Kusumawati et al., 2024). Counseling and training can significantly increase the level of knowledge of PTM posbindu cadres. The implementation of community service provided to cadres in this community service took the form of knowledge transfer about PTM Posbindu and improving the skills of cadres in the early detection of PTM risk factors(Fitriyani et al., 2024).

Health cadres play a role as facilitators of community empowerment programs and are required to have knowledge in conducting needs assessments and adaptive data management in this era of Industry 4.0. In this era of the Industrial Revolution 4.0, there is a need to improve capabilities in order to adapt to current developments, one of which is facilitators in the health sector in community empowerment(Widya Kaharani Putri, Dily Ekasari, Lina Alfiyani, Anindita Hasniati Rahmah, Arifin Arifin, 2023). This opinion is in line with Nuriiyah et al. (2025), who state that knowledge is a bridge across a road because the knowledge possessed by an individual can increase awareness and motivate them to improve service quality. Cadres are the driving force or frontline in promoting health in the community, as early detection of disease. As drivers and frontline workers, cadres also have a role as coordinators, measurers or monitors, and counselors in the implementation of health programs(Nuriiyah, S., Yasarah, H., Nabila, A. A., Ruswanti, D., Sari, I. R., & Mustajab, 2025).

In this service, there were obstacles in implementation due to time constraints, so that when the participants were practicing filling out the SAKTI application, they had not yet finished. However, this did not hinder the acquisition of knowledge during the socialization. In the future, in the implementation of the SAKTI application, cadres will remain under the guidance and supervision of health workers at the Ngadiluwih Community Health Center UPTD. In the future, a refresher course and consolidation of cadres who have received SAKTI

Application Socialization and training in the application of the SAKTI application can be implemented, both for Posyandu ILP cadres and Posyandu cadres who are not yet ILP.

DISCUSSION

In October 2024, a community service program was carried out with a focus on socializing the use of the SAKTI application to increase the coverage of early detection of non-communicable diseases. One of the strategies in increasing early detection coverage is through socialization given to cadres to improve the skills of health cadres in using the SAKTI application, so that it is expected to increase the achievement of early detection of non-communicable diseases UPTD Community Health Center Ngadiluwih by using the Sakti application.

CONCLUSIONS

1. Socialization of the 'SAKTI Application' can improve the skills of health cadres in collecting individual data.
2. It is hoped that this activity can increase the coverage of non-communicable diseases in the UPTD Community Health Center Ngadiluwih Working Area

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