

## PREVENTION OF NON-COMMUNICABLE DISEASES (NCDs) THROUGH EXAMINATION, EARLY DETECTION AND INCREASING KNOWLEDGE

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### Abstract

Indonesia is facing a double burden of disease where infectious diseases are still a problem and at the same time non-communicable diseases (NCDs) are increasing, causing the burden on society and the state to become increasingly heavy socially and economically. Efforts to improve people's quality of life still receive little attention. The Healthy Society Movement (GERMAS) through efforts to detect non-communicable diseases (PTM) needs to continue to be strengthened. GERMAS is a joint movement which is not only the responsibility of the government through the health service but is also the responsibility of the community, including academics. Several obstacles to the implementation of germas include limited access and not yet optimal community participation. Purpose of Community Service. increasing the achievement of Early Detection of NCDs for the community in the working area of the Sako Palembang Community Health Center in 2023. The solution to the problem is carried out through screening and Early Detection as well as increasing understanding of NCDs in the community through counseling and personal education in the working area of the Sako Palembang Community Health Center in 2023. Activities are carried out through the preparatory stages , implementation and evaluation . The resulting output is in the form of increasing knowledge, understanding and behavior for the community in the work area of the Sako Palembang Community Health Center in 2023, in addition to producing booklets/posters and community service publications.

**Keywords:** Non-communicable Diseases (NCDs), Early Detection, Screening, GERMAS

### INTRODUCTION

Non-communicable diseases (NCDs) are catastrophic diseases with the highest cause of death in Indonesia. This causes a loss of productive time for pain and companions (Ministry of Health, 2020). Coronary heart disease is the highest cause of death, followed by cancer DM with complications. Meanwhile, research shows that NCDs in Indonesia are increasingly worrying because a shift follows the increase in NCD trends in disease patterns. If, in the past, NCDs were usually experienced by the elderly group, now it is starting to threaten the

productive age group. This threat will significantly impact human resources and the Indonesian economy because, in 2030-2040, the number of effective ages will increase far from the non-productive age (Ministry of Health 2020).

The prevalence of NCDs in Indonesia shows an increase when compared to Riskesdas 2013, including cancer, stroke, chronic kidney disease, diabetes mellitus, and hypertension. Cancer prevalence rose from 1.4% (Riskesdas 2013) to 1.8%; stroke prevalence increased from 7% to 10.9%; and chronic kidney disease rose from 2% to 3.8%. Based on blood sugar checks, diabetes mellitus rose from 6.9% to 8.5%. And the results of blood pressure measurement, hypertension rose from 25.8% to 34.1%. The estimated number of hypertension cases in Indonesia is 63,309,620 people, while the death rate in Indonesia due to hypertension is 427,218 deaths (Riskesdas, 2018).

Indonesia is also facing a global diabetes threat situation. *The International Diabetes Federation (IDF) Atlas 2017* reports that the Diabetes epidemic in Indonesia still shows an increasing trend. Indonesia is the sixth-ranked country in the world after China, India, the United States, Brazil, and Mexico, with the number of people with Diabetes aged 20-79 years around 10.3 million people. In line with this, Riskesdas shows a significant increase in the prevalence rate of Diabetes, from 6.9% in 2013 to 8.5% in 2018, so that the estimated number of sufferers in Indonesia reaches more than 16 million people who are then at risk of developing other diseases, such as heart attack, stroke, blindness, and kidney failure can even cause paralysis and death.

The increasing trend of NCDs in Indonesia is due to unhealthy lifestyles. Riskesdas 2018 data shows that 95.5% of Indonesians consume fewer vegetables and fruits, 33.5% lack physical activity, 29.3% of productive age smoke every day, 31% have central obesity, and 21.8% have obesity in adulthood (Ariane.CP, 2020). The results of community service activities from 105 people who had their blood pressure checked found 31 people suffering from hypertension. The age range of less than 40 years is eight people with hypertension, the age group of 45-55 years as many as eight people with hypertension, and 15 people with hypertension in the age group of more than 75 years. (Indriawati, Usman DOI, 2018). Research on Risk Factors for Hypertension Events at Posbindu in the BTKLPP Class I Palembang Working Area showed the effects of 65.3% of respondents experiencing hypertension (Sari, Sitorus, Utama, 2017).

The data presented various existing problems, especially non-communicable diseases (NCDs), and the trend has increased yearly. This is because the efforts made by the community towards their quality of life are still very much felt to have received less attention, one of which is Early Disease Detection, which is part of disease prevention efforts aimed at improving the degree of health for the community.

Various obstacles are felt in early detection efforts for non-communicable diseases, mainly due to behavioral aspects and limited access to health services. Community empowerment-based health programs are the responsibility of all components of the nation, not only the responsibility of the government but all parties, including academics, in the Tri Dharma activities of higher education through Community Service activities.

Community members should carry out Early detection of NCDs routinely at least once every six months through 6 types of examinations, namely blood pressure, blood sugar level, blood cholesterol, complete laboratory examinations, abdominal circumference

measurements, and early detection of cervical cancer.

Sako Health Center is one of the Puskesmas in Palembang City, located in Sako District, which has 28 Posyandu for Toddlers and 4 Posyandu for the Elderly. Based on data from the Sako Health Center in 2022, the ten most cases of essential hypertension NCDs are at the top of the list, namely 29%, followed by DM cases (types 1 and 2) at number 3 at 1,187 points (9%) and arthritis, osteoarthritis, and rheumatoid arthritis 916 patients (6.97%). Based on coverage data for hypertension NCD cases of 12.40% and Diabetes Mellitus coverage of 10% (Profile of Sako Health Center in 2022).

The community that is the target of community service activities is from productive age to the elderly because NCDs not only attack older people but from effective age can experience NCDs due to unhealthy lifestyles. Based on the above background, the Team is interested in carrying out community service activities in the working area of the Sako Palembang Health Center. Community service about Screening, Early Detection and Increasing Understanding in the Sako Palembang Puskesmas Work Area in 2023.

## **IMPLEMENTATION METHODOLOGY**

Community Service Activities carried out using the Community Partnership Program (PKM) scheme in the form of screening and early detection as well as increasing public knowledge and understanding of the importance of early detection of NCDs through education to the community at POSYANDU in the working area of the Sako Palembang Health Center in 2023. The stages of activities are as follows: starting with an initial study of the Sako Health Center to obtain data related to NCDs in the Puskesmas Working Area. After the official permission was obtained, conduct technical coordination with the PTM handler of the Sako health center before preparing material facilities and technical and non-technical administration. The implementation of activities begins with registration administration, screening, and Early Detection of NCDs. Personal education and follow-up assistance are carried out based on the screening and early detection results. In general, counseling is given to the visiting community about NCDs and their problems. The last activity with the person in charge of PTM conducts evaluations and discussions to evaluate actions.

## **ACTIVITY RESULTS**

The number of visitors at the activities at 2 posyandu, namely posyandu Borang Indah and Posyandu Buah Manggis was 134 people consisting of 54 people at posyandu Borang Indah and 80 people at posyandu Buah Manggis. The number of visitors at the activities at the two posyandu was 134, consisting of 54 at the beautiful Borang posyandu and 80 at the Mangosteen fruit posyandu. The results of screening and early detection of NCDs from 134 people who visited showed a 35% risk of developing type 2 DM. The blood pressure examination results obtained 48.8% blood pressure above normal systole more than 1 than 20 mmHg and diastole more than 90 mmHg. The high blood pressure test results, followed by the blood cholesterol tests, showed 42.4% above average (more than 200 / dl), and the small blood sugar (GDS) test obtained only 8.8% of blood sugar above normal. The anthropometric

examination of body weight and abdominal circumference got the results of the category of obesity and central obesity by 61.9% of the number were women 87.9%. Based on the examination results, consultation on screening results and early detection for follow-up was carried out.

This community service data is not much different from the data on community service by Azwalidi et al. in 2022 in the community study group at the Akbar Islamic Foundation Mosque in the Multiwahana Health Center work area. The risk of DM NCDs is 29.1%, blood pressure above average at 55.3%, and central obesity at 31.2% (Azwalidi et al 2022). Blood pressure above normal (hypertension) shows a tendency to be experienced by many people; this must be the attention of authorized health workers so that the community becomes more aware and motivated to undergo therapy to the Puskesmas for follow-up.

Hypertension and obesity are the most common conditions experienced by people, followed by cholesterol levels above normal. Given the magnitude of the impact of NCDs specifically hype, the Ministry of Health, through the Directorate General of Disease Prevention and Control, held the Kick Off of the Month of the Early Detection of Non-communicable Diseases (NCDs) Movement on World Hypertension Day, which was commemorated on May 17, 2022, with the theme "Prevent and Control Hypertension for a Longer Healthy Life," (Ministry of Health 2022a). Hypertension can cause fatal complications such as heart disease, stroke, cerebral disorders, and eye disorders; the higher the blood pressure, the higher the risk of damage to essential organs of the human body (Ministry of Health, 2019)

Personal counseling and education have been carried out to the community who came to the Borang Indah and Mangosteen Fruit Posyandu using leaflets and discussions related to non-communicable diseases (NCDs) carried out by the Puskesmas and from the Service Team. Many questions were the subject of debate for the Team, health workers of the Puskesmas, and the community-related to NCDs.

Non-communicable diseases (NCDs) are an increasingly worrying problem for the world, including Indonesia. Based on data from the World Health Organization (WHO), 41 million people die every year due to non-communicable diseases. In Indonesia, heart disease, cancer, chronic lung disease, and diabetes mellitus are among the top 5 causes of death. Every year, the number of cases continues to increase along with increasing risk factors, such as high sugar/salt/fat consumption, smoking, and low physical activity that have an impact on the economic side. In 2020, BPJS Kesehatan spent 17.05 trillion rupiah for the disease service. (Ministry of Health 2022a)

Early detection of NCDs is essential to reduce premature death. If early detection of the disease is done immediately, we can advise the public to avoid various risk factors for the condition or take treatment early. Thus, people can avoid complications, live more productively, and save medical costs (Ministry of Health 2002b)

The target of early detection of risk factors for non-communicable diseases is the population aged 15 years and over; the examinations carried out include anthropometric assessments, blood pressure measurements, blood sugar, sharp vision and hearing acuity examinations, and chronic obstructive pulmonary disease and specifically for married women aged 30-50 years are carried out IVA and SADANIS examinations (Ministry of Health, 2022b). Early detection at a productive age aims to prevent complications in patients to

prevent complications that can reduce productivity.

Community service partners from Puskesmas and Posyandu cadres appreciate the involvement of the Ministry of Health's poltekkes in supporting health sector programs, especially NCD programs, because Indonesia faces a double burden of disease where infectious diseases are still a problem and at the same time, non-communicable diseases (NCDs) are increasing which causes the load on the community and the State to be heavier socially and economically (Nuraisyah, F,et al 2021)

The success of health programs must be supported directly by the community and the increasing independence of the community to live healthily. Various programs have also actively involved health cadres through PTM Posbindu, Posyandu, Malaria, TB,etc. We hope these cadres' involvement will accelerate the achievement of indicators and the success of health programs. (Ministry of Health, 2023)



**Figure 1. Health Screening at Sako Health Center Palembang**



**Figure 2. Early Detection at Sako Health Center Palembang**



**Figure 3. Height Measurement at Sako Health Center Palembang**



**Figure 4. Counseling for Community Service Activities at Sako Palembang Health Center**

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## **CONCLUSIONS AND RECOMMENDATIONS**

From the community service activities that have been carried out at the Sako Health Center in Palembang, it can be concluded that the participation of academics in helping to achieve government programs is significant through the Tri Dharma application of community service universities.

The risk screening result for diabetes mellitus NCDs is 35%. Blood pressure of 48.4% above normal on average, followed by blood cholesterol values above normal of 42.4%.

Obesity and central obesity are 61.9% of the figure, 87% experienced by women.

Screening and early detection are expected to be able to prevent and control NCDs, increase programmed and intensive community knowledge, greatly support the increase in the coverage of early detection of NCDs in a Puskesmas work area and community participation in this case, health cadres are very strategic in helping the achievement of government programs, especially NCD prevention and control programs.

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