

Establishment of an Integrated Development Post (POSBINDU) for Non-Communicable Diseases (Ncds) in the Community of Karunrung Subdistrict, Makassar City

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Abstract

Situational analysis based on research conducted by Muhasidah et al. (2023) on 128 respondents showed that more than 50% of them suffered from Non-Communicable Diseases (NCDs). Among these, 67 respondents had hypertension, with 32 not taking hypertension medication regularly and 8 not taking medication at all. The irregular intake of antihypertensive drugs can lead to complications such as stroke, heart abnormalities, and kidney disease. Makassar City recorded a total of 5,632 hypertension cases (8.9%), the highest prevalence in South Sulawesi. Karunrung Subdistrict, under the working area of the Kassi-kassi Community Health Center, had the highest cases of hypertension in Makassar City. The implementing partner's priority problem was the high rate of hypertension in the area, along with the absence of an Integrated Development Post (Posbindu) for NCDs. The target partner community also lacked awareness about the importance of consistently taking antihypertensive medication to prevent complications such as stroke, heart abnormalities, and kidney disorders. The objectives of this activity were to establish an Integrated Development Post (Posbindu) for NCDs, increase the target partner's knowledge and ability to conduct Posbindu activities, educate families about the prevention and management of NCDs, and reduce the incidence of NCDs by 20–30% within one year. The proposed solutions included training target groups, providing guidebooks, implementing the five-table Posbindu NCD activities, encouraging the community to participate in weekly physical exercise for NCDs, and distributing guidebooks on NCDs and Posbindu activities prepared by the community service team. The partner's contribution included providing a permanent facility that could be used as the Posbindu NCD. The expected outcomes of this activity were the establishment of a Posbindu NCD in RW 08, increased knowledge among target partners from 50% to 80%, the initiation of weekly NCD exercise sessions, and a reduction in NCD cases by 20–30% during the year. The community service results showed significant improvement in knowledge, understanding, and attitudes among cadres and individuals with NCDs. A Posbindu was successfully established with the help of the community service team and implementing partners, including the Kassi-kassi Health Center. The sustainability of the Posbindu activities will be handed over to the implementing partners, namely the Kassi-kassi Health Center and the local community groups (*Majelis Taklim*).

Keywords: Posbindu, Non-Communicable Diseases (NCDs), prevention, complications, routine medication.



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ANALYSIS OF THE SITUATION

The 2018 Riskesdas data revealed a significant increase in the prevalence of hypertension among Indonesians aged 18 years and above, with a prevalence rate of 34.1% (Riskesdas, 2018). According to the World Health Organization (WHO), Non-Communicable Diseases (NCDs) are one of the leading causes of death globally. In 2017, 69.90% of the total disease burden in Indonesia was attributed to NCDs (Sukmana et al., 2020). Hypertension increases the risk of degenerative diseases, including a sixfold increased risk of heart disease, a threefold

increased risk of heart attacks, and a sevenfold increased risk of stroke. Epidemiological studies indicate that hypertension is influenced by several factors such as age, gender, genetics, obesity, smoking, lack of physical activity, stress, and excessive sodium intake (Elviana et al., 2021). Diseases such as cancer, stroke, kidney disease, diabetes, heart disease, hypertension, and obesity have shown an increasing trend compared to previous reports in 2013 (Purnamasari, 2018). An Integrated Development Post for Non-Communicable Diseases (Posbindu NCD) is a solution that empowers communities to manage NCDs through integrated preventive and promotive approaches. This is achieved by routinely detecting and monitoring NCD risk factors within the community. Posbindu NCD programs, initially integrated with existing community health programs such as posyandu for children and the elderly, serve as a platform for community empowerment (Kiting et al., 2017).

Community participation in Posbindu activities is influenced by several factors, including predisposition factors, supporting factors, and perceived needs (Andersen, 1974, in Priyoto, 2014). These factors encompass knowledge, attitudes, beliefs, values, and perceptions related to individual characteristics such as age, education, occupation, economic status, health facilities, and the health needs perceived by families (Febriani et al., 2021). Families play a crucial role in supporting individuals with health issues. For example, individuals with hypertension often lack proper family support, and inadequate family knowledge about hypertension care can hinder optimal treatment (Ishariani, 2018). The prevalence of hypertension is the highest in South Sulawesi, with Makassar City recording 5,632 cases (8.9%). Among the community health centers in Makassar City, the Kassi-kassi Health Center reported the highest number of hypertension cases (Riskesdas, 2018).

PRIORITY ISSUES FOR IMPLEMENTING AND TARGET PARTNERS

The main problems identified at the community service location include:

1. Lack of awareness about the high prevalence of hypertension in Makassar City and the importance of controlling blood pressure through consistent medication intake.
2. No existing Posbindu NCD in the community, despite government recommendations that each subdistrict should have at least one Posbindu.
3. No established physical exercise programs for NCD patients in the community, such as hypertension exercises, heart exercises, elderly exercises, or diabetes mellitus exercises.

OBJECTIVES AND BENEFITS OF THE ACTIVITY

The objectives of this community service activity were:

1. To enhance the understanding of posyandu cadres and individuals/families affected by NCDs regarding the prevention of stroke, heart abnormalities, and kidney disorders in hypertension patients by modifying diets and adopting healthy lifestyles relevant to NCDs.
2. To increase awareness among NCD patients and their families about the importance of consistently taking antihypertensive medication daily, even when blood pressure has returned to normal.
3. To establish an Integrated Development Post (Posbindu) for Non-Communicable Diseases (NCDs) with five activity tables:
 - Table 1: Registration
 - Table 2: Interviews
 - Table 3: Physical examinations (blood pressure, weight, height, pregnancy checks)
 - Table 4: Blood sugar, cholesterol, and uric acid tests
 - Table 5: Education and counseling

4. To create a guidebook for the accurate prevention and management of NCDs within the community.

The benefits of this activity included:

1. Increasing the knowledge and skills of Posbindu cadres in preventing and managing NCDs among the community in Karunrung Subdistrict, Makassar City.
2. Reducing the number of NCD cases in Karunrung Subdistrict, Makassar City.
3. Facilitating community health checks related to NCD prevention and management through the establishment of Posbindu.
4. Forming an NCD exercise group coordinated by Posbindu cadres, posyandu cadres, PKK mothers, and members of the local Majelis Taklim.

METHOD OF COMMUNITY SERVICE IMPLEMENTATION

The program was carried out offline while adhering to health protocols. These included measuring participants' body temperatures, wearing masks, handwashing (providing hand sanitizer), and maintaining physical distancing. The stages of the community service activity were as follows:

Input

1. Preparing a brief community service proposal.
2. Contacting partners, including 2–3 local government representatives.
3. Preparing personal protective equipment (facilities for health protocols).
4. Preparing a guidebook for Posbindu NCD activities.
5. Preparing a proposal for the establishment of a Posbindu NCD.

Process

1. Once permission for the community service activity was obtained, the team met with local government officials (the subdistrict head and community leaders) to discuss the program's objectives and schedule implementation.
2. Inviting all community leaders, health cadres, and local health center representatives to discuss the formation of a Posbindu NCD.
3. Conducting pre-test surveys on Posbindu NCD activities for cadres and the local community.
4. Creating a guidebook for Posbindu NCD activities.
5. Organizing training sessions for Posbindu cadres and NCD exercise trainers.
6. Providing health services such as physical examinations (blood pressure, cholesterol, uric acid, and blood sugar levels) and counseling from Monday to Saturday between 8:00 AM and 11:00 AM.
7. Processing pre-test and post-test data using statistical analysis (N-Gain test by Meltzer, 2002).

Output

1. The establishment of a Posbindu NCD ready to provide services, including physical examinations and counseling, in RW 08 of Karunrung Subdistrict, Makassar City.
2. A guidebook for Posbindu NCD activities.
3. Videos and photos of the activities conducted.
4. A published community service article and an Intellectual Property Rights (IPR) certificate.

PLAN FOR FOLLOW-UP ACTIVITIES

The follow-up plan involves transferring responsibilities to posyandu cadres and local Majelis Taklim leaders to ensure the activity continues as a community-driven initiative. The

program encourages participation from local organizations such as Majelis Taklim, posyandu cadres, and PKK members to conduct these activities regularly, similar to posyandu operations. For incentives for Posbindu cadres and NCD exercise trainers, discussions will be held with community leaders (RT and RW) to explore self-sustaining community efforts, especially involving families affected by NCDs.

EVALUATION PLAN

Evaluation methods include:

1. Distributing post-test questionnaires to target participants two months after the establishment of the Posbindu NCD.
2. Conducting interviews with cadres and community members.
3. Monitoring the number of visits to the Posbindu NCD within two months after its establishment.
4. Assessing the continued implementation of the program by posyandu cadres and PKK members.

POSBINDU PTM Activity Manual

1. Material Content. The material in the manual is related to the prevention and treatment of NCDs, especially hypertension correctly and appropriately to prevent strokes, heart and kidney disorders in the community, including a healthy diet, lifestyle modifications and avoiding stress.
2. Language. The language used in the manual is simple Indonesian, easily understood by the non-health community.
3. Image Design. The design of the images in the book is adjusted to the discussion material. This image is colored and has a description or explanation of each image.
4. Writing Design. The writing in this manual uses large, easy-to-read writing and dancing.

Form of Partner Participation

The form of participation of implementing partners is to provide building facilities for the establishment of POSBINDU PTM. while the participation of target partners, namely posyandu cadres and local Majelis Taklim women's groups, is willing to attend training and willing to carry out 5 POSBINDU PTM tables once a month and willing to accompany PTM and family gymnastics once a week.

RESULTS OF COMMUNITY SERVICE ACTIVITIES

The results of the community service activities achieved to date include:

1. The community service team conducted Focus Group Discussions (FGDs) with the Kassikassi Health Center team, as the Posbindu establishment is located within its working area.
2. The team and the health center representatives scheduled meetings with community groups, including Majelis Taklim leaders, RW and RT leaders in the Posbindu establishment area (RW 08 of Karunrung Subdistrict). Meetings were also held with posyandu cadres to recruit potential Posbindu cadres who were willing to voluntarily assist existing posyandu cadres.
3. Documents prepared for the community service activity included attendance lists for training sessions, pre- and post-tests, and presentation materials.
4. Training on the procedures for establishing a Posbindu NCD, along with the appointment of Posbindu cadres, was conducted over two days (March 20–21, 2024, during Ramadan). However, the activity was postponed to May upon the request of RW and RT leaders, cadres, and community group leaders. Pre-tests were conducted before the sessions, and post-tests followed the distribution of guidebooks (photos and videos of the activities are attached).

5. Posbindu NCD services were implemented, covering five key tables for NCD patients, particularly those with hypertension and diabetes mellitus, in RW 08 of Karunrung Subdistrict, Makassar City (originally scheduled for April 4, 2024, during Ramadan but postponed to May upon community request). Photos and videos of these activities are attached.
6. Pre- and post-test data were analyzed using the N-Gain test (Meltzer, 2002) to measure improvements in knowledge and attitudes among nine prospective Posbindu NCD cadres. The results were categorized as high, moderate, and low.
 - a. Knowledge of Cadres on Posbindu NCD Activities

Table 1: Distribution of Knowledge About Posbindu NCD Activities

Knowledge Level	Frequency	Percentage (%)
High	6	66.6%
Moderate	3	33.4%
Low	0	0%
Total	9	100%

Source: Primary data, 2024

The table shows that six cadres (66.6%) had high knowledge, and three (33.4%) had moderate knowledge about Posbindu NCD activities after the training sessions conducted in the working area of the Kassi-kassi Health Center, Makassar City.

b. Attitudes of Cadres Toward Posbindu NCD Activities

Table 2: Distribution of Changes in Attitudes Toward Posbindu NCD Activities

Attitude Level	Frequency	Percentage (%)
High	8	88.8%
Moderate	1	11.2%
Low	0	0%
Total	9	100%

Source: Primary data, 2024

The table indicates that eight cadres (88.8%) demonstrated a positive change in attitude, while one cadre (11.2%) showed a moderate change.

OUTPUT TARGETS

The output targets for this community service activity included:

1. A guidebook on Posbindu NCD implementation.
2. Intellectual Property Rights (IPR) certificates for the guidebook and community service activity report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the pre-test and post-test results, the five-table Posbindu activities, and the output targets achieved, the following conclusions can be drawn:

1. Most posyandu cadres and NCD patients or their families showed increased knowledge and nearly 100% agreement on the importance of preventing stroke, heart abnormalities, and kidney disorders in hypertension patients by modifying diets and adopting healthy lifestyles.

2. Significant improvements were observed in understanding and attitudes among NCD patients and their families regarding the need for consistent daily medication, even when blood pressure is normal.
3. An Integrated Development Post (Posbindu) for NCDs was successfully established with five activity tables:
 - a. Registration
 - b. Interviews
 - c. Physical examinations (blood pressure, weight, height, and pregnancy checks)
 - d. Blood sugar, cholesterol, and uric acid tests
 - e. Education and counseling
4. A guidebook on the accurate prevention and management of NCDs was successfully developed.

Recommendations

1. For Posbindu Cadres: With improved knowledge and skills, cadres are expected to contribute actively to the prevention and management of NCDs in the Karunrung Subdistrict community.
2. For NCD Patients: Hypertension patients are encouraged to routinely visit the Posbindu to monitor their health and contribute to reducing the prevalence of NCDs in the area.
3. For Community Health Centers: A weekly NCD exercise group has been formed, coordinated by Posbindu cadres, posyandu cadres, and Majelis Taklim members. The health center is advised to monitor these activities to ensure they run smoothly.
4. For Community Sustainability: The program emphasizes the need for continuous motivation for NCD patients to regularly monitor their health to prevent complications such as stroke, kidney disorders, and heart abnormalities.



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