Training cadres and establishment of an integrated development post for non-communicable diseases based on a mosque

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ABSTRACT

Introduction: Non-communicable diseases (NCDs) are the highest cause of death due to non-communicable diseases in Indonesia. This condition is certainly very worrying because the trend of NCDs is increasing, followed by a shift in disease patterns, where previously NCDs were experienced by the elderly group and are now starting to threaten younger age groups. Public awareness of NCD risk factors needs to be increased. This requires community participation in PTM (penyakit tidak menular) integrated development activities (Posbindu). Posbindu PTM is an activity for early detection and monitoring of the main risk factors for PTM through community participation. The aim of this activity is cadre training and the establishment of a mosque-based Posbindu PTM.

Methods: The method used is Asset Based Community Development (ABCD). The ABCD method is a service method that focuses on the strengths and capacities of local communities. The establishment of the PTM Posbindu was carried out at the Aisyah Abdul Latif Farah Mosque, Namorambe District, Deli Serdang Regency. There were 10 cadres recruited at Posbindu PTM Mosque.

Results: The results of the establishment of the mask-based PTM Posbindu are expected to be able to detect PTM risk factors as early as possible and reduce the number of PTM congregants at mosques in particular and society in general.

Conclusion: The socialization and formation of the mosque-based Posbindu PTM received overwhelmingly positive support from the Deli Serdang Health Service and the Aisyah Abdul Latif Farah Mosque, providing a ray of hope in our fight against NCDs.

Keywords: Training; cadre; establishment; non communicable diseases; mosque.

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INTRODUCTION

Non-communicable diseases (NCDs) are the highest cause of death from non-infectious diseases in Indonesia. This condition is undoubtedly very worrying because the trend of PTM (penyakit tidak menular) is increasing, followed by a shift in disease patterns; previously, PTM was experienced by the elderly group, but now it is starting to threaten the younger age group. If the NCD trend increases in the productive age, it will impact human resources (HR) and the future of Indonesia. In 2030, Indonesia will achieve a demographic bonus where the productive age is higher than the non-productive age. If the trend of NCDs increases in productive age, Indonesia’s efforts to create healthy human resources will be challenging.¹

According to the World Health Organization (WHO), in 2018, PTM was the cause of death in the world by 71%. Meanwhile, in Indonesia, the percentage of deaths caused by NCDs continues to increase. It can be seen in the 2001 Household Health Survey (SKRT) of 49.9%, Riskesdas 2007 of 59.5%, and the 2019 Ministry of Health reported that the percentage of NCDs was 69.91%. Based on the 2018 Basic Health Research (Riskesdas), the prevalence of NCDs increased compared to the 2013 Riskesdas. Stroke rose from 7% to 10.9%, diabetes mellitus rose from 6.9% to 8.5% and hypertension rose from 25.8%. % to 34.1%.²

The increase in the prevalence of NCDs in Indonesia is due to unhealthy lifestyles, including smoking behavior, alcohol consumption, lack of physical activity, and a low diet of vegetables and fruit. In 2013, the prevalence of smoking among teenagers increased namely 7.2%, and in the 2018 Riskesdas, it was 9.1%. The prevalence of eating less fruit and vegetables in the population over 5 years is 95.5%. Apart from that, the prevalence of insufficient physical activity also increased from 26.1% to 33.5%.³

NCDs in North Sumatra are also still a problem. According to the North Sumatra Riskesdas 2018 report, the prevalence of cancer is 1.55%, Diabetes mellitus at age ≥ 15 years is 2.0%, hypertension at age ≥ 18 years is 29.19%, and stroke at...
age ≥ 15 years is 9.3%. Several factors are causing the high level of NCDs in North Sumatra: less physical activity by 33.7%, alcohol consumption by 5.5%, and less consumption of fruit and vegetables by 95.5%.6

To prevent and control NCDs, the Government has created various methods, namely advocating for NCD management, promoting NCD risk factors through community empowerment, strengthening health service capacity, and strengthening NCD surveillance. One of the national programs for preventing and controlling NCDs has developed activities such as promoting healthy living behavior, a community-based effort called Posbindu PTM (Integrated Development Post for the Prevention of Non-Communicable Diseases) since 2012.7

Post for non-communicable diseases is an activity for early detection and monitoring of the main NCD risk factors through community participation. Risk factors for NCDs include smoking behavior, unhealthy consumption, consumption of alcoholic drinks, stress, hypertension, and follow-up.8

The government’s strategy is to approach one Posbindu PTM in each village. Until August 2016, there were 18,895 Posbindu PTM in 34 provinces in Indonesia, and in North Sumatra, there were as many as 610 Posbindu PTM. Since 2014, approaches have been taken in various settings, including agencies, educational institutions, Hajj, public facilities, health, offices, and places of worship, to develop Posbindu PTM.7

Mosques are among the settings targeted in the development and implementation of Posbindu PTM, with the aim of improving the health of the congregation and increasing community participation in the prevention and early discovery of NCD risk factors. The Aisyah Abdullatif Farah Mosque is one of the mosques in Delitua Kuta Village, Namorambe District, Deli Serdang Regency.

North Sumatra Riskesdas 2018 data states that the number of non-communicable diseases in Deli Serdang Regency remains high. This can be seen from the rate of diabetes mellitus ≥ 15 years of 2.72% (North Sumatra: 2.03%), heart disease ≥18 years of 6.25% (North Sumatra: 5.52%), hypertension ≥ 18 years of 31, 39% (North Sumatra: 29.19%), central obesity ≥15 years was 41.03% (North Sumatra: 34.94%).8

Based on the background above, it is known that currently, the problems being faced include the following:
a. Based on the results of interviews with mosque administrators, it is clear that a mosque-integrated PTM Posbindu has not been implemented at the Aisyah Abdullatif Farah Mosque, so the congregation and the surrounding community have not routinely carried out early detection of NCD risk factors.
b. Based on 2018 Riskesdas data, there are still high rates of several non-communicable diseases in Deli Serdang, such as hypertension, diabetes mellitus, heart disease, and central obesity.

The objectives of the community service carried out are as follows:
a. Socialization and Establishment of a Mosque-Based PTM Posbindu at the Aisyah Abdul Latif Farah Mosque, Delitua Village, Kuta, Namorambe District, Deli Serdang Regency with the name “MAW AS” (Mosque and All Healthy Citizens)
b. Recruitment and Training of Mosque-Based PTM Posbindu Cadres at the Aisyah Abdul Latif Farah Mosque, Delitua Village, Kuta, Namorambe District, Deli Serdang Regency.
c. Implement mosque-based PTM Posbindu at the Aisyah Abdul Latif Farah Mosque, Delitua Village, Kuta, Namorambe District, Deli Serdang Regency.

**METHOD**

This service method is Asset Based Community Development (ABCD). The ABCD method is a service method that focuses on the strengths and capacities of local communities. The ABCD method is sustainable development and empowerment that emerges from the community by mobilizing and utilizing local resources. The local resource assets used in this service are the Mosque Sanitation Agency (BKM) of the Aisyah Abdul Latif Farah Mosque as a contributor in the implementation of the mosque-based Posbindu PTM, as for the people who are empowered as administrators and cadres of Posbindu PTM, they are 10 women from the Silaturahmi Almadani organizations and Ikrema Mosque which is under the auspices of the Mosque.

These community service activities take the form of:

**A. Preparation**
a. Coordination with the Deli Serdang Health Service, Non-Communicable Disease Prevention and Control Section regarding the activities of establishing a mosque-based PTM Posbindu in Namorambe District, Deli Serdang Regency, precisely at the Aisyah Abdul Latif Farah Mosque.
b. Preparation of materials for cadres for Posbindu PTM cadre training
c. Preparation of basic PTM Posbindu facilities and infrastructure in the form of weight measuring equipment, microtoise, blood pressure meter, blood sugar test, cholesterol test, uric acid test, abdominal circumference measuring instrument, hand sanitizer, blood lancet, alcohol cotton, gloves, Test Stripe (sugar blood, cholesterol, uric acid).

The tool used to check blood sugar, cholesterol, and uric acid levels is the Easy Touch GCU Meter Device. This tool functions to check blood sugar, cholesterol and uric acid levels in one tool and can only be used testing strips. They are checking blood sugar, cholesterol and uric acid levels using different test strips. The color of the test strip for checking blood sugar levels is green, blue for cholesterol, and yellow for uric acid. To check blood sugar, cholesterol, and uric acid levels, participants do not fast before taking the test.

**B. Implementation**
a. Socialization of Posbindu PTM to the Chair and members of the BKM Jemaah mosque, military service, and the surrounding community at the Aisyah Abdullatif Farah Mosque.
b. Establishment of a mosque-based PTM Basic Posbindu in Namorambe District, Deli Serdang Regency, precisely at the Aisyah Abdullatif Farah Mosque.
c. Cadre recruitment is carried out by mosque and military administrators under the auspices of the Aisyah Abdullah Farah Mosque.
d. Cadre training is carried out in the Namorambe Community Health Center Hall. Material about Posbindu PTM, activity stages, anthropometric measurement methods (weight, height, abdominal circumference, BMI), PTM measurement, recording NCD risk factors, and health counseling.
e. The implementation of basic Posbindu for PTM is carried out at the Aisyah Abdullatif Farah Mosque consisting of checking body temperature considering the current Covid-19 pandemic, using hand sanitizer, registration, measuring PTM, Health Counseling and follow-up.

RESULT

The Posbindu PTM was held at the Aisyah Abdul Latif Farah Mosque in Perumnas Taman Puteri Deli, Delitua Village, Kuta, Namorambe District, Deli Serdang Regency. The mosque-based Posbindu PTM was implemented on Saturday, 24 September 2022. Mrs. Juita Sitepu, the Chair and administrators of the Aisyah Mosque BKM Abdul Latif Farah, the PTM Program Implementer at the Namorambe Community Health Center, attended the implementation.

Table 1. Frequency Distribution of Posbindu PTM Participants Based On Gender, Education, Blood Sugar, Cholesterol, and Uric Acid Levels

<table>
<thead>
<tr>
<th>No</th>
<th>Variabel</th>
<th>Frekuensi (n)</th>
<th>Persentase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Male</td>
<td>9</td>
<td>17.0</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>44</td>
<td>83.0</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>SD</td>
<td>9</td>
<td>11.3</td>
</tr>
<tr>
<td>2</td>
<td>SMP</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>3</td>
<td>SMA/SMK</td>
<td>35</td>
<td>66.1</td>
</tr>
<tr>
<td>4</td>
<td>D3/S1</td>
<td>8</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>Blood Sugar Levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Normal</td>
<td>17</td>
<td>41.2</td>
</tr>
<tr>
<td>2</td>
<td>Abnormal</td>
<td>36</td>
<td>58.8</td>
</tr>
<tr>
<td></td>
<td>Cholesterol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Normal</td>
<td>24</td>
<td>45.8</td>
</tr>
<tr>
<td>2</td>
<td>Abnormal</td>
<td>29</td>
<td>54.2</td>
</tr>
<tr>
<td></td>
<td>Uric Acid Levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Normal</td>
<td>43</td>
<td>83.3</td>
</tr>
<tr>
<td>2</td>
<td>Abnormal</td>
<td>10</td>
<td>16.7</td>
</tr>
</tbody>
</table>

Source: primary data

Table 2. Frequency distribution of Posbindu PTM participants based on measurements of blood pressure, abdominal circumference, and BMI

<table>
<thead>
<tr>
<th>NO</th>
<th>Measurement Type</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Blood Pressure Measurement</td>
<td>Normal</td>
<td>31</td>
<td>58.5 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hypertension</td>
<td>22</td>
<td>41.5 %</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>53</td>
<td>100 %</td>
</tr>
<tr>
<td>2</td>
<td>Abdominal Circumference</td>
<td>Normal</td>
<td>3</td>
<td>5.6 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Central obesity</td>
<td>50</td>
<td>94.3 %</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>53</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>IMT</td>
<td>Normal</td>
<td>4</td>
<td>7.5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overweight</td>
<td>49</td>
<td>92.5%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>53</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: primary data

DISCUSSION

Preparation

As the people responsible for the activity, the community health center and the local district/city health service train in the implementation of the PTM Posbindu. So, the Community Service team coordinated with the Deli Serdang Health Service for the first preparation (Figure 1). This coordination activity was carried out on Wednesday, 27 July 2022, with the aim of this activity receiving guidance and coaching from the Deli Serdang Health Service. Deli Serdang Health Service is located at Jalan Karya Asih No.4 Petapahan, Lubuk Pakam.
District, Deli Serdang Regency. Upon arrival at the location, the service team was directed to the Non-Communicable Disease Prevention and Control Section, the supervisor of activities for establishing Posbindu PTM in its work area.

The role of the District/City Health Service is to build and strengthen its network in developing Posbindu in its work area, carry out monitoring and evaluation of Posbindu PTM activities, organize training on the implementation of Posbindu PTM for community health center officers and implementing officers, carry out and facilitate empowerment activities and increase community participation in control efforts. PTM is appropriate to regional conditions through Posbindu PTM activities and monitoring, assessing, and coaching.11

The results of coordination with the head of the P2M Section of the Deli Serdang Health Office, Mrs. Emmy Khairati SKM, M.Kes, and the P2M Manager, Mrs. Rika, S.Kep, received a positive response. The Deli Serdang Health Office expressed extraordinary appreciation regarding establishing the mosque-based Posbindu PTM because this is the first mosque-based Posbindu PTM in the Deli Serdang district. We are optimistic that this mosque-based Posbindu PTM will run smoothly and become an example for mosques in Deli Serdang.

It is also hoped that the establishment of a mosque-based PTM Posbindu in Namorambe District, Deli Serdang Regency, specifically at the Aisyah Abdul Latif Farah Mosque, can help the Health Service and Community Health Centers in carrying out prevention and early detection of PTM. So that morbidity and mortality due to NCDs can be prevented and managed.

Procurement of Facilities and Infrastructure
The facilities and equipment needed to organize Posbindu PTM are as follows:

- Minimum standards are five sets of tables and chairs, height measuring, weight scales, abdominal circumference measuring tape, and tensimeter, as well as cadre innovative books on how to measure height and weight, measuring abdominal circumference, measuring tools for analyzing body fat and measuring blood pressure using adult and child cuff sizes, simple lung function test equipment (peakflowmeter) and educational media. Complete standard facilities require a blood sugar level measuring tool, a total cholesterol and triglyceride measuring tool, a breath alcohol level measuring tool, a urine amphetamine test kit, and an IVA kit.

Procuring basic PTM Posbindu facilities and infrastructure is crucial to the project. It includes weight measuring equipment, microtoise, blood pressure meter, blood sugar test, cholesterol test, uric acid test, abdominal circumference measuring instrument, hand sanitizer, blood lancet, alcohol cotton, gloves, test stripe (sugar, blood, cholesterol, and uric acid). A Community Service team is responsible for this procurement. These tools were purchased and will be donated by the Pengandian Team to BKM Aisyah Abdul Latif Farah during the implementation of the mosque-based Posbindu PTM and will become BKM’s inventory. The purchase of facilities in the form of tools needed on August 24, 2022, was carried out by the service team, and we are committed to keeping you informed about the progress of this process.

Implementation
Socialization
The Community Service Team carried out the socialization of Posbindu PTM at the Aisyah Abdul Latif Farah Mosque on Wednesday, 10 August 2022, which was attended by the BKM Management and Women of Wiritan under the auspices of the Aisyah Abdul Latif Farah Mosque. The results of the socialization were that the Chairman of BKM, Mr. Parlugutan Harahap, and the members welcomed and supported the establishment of mosque-based Posbindu PTM at the Aisyah Abdul Latif Farah Mosque. BKM will provide material and moral support for the smooth running of mosque-based Posbindu PTM activities.
He, as Chairman, stated that he was willing to set aside the BKM budget for Posbindu PTM activities, which would be carried out on an ongoing basis.

August 11, 2022, which coincides with Thursday, the service team carried out outreach with the surrounding community, represented by the BKM Management, the chairman of Perwiritan Ibu2 (Perwiritan Silaturahmi, Perwiritan Silaturahim, Perwiritan Almadani), Perwiritan Men (Perwiritan Almadani), and Perwiritan Teenagers (Ikrema) (Figure 2). The results of this socialization received positive support from the members of the Wiritan, the slicers, and members of the Perwiritan were willing to become mosque-based Posbindu PTM cadres, and they were also willing to raise funds, if necessary, for the ongoing smooth running of the Posbindu PTM.

The efficiency and effectiveness of the Posbindu PTM program's implementation are heavily reliant on human resources. The program will run optimally when the cadres work in close collaboration with families and community leaders, underscoring the crucial role of these stakeholders in its success.12

Establishment of Mosque-Based PTM Posbindu

The establishment of a mosque-based Posbindu PTM in Namorambe District, Deli Serdang Regency, to be precise, was carried out at the Aisyah Abdul Latif Farah Mosque on Saturday, 20 August 2022, with the name Posbindu PTM “MAWAS” (Healthy Mosque Community and Residents). At the formation of Posbindu, the management of the mosque-based Posbindu PTM was obtained as the Chair of Posbindu, namely Mr. Parlugutan Harahap, Deputy Mr. Azhari Tambusi and Treasurer Mr. Sucipto. Establishment of mosque-based Posbindu PTM with stimulant Posbindu kit facilities given to BKM Mosque Aisyah Abdul Latif Farah in the form of blood pressure measuring devices, simple blood checking equipment (blood sugar, uric acid, and cholesterol), digital scales, microtoise, blood sugar stankit, acid stankit veins, cholesterol stankit, abdominal circumference measuring device, Card to Health (KMS book) or Posbindu PTM book, medical gloves, alcohol wipes, blood lancet, hand sanitizer, mask, register book, stationary (Figure 3).13

Based on the type of early detection activities, observations, and next steps that the PTM Posbindu can carry out, it can be grouped into 2 groups of PTM Posbindu, namely:

a. Basic PTM Posbindu includes checking for early detection of risk factors, which is carried out by interviewing through an instrument program or form to collect the history of previously suffered non-communicable diseases in the family, measuring body weight, height, abdominal circumference, BMI, blood pressure checks, and counseling.

b. The main PTM Posbindu includes basic Posbindu activities plus checking blood sugar, total cholesterol, and triglycerides, measuring APE, counseling and checking IVA and CBE, checking blood alcohol levels, and checking urine amphetamine for drivers, which are carried out by trained health workers such as doctors, nurses, medical laboratory technology experts, and others.

The main PTM Posbindu is carried out if it has sufficient resources in the form of equipment, health personnel, and examination places. If groups/organizations/institutions in the community do not have adequate resources, then development is carried out at the initial stage of basic PTM Posbindu. In line with the development of existing resources, the basic PTM Posbindu can be upgraded to become the main PTM Posbindu.

Organizing Posbindu PTM is carried out by existing health cadres or several people from each group/organization/institution/workplace who are willing to carry out Posbindu PTM and who have previously been specially trained and coached or facilitated to monitor NCD risk factors in each area and each group or organization.14

Mosque-based Posbindu PTM recruitment was carried out in the meeting room of the Aisyah Abdul Latif Mosque on August 22, 2022. The minimum number of institutional PTM Posbindu cadres is 5 people, depending on the services provided and the extent of community outreach. The services provided consist of 5 (five) tables: table 1: registration, table 2: interviews, table 3: anthropometric measurements, table 4: blood pressure measurements and simple blood tests, and table 5: counseling.15

The cadres recruited came from 10 women from the Silaturahmi and Silaturahim Almadani organizations and Ikrema Mosque youth. Because the community coverage consists of 5 housing complexes, namely Perumnas Puteri Deli, Namorambe Indah Housing, Namorambe City Housing, Cipta Residence Housing, and Cluster Cottage Housing, 10 cadres were recruited (Figure 4).16

The Deli Serdang Health Service was invited to the recruitment, which was attended by the Head of the P2M section, namely Mrs. Emmy Khairati SKM, M.Kes and the P2M Program Manager, Mrs. Rika, S.Kep, also attended by the Namorambe Community Health Center represented by Mrs. Dr. Srimahyuni. In this activity, the head of the P2M section of the Deli Serdang Health Office explained Posbindu PTM and the activities that cadres would carry out in implementing Posbindu PTM. The average education level for cadres is high school (SMA), and 3 people have diploma/bachelor degrees.

Due to the busy activities of the Health Service and Community Health Centers from August to early September, that month is the month for distributing vitamin A and immunization month. Therefore, the implementation of the mosque-based Posbindu PTM cadre training carried out by the Deli Serdang Health Service and the Namorambe Community Health Center can only be carried out on September 15-16, 2022 in the Namorambe Community Health Center Hall. On the first day, it was attended by the administrators of the mosque-based Posbindu PTM, the Deli Serdang Health Service, and the Head of the Namorambe Community Health Center.

The average attendance of training participants is 100%, and this attendance has undoubtedly reached the specified attendance target. All training participants participated in the entire training series with great enthusiasm and cooperation, proven by the two-way communication between resource persons and training...
participants, supported by professional resource persons. The resource persons for this activity are:

The mosque-based Posbindu PTM training activity will be held 2 days from Thursday to Friday, 15-16 September 2022. The order of the event is as follows:

The training results stated that knowledge increased after the training was carried out. Training for ordinary people can increase knowledge and skills.16

CONCLUSION

The socialization and formation of the mosque-based Posbindu PTM received positive support from the Deli Serdang Health Service and the Aisyah Abdul Latif Farah Mosque BKM. The Health Service is willing to guide and facilitate mosque-based Posbindu activities because this activity is the first activity in Deli Serdang. Recruitment of 10 cadres from representatives of the military service under the auspices of the Aisyah Abdul Latif Farah mosque and received training for 2 days. The implementation of the Posbindu PTM went according to the expected goals and ran according to the SOP consisting of 5 tables and received assistance from the Namorambe Community Health Center. Implementing the mosque-based Posbindu PTM achieved the set target; this was proven by the presence of 53 people as participants.

ACKNOWLEDGMENT

The researcher expresses much gratitude to Allah SWT who has provided guidance and assistance during the research. Researchers also express their appreciation for the community around the Aisyah Abdul Latif Farah Mosque, Namorambe District, Deli Serdang Regency, who have helped make the Posbindu PTM program a success.

CONFLICT OF INTERESTS

Authors 1 and 2 declare no conflict of interest in this research. Conflict of interest BOPTN 2022. Ministry of Religion.

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AUTHOR CONTRIBUTION

In this research, author 1 and author 2 significantly contributed to implementing community service.

ETHICAL STATEMENT

Dear editor, I am the author of a journal titled “Training Cadres and Establishment of an Integrated Development Post for Non-communicable Diseases Based on a mosque.” Stating that, it is true that this is my article and the result of the community service that I have carried out.

REFERENCES


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