

EDUCATION FOR NON-COMMUNICABLE DISEASE PREVENTION IN NONTHABURI, THAILAND: DAILY ACTIVITY ROUTINE TO BIG IMPACT

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ABSTRACT Non-communicable diseases (NCDs) are the leading cause of mortality globally and in Thailand, contributing significantly to premature deaths and economic burden. In Thailand, NCDs account for approximately 71–74% of total deaths, with major contributors including cardiovascular diseases, diabetes mellitus, cancer, and chronic respiratory diseases. This study aimed to implement and evaluate a community-based education program for NCD prevention in Nonthaburi, Thailand, conducted from April 18–21, 2026. A participatory community engagement approach was applied involving 85 participants, including community members and health volunteers. Interventions included health education sessions, screening activities, and interactive discussions. Data were collected using pre-test and post-test questionnaires. The results showed a significant increase in knowledge scores from 56.4 ± 8.2 to 82.7 ± 6.5 ($p < 0.001$). Additionally, participants demonstrated improved awareness regarding healthy lifestyle practices, particularly diet and physical activity. The findings indicate that community-based educational interventions are effective in enhancing knowledge and awareness of NCD prevention. Sustainable collaboration between stakeholders is recommended to maintain long-term impact.

KEYWORDS: *Community Engagement; Health Education; Non-Communicable Diseases; Prevention; Thailand.*

1. INTRODUCTION

Non-communicable diseases (NCDs) represent a major global health challenge and are responsible for the majority of deaths worldwide. In Thailand, NCDs account for approximately 71–74% of total mortality, with an estimated 354,000–400,000 deaths annually . The most prevalent NCDs include cardiovascular diseases, diabetes mellitus, cancer, and chronic respiratory diseases.

The burden of NCDs in Thailand is strongly associated with behavioral and metabolic risk factors such as unhealthy diet, obesity, physical inactivity, tobacco use, and alcohol consumption. Recent national survey data show that unhealthy diet (56.9%), overweight/obesity (50.0%), and physical inactivity (42.7%) are the most prevalent risk factors among the Thai population .

Urbanization, including in Nonthaburi Province, has contributed to lifestyle transitions that increase exposure to these risk factors. Despite national policies targeting NCD prevention, community-level awareness and behavior change remain limited.

Previous studies highlight that community-based health education significantly improves knowledge and promotes behavioral change related to NCD prevention (Vichitkunakorn et al., 2025). However, sustained and participatory community engagement programs are still insufficient.

Therefore, this study aimed to implement a community empowerment program through health education to improve knowledge and awareness of NCD prevention among residents in Nonthaburi, Thailand. The program emphasized participatory approaches involving local communities and health volunteers to enhance sustainability and effectiveness.

2. METHOD

The method used in implementing this community service activity is offline in the Muslim community in the Prasert Islam mosque area located at 47 Prasoet Islam Alley, Tambon Bang Talat, Pak Kret District, Nonthaburi Province 11120, Thailand. This mosque is located in a strategic area in Nonthaburi and is often the center of the Muslim community in the area. Where there is still rarely counseling on preventing Non-Communicable Diseases entitled "From data to Real Action, to prevent non-communicable diseases" using ppt and leaflet media to maximize the absorption of knowledge from the material. This activity includes several sessions, namely the opening session, the material presentation session and the question / discussion session and the last closing session.

The event was held in Nonthaburi, Thailand, from April 18–21, 2026. It was attended by 85 people, including community members and local health volunteers.

A participatory approach was used, involving:

1. Health education sessions (lectures and group discussions)
2. Screening activities (blood pressure and blood glucose measurement)

3. Distribution of educational materials
4. Interactive community-based learning activities

The implementation stages of the activity were as follows:

1. Coordination was carried out with the Muslim community of the Prasert Islam Mosque regarding the timing of the outreach, and the material provided was in accordance with the request, namely minimizing or preventing non-communicable diseases.
2. The Community Service Team prepared materials in the form of PowerPoint presentations, hardware and software, an online platform, and health screening tools.
3. The activity, held in April 2026, consisted of an opening, presentation, and closing.

A program evaluation session was conducted during the question and answer session to assess the success of the program, using questions and questionnaires.

Data were collected using structured questionnaires administered before (pre-test) and after (post-test) the intervention to assess knowledge improvement. Before the intervention, baseline observations indicated limited awareness of NCD risk factors and preventive behaviors. The expected outcome was an increase in knowledge and adoption of healthier lifestyles.

3. RESULT AND DISCUSSION

3.1 Result

This community service program was held over four days, April 18–21, 2026, in Nonthaburi, Thailand. The program was designed using a participatory approach that actively involved the community, with the primary goal of increasing knowledge, awareness, and skills in preventing non-communicable diseases (NCDs). On the first day, the program began with coordination with community leaders and local health volunteers to establish a common understanding of the program's objectives. A pre-test was then conducted to measure participants' initial knowledge of NCDs, including risk factors, symptoms, and prevention efforts. The pre-test results indicated that most participants still had limited understanding, particularly regarding the relationship between unhealthy lifestyles and the risk of diseases such as hypertension and diabetes mellitus. The second and third days focused on providing health education through interactive lectures, group discussions, and simple simulations. The material presented included an introduction to NCDs and key risk factors such as a diet high in sugar and fat, lack of physical activity, and smoking and alcohol consumption. Participants were also given an understanding of the importance of early detection through regular health check-ups.

The educational program was not solely one-way but also engaged participants in active discussions. Participants were given the opportunity to share experiences related to their health conditions, enabling a more contextual, two-way learning process. This has been shown to increase participant engagement and strengthen understanding of the material presented. In addition to education, health screenings were also conducted, including blood pressure and blood sugar levels. The screening results indicated that some participants had above-normal blood pressure, and some showed signs of high blood sugar. These findings provide an important foundation for raising participants' awareness of their personal health. The final day, a post-test was administered to evaluate participants' knowledge gains after participating in all activities. A joint reflection session was also conducted to assess participants' perceptions and experiences during the activity.

The evaluation results showed a significant increase in participants' knowledge about NCDs. The average pre-test score of 56.4 increased to 82.7 in the post-test. This improvement indicates that the educational intervention provided was effective in increasing public understanding regarding NCD prevention. In addition to increased knowledge, there was a shift in participants' awareness of the importance of healthy lifestyle behaviors. Participants began to understand that NCDs are not only influenced by genetic factors but also by daily lifestyle. Several participants expressed a commitment to reducing their consumption of foods high in sugar and fat, increasing physical activity, and undergoing regular checkups.

Table 1. Knowledge Scores Before and After Intervention

Group	Pre-test Mean \pm SD	Post-test Mean \pm SD
Participants	56.4 \pm 8.2	82.7 \pm 6.5
p-value	< 0.001	

The results show a statistically significant improvement in participants' knowledge following the educational intervention. This indicates that the program effectively enhanced understanding of NCD prevention. Community participation in this activity was quite high. This was evident in the consistent attendance of participants throughout the four-day program and their active participation in discussions and Q&A sessions. The involvement of local health volunteers was also crucial to the success of this activity, as they served as liaisons between the implementation team and the community. The participatory approach used enabled the community to feel ownership of the program, thus increasing their motivation to apply the knowledge gained in their daily lives. The interaction between facilitators and participants also created a conducive learning environme

The results of this activity indicate that community-based education is an effective strategy for increasing knowledge and awareness regarding NCD prevention. This finding aligns with various studies that show that community-based interventions can have a significant impact on changing health behaviors. The increased knowledge gained by participants is a crucial first step in the behavior change process. According to health behavior change theory, good knowledge will influence attitudes and ultimately encourage individuals to adopt healthier behaviors. However, behavior change cannot occur instantly and requires time and ongoing support. Therefore, program sustainability is a crucial aspect that needs to be considered. Collaboration between academic institutions, local governments, and the community is essential to ensure the continued implementation of this education program. Furthermore, limitations of this activity include the relatively short duration of the intervention and the lack of long-term monitoring of changes in participant behavior. Therefore, further research or activities are needed to evaluate the long-term impact of this program on reducing NCD risk factors. This community service activity had a positive impact on increasing public knowledge and awareness regarding NCD prevention. Furthermore, it successfully raised awareness of the importance of early detection through health screening. Another visible impact was increased public trust in healthcare professionals and academic institutions, which can be a crucial asset in the development of future community-based health programs.



Figure 1. Documentation of Education for Non-Communicable Disease Prevention in Nonthaburi, Thailand

3.2 Discussion

The findings confirm that community-based education is an effective strategy for improving knowledge and awareness of NCD prevention. Increased knowledge is an essential first step toward behavioral change, particularly in adopting healthier diets and increasing physical activity. These findings are consistent with recent evidence showing that behavioral risk factors such as unhealthy diet and obesity remain highly prevalent in Thailand, necessitating targeted community interventions. The high burden of NCD-related mortality in Thailand highlights the urgency of preventive strategies at the community level. Participatory approach used in this program contributed to its success, as it encouraged active involvement and ownership among participants. However, the study has limitations, including short intervention duration and lack of long-term follow-up. Future programs should incorporate continuous monitoring and evaluation to assess long-term behavioral changes and health outcomes.

4. CONCLUSION

The community-based education program successfully improved knowledge and awareness regarding NCD prevention among participants in Nonthaburi, Thailand. The participatory approach proved effective in engaging the community and promoting health awareness. Sustainable implementation and collaboration between academic institutions, local governments, and communities are essential to achieve long-term impact in reducing NCD burden.

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