

Interactive Education on Clean and Healthy Lifestyles for Mothers of Toddlers Using the Ngemper Discussion Method

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ABSTRACT

This community service activity aims to increase the knowledge and understanding of mothers of toddlers regarding PHBS through the Ngemper Discussion method, a casual, participatory, interactive discussion. The activity was carried out at the Hanjuang Integrated Health Post (Posyandu), Tanah Baru Village, North Bogor District, with 20 mothers of toddlers participating. The methods used included interactive counseling, group discussions, and pre- and post-test evaluations. The results of the activity showed an increase in participants' knowledge regarding PHBS, especially in aspects of personal hygiene, environmental sanitation, and infectious disease prevention. The Ngemper Discussion approach has proven effective in increasing participants' active participation and facilitating understanding of the material. This activity is expected to become a model for community-based health education that is applicable and sustainable.

INTRODUCTION

Clean and Healthy Living Patterns (PHBS) are a key strategy for improving public health, particularly for vulnerable groups such as mothers and toddlers. PHBS encompasses various behaviors deliberately adopted through learning to help individuals, families, and communities improve their health and play an active role in creating a healthy environment (Pedoman PHBS, 2026; Simarmata et al., 2023). Implementing PHBS at the household level is crucial because the family is the smallest unit in society and plays a significant role in shaping health behaviors. Toddlers are an age group that is highly susceptible to various diseases, particularly infectious diseases such as diarrhea, acute respiratory infections (ARI), and skin diseases. The high incidence of these diseases is often related to low implementation of PHBS within the family environment (Apriani, 2018). Factors such as maternal lack of knowledge, unhygienic habits, and limited access to health information are the main causes of low PHBS implementation (Beal et al., 2018; Organization, 2021; Water, Sanitation and Hygiene (WASH), 2026).

Mothers play a central role in childcare, including maintaining cleanliness, diet, and a healthy living environment. Therefore, increasing mothers' knowledge and awareness of PHBS (Clean and Healthy Living) for toddlers is a strategic step in preventing disease in children. Research shows a significant relationship between a mother's level of knowledge and PHBS practices in the household (Notoatmodjo, 2012). The better a mother's knowledge, the better the health behaviors they implement in their daily life. However, in practice, health education is often one-way (lecture-based), making it less effective in increasing understanding and changing community behavior. This conventional approach tends to make participants passive and less actively involved in the learning process. Therefore, more participatory and interactive educational methods are needed to better understand health messages. One method is the Ngemper Discussion method. This is a relaxed, community-based discussion approach conducted informally, usually by sitting together on the floor or in an open space, creating a more intimate and relaxed atmosphere. This approach allows for more effective two-way communication, increases active participation, and facilitates the delivery of information relevant to the community's daily conditions.

The Ngemper Discussion method also aligns with the principles of adult learning, where participants learn more effectively through experience, discussion, and direct involvement (Knowles et al., 2014). In this context, mothers of toddlers are not only recipients of information but also able to share experiences, ask questions, and discuss the health issues they face. Posyandu, as a form of Community-Based Health Effort, plays a crucial role in improving maternal and child health. Posyandu is a strategic location for implementing health education activities because it has direct access to the community, especially mothers and toddlers. The Hanjuang Posyandu in Tanah Baru Village, North Bogor District, is one of the active Posyandus that regularly provides health services. However, its educational delivery methods still need to be improved (Ch Rosha et al., 2020).

Based on initial observations, it was discovered that some mothers of toddlers in the area still have limited understanding of PHBS (Healthy and Healthy Living), such as the importance of handwashing with soap, household waste management, and food and environmental hygiene. This indicates the need for more effective and innovative educational interventions. Through this community service activity, interactive education on PHBS (Healthy Living Environment) was conducted using the *Ngemper* Discussion method. It is hoped that this approach will improve mothers' knowledge, attitudes, and practices in implementing PHBS in their daily lives, ultimately improving family health and reducing the incidence of disease among toddlers. Furthermore, this activity is also expected to strengthen the role of Posyandu (Community Health Post) as a community-based health education center. With a more participatory method, it is hoped that counseling activities at Posyandu will be more engaging, effective, and sustainable.

IMPLEMENTATION AND METHODS

This community service activity used a participatory educational approach using the *Ngemper* Discussion method. The activity was held at the Hanjuang Integrated Health Post (Posyandu) in Tanah Baru Village, North Bogor District, with 20 mothers of toddlers participating.

The activity stages included:

1. Preparation
 - a. Coordination with Posyandu cadres.
 - b. Preparation of PHBS educational materials.
 - c. Preparation of evaluation instruments (pre-test and post-test).
2. Implementation
 - a. Pre-test to measure participants' initial knowledge.
 - b. Interactive delivery of PHBS materials.
 - c. Group discussions using the *Ngemper* Discussion method.
 - d. Questions and answers and sharing of participants' experiences.
3. Evaluation
 - a. Post-test to measure knowledge gains
 - b. Participatory observation of participants during the activity

Data were analyzed descriptively by comparing the pre-test and post-test results.

RESULTS AND DISCUSSION

The community service activity, targeting mothers of toddlers at the Hanjuang Integrated Health Service Post (Posyandu), Tanah Baru Village, North Bogor District, was conducted using the *ngemper* discussion method, which is presented in a relaxed manner and with simple communication patterns so that it is easier for participants to understand. The activity began with an introduction of the team and participants, which was then followed by a casual chat about clean and healthy lifestyles.

Twenty mothers of toddlers participated in the full program. Evaluations were conducted using pre- and post-tests to measure improvements in knowledge regarding clean and healthy living (PHBS).

Table 1. Result of Pre-test and Post-test

No	Knowledge Category	Pre-test (n, %)	Post-test (n, %)
1	Good ($\geq 76\%$)	4 (20%)	15 (75%)
2	Enough (56-75%)	10 (50%)	5 (25%)
3	Poor ($\leq 55\%$)	6 (30%)	0 (0%)
Total		20 (100%)	20 (100%)

The data in Table 1 showed that there was a significant increase in the good knowledge category from 20% to 75%, and a decrease in the knowledge category from less than 30% to 0%.

Table 2. Average Knowledge Score

Parameters	Score
Pre-test Average	62,5
Post-test Average	82,0
Improvement	+19,5 point

The 19.5-point increase indicates a fairly strong educational effect.

Descriptively, there was an increase in knowledge of:

- 31.2% increase in average score.
- 55% increase in the number of participants in the "good" category.

This indicates that the educational method used was effective in increasing participant understanding.

By implementing this "ngemper discussion" method, participants were more relaxed and freer to express their opinions and knowledge related to the topic of the activity, namely clean and healthy lifestyles. Documentation of the activity is shown in Figure 1 below:



Figure 1. Documentation of Posyandu Community Service Activities

The results of the activity showed that PHBS education using the *Ngemper* Discussion method increased mothers' knowledge of toddlers. The increase in the average score from 62.5 to 82.0 indicates that this method is effective in transferring health information. The relaxed and participatory nature of the *Ngemper* Discussion approach allows participants to be more actively involved in the learning process. Participants not only receive information but also share their experiences and daily practices.

Research by (Sari et al., 2025; Sitompul et al., 2025) showed that participatory education methods significantly improved public health knowledge compared to conventional lecture methods. In that study, knowledge increased by more than 25%, comparable to the results of this activity, which showed an average increase of 31.2%. This similarity in results confirms that active participant involvement is a key factor in the success of health education. Furthermore, a study by (Rahmawati & Rahadewi, 2024) found that mothers' knowledge significantly influences household PHBS practices, particularly in preventing disease in toddlers. In this activity, increased knowledge of handwashing, sanitation, and environmental cleanliness also demonstrated the potential for behavioral changes toward healthier practices, although this has not been directly measured in the long term.

A community service program conducted by (Syaputri et al., 2023) on PHBS education at integrated health posts (Posyandu) using small group discussions also demonstrated similar results, namely increased understanding and participation among mothers of toddlers. However, the *Ngemper* Discussion method in this activity has the advantage of being conducted in a more relaxed and informal atmosphere, thereby reducing participants' psychological barriers to active participation. This is also supported by (Darder, 2014) theory, which states that dialogic and contextual learning is more effective in increasing individual awareness and understanding than one-way methods. In this activity, participants not only receive information but also share real-life experiences related to PHBS practices in their households.

On the other hand, the results of this activity are also consistent with a report by the Ministry of Health of the Republic of Indonesia (2016), which stated that the success of a PHBS program is greatly influenced by an educational approach appropriate to the community's socio-cultural conditions. The community-based *Ngemper* Discussion approach has proven to be able to adapt to local culture, making it more easily accepted by participants. However, compared to several experimental studies using long-term interventions, this activity has limitations because it only measures short-term increases in knowledge. Research by (Perdana & Zahid, 2025) shows that changes in PHBS behavior require ongoing intervention and reinforcement through regular monitoring. Therefore, although the results of increased knowledge are quite positive, implementation of these behaviors in daily life still requires follow-up.

Overall, the results of this activity reinforce previous findings that participatory-based education, particularly with a contextual approach like *Ngemper* Discussion, is an effective strategy for increasing public health knowledge. The main advantages of this method lie in its ability to create a comfortable learning environment, increase social interaction, and encourage active participant involvement.

However, there were several obstacles:

1. Differences in participants' education levels affected their comprehension speed.
2. Limited discussion time.
3. Some participants remained passive at the beginning of the activity.

Overall, this method created a conducive learning environment and increased participants' confidence in asking questions and discussing.

CONCLUSIONS AND RECOMMENDATIONS

PHBS education using the *Ngemper* Discussion method has proven effective in improving mothers' knowledge of toddlers at the Hanjuang Integrated Health Post (Posyandu). This is demonstrated by: 1) An increase in the average score of 19.5 points; 2) An increase in the good knowledge category from 20% to 75%; 3) A decrease in the poor knowledge category to 0%. This method also increases active participation and interaction among participants.

1. The *Ngemper* Discussion method is recommended as a community-based health education approach because it has proven effective and easy to implement.
2. Activities need to be conducted regularly (for example, monthly at the integrated health service post) to maintain behavior change.
3. Long-term monitoring of changes in PHBS practices in households is necessary.
4. Posyandu cadres need to be trained to become facilitators of this method.
5. Further research can use statistical tests (for example, paired t-tests) to strengthen the significance of the results.

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REFERENCES

- Apriani, L. (2018). Hubungan Karakteristik Ibu, Pelaksanaan Keluarga Sadar Gizi (KADARZI) Dan Perilaku Hidup Bersih Sehat (PHBS) Dengan Kejadian Stunting. *Jurnal Kesehatan Masyarakat*, 6(4), 1-8.
- Beal, T., Tumilowicz, A., Sutrisna, A., Izwardy, D., & Neufeld, L. M. (2018). A review of child stunting determinants in INDONESIA. *Maternal & Child Nutrition*, 14(4), e12617. <https://doi.org/10.1111/mcn.12617>.
- Ch Rosha, B., Susilowati, A., Amaliah, N., & Permanasari, Y. (2020). Penyebab Langsung dan Tidak Langsung Stunting di Lima Kelurahan di Kecamatan Bogor Tengah, Kota Bogor (Study Kualitatif Kohor Tumbuh Kembang Anak Tahun 2019) DIRECT AND INDIRECT CAUSES OF STUNTING AT FIVE SUB-DISTRICTIN CENTRAL BOGOR DISTRICT, BOGOR CITY . *Buletin Penelitian Kesehatan*, 48(3), 169-182.

- Darder, A. (2014). *Freire and education*. Routledge.
- Knowles, M. S., Holton III, E. F., & Swanson, R. A. (2014). *The adult learner: The definitive classic in adult education and human resource development*. Routledge.
- Notoatmodjo, S. (2012). *Promosi kesehatan dan perilaku kesehatan*. Jakarta: Rineka Cipta, 193.
- Organization, W. H. (2021). *Levels and trends in child malnutrition: UNICEF*.
- Pedoman PHBS. (2026). <file:///ayosehat.kemkes.go.id/pedoman-phbs>.
- Perdana, E., & Zahid, A. (2025). Perubahan Perilaku Hidup Bersih dan Sehat (PHBS) melalui Sosialisasi Kebersihan Lingkungan di Desa Mujur. *Journal of Community Development and Empowerment*, 1(5), 120–124.
- Rahmawati, P., & Rahadewi, A. (2024). Penyuluhan Perilaku Hidup Bersih dan Sehat Pada Ibu Hamil di Desa Sukahaji, Kabupaten Ciamis. *Jurnal Pengabdian Dan Pemberdayaan Masyarakat Inovatif*, 3(2), 60–65.
- Sari, S. F., Prayogo, M. S., ADR, A. Z., Akmalina, N. I., Hariyanti, M., Mubarroq, A. S., Annisa, T. N., Latifah, I., & Hasanah, W. (2025). Strategi pencegahan stunting melalui pelatihan pengolahan PMT berbasis bahan lokal dengan metode Participatory Action Research. *Menulis: Jurnal Penelitian Nusantara*, 1(8), 476–484.
- Simarmata, V. P. A., Reviani, N., Suryanegara, W., Langi, L. A., Prihantini, N. N., & Novelyn, S. (2023). Counseling on Clean and Healthy Lifestyles (PHBS) in Rancakalong District, Sumedang, West Java. *Asian Journal of Community Services (AJCS)*, 2(11), 917–926. <http://repository.uki.ac.id/id/eprint/13033>.

Sitompul, Y. R. M. B., Beding, B. M., Angelina, L., Wijaya, C., Rombe, C. V. I., & Patriawati, K. A. (2025). Training on Procedures for Selecting and Processing Healthy Food as One of the Implementations of the Healthy Kitchen Program to Address Stunting. *Asian Journal of Community Services*, 4(11), 897–904. <https://doi.org/10.55927/ajcs.v4i11.423>.

Syaputri, D., Manalu, S. M. H., Apsari, D. A., & Suprawihadi, R. (2023). The Influence of Clean and Healthy Living Behavior Education on Changes in Student Behavior. *Contagion: Scientific Periodical Journal of Public Health and Coastal Health*, 5(4), 1194–1205.

Water, sanitation and hygiene (WASH). (2026). https://www.who.int/health-topics/water-sanitation-and-hygiene-wash#tab=tab_1.