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IMPROVING PUBLIC HEALTH THROUGH EARLY DETECTION OF NUTRITIONAL STATUS AND UTILIZATION OF LOCAL FOOD IN MASANGAN KULON SIDOARJO

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ABSTRACT

Nutritional problems in Indonesia among others undernutrition, overweight/obesity, and non-communicable diseases that can occur across all age groups. Masangan Kulon Village, Sukodono District, Sidoarjo Regency, faces similar challenges with suboptimal utilization of local food resources. Therefore, there is a need for early detection programs for nutritional status and education on the use of local food ingredients for adolescents, adults, and the elderly. Activities were conducted on June 19, 2025, for adults (32 people) and the elderly (22 people), and on July 17, 2025, for adolescents (83 people). Examinations included anthropometry, blood pressure, blood sugar, and nutrition education, accompanied by cooking demonstrations featuring catfish tekwan and corn pudding. The results indicated a variety of nutritional statuses, including central obesity, hypertension, and pre-diabetes in several participants. This program improved nutrition knowledge, skills in processing local foods, and awareness of the importance of preventing non-communicable diseases. The activity has the potential to become an intervention model.

Keywords: Adolescents, Noncommunicable Disease, Nutrition Disorders, Nutritional Status

INTRODUCTION

Nutritional problems in Indonesia remain a complex public health challenge to this day. Data from the 2023 Indonesian Health Survey (SKI), which integrates the Basic Health Research (Riskesmas), show the presence of a tripple burden of malnutrition. Micronutrient deficiencies are still found in vulnerable groups such as adolescents, while on the other hand, overnutrition and non-communicable diseases (NCDs) are increasing among adults and the elderly. Among adolescents aged 11–13 years, the prevalence of anemia is still relatively high and negatively impacts cognitive development, work capacity, and long-term productivity (Winurini, 2025). In addition to anemia, many teenagers also face other nutritional problems, such as malnutrition, undernutrition, overweight, and obesity, which overall can affect their health and quality of life in the future (Sari *et al.*, 2022). Meanwhile, in the adult group, the shift in consumption patterns towards high-energy but nutrient-poor processed foods, combined with low physical activity, contributes to the increasing prevalence of overweight, obesity, hypertension, and diabetes (Retiaty *et al.*, 2025). This condition even places Indonesia among the countries with the highest diabetes burden in the world (Wahidin *et al.*, 2024). The elderly face various specific nutritional problems, such as sarcopenia, osteoporosis, and micronutrient deficiencies, which are influenced by biological changes, limited

access to food, and social factors (Setiati *et al.*, 2025). In addition, many elderly individuals experience obesity and have a history of chronic diseases such as hypertension and diabetes, requiring special attention in their nutritional fulfillment and health management (Sudikno *et al.*, 2021).

This challenge is becoming increasingly apparent at the community level, including in Masangan Kulon Village, Sukodono District, Sidoarjo Regency. Observations from the local community show a low utilization of local food potentials such as vegetables, tubers, legumes, and spices as sources of nutritious food that can meet the needs of all age groups. Low nutritional knowledge and skills in processing local ingredients into healthy dishes, combined with increasingly easy access to modern processed food products, contribute to worsening the public's nutritional situation. Community-based interventions, particularly those that combine nutrition education with culinary training such as cooking demonstrations, are effective in enhancing knowledge, cooking skills, and the ability to choose healthy food ingredients. Nevertheless, the long-term impact on anthropometric indicators and nutritional biomarkers still shows variation between studies, indicating the need for more contextual intervention designs (Hasan *et al.*, 2019). Therefore, the community service program in Masangan Kulon Village is expected to serve as a model for contextual, practical

interventions that utilize local potential and have the potential to be replicated in other rural areas.

OBJECTIVES

General Purpose

The general purpose of this activity is to improve health status and prevent nutritional problems in the community.

Special Purpose

The specific purposes of this community service activity are:

1. Conducting nutritional status screening using anthropometric methods.
2. Improving public knowledge by providing nutrition education to adolescents, adults, and the elderly.
3. Improving community skills in preparing nutritious foods based on local ingredients.

PLAN OF ACTION

Strategy Plan

1. The activity began with a focus group discussion (FGD) with stakeholders in Masangan Kulon Village.
2. Approaching the community to promote nutritional status screening activities
3. Conducting training in processing nutritious food based on local food.

Implementation

1. Conducting focus group discussions (FGDs) with stakeholders in Masangan Kulon Village.
2. Collecting baseline data directly using provided anthropometric forms, which were completed by community service students.
3. Implementing the program through education and training on nutritious

food processing based on local foods..

Setting

Community service activities were carried out in Masangan Kulon Village, Sidoarjo. The implementation was conducted in 2 stages. The first stage was held on June 19, 2025,

Target

The targets for this activity were teenagers, adults, and the elderly. Based on the results of the activity, the targets were 32 adults, 22 elderly people, and 83 teenagers.

RESULTS AND DISCUSSION

This community service activity was carried out in Masangan Kulon Village, Sidoarjo, where its implementation was conducted in 2 stages in the form of anthropometric measurements to determine the nutritional status of the target groups. The first stage was carried out on June 19, 2025, targeting 32 adults and 22 elderly individuals, while the second stage was conducted on July 17, 2025, targeting 83 adolescents.

In the elderly group, the examinations carried out include anthropometric measurements (weight, height, blood pressure, waist circumference, body mass index (BMI), and blood sugar tests). In the adult group, the examinations conducted include body weight, height, blood pressure, blood sugar test, BMI, and waist circumference. In the adolescent group, measurements include body weight, height, blood pressure, waist circumference, and BMI-for-age. In addition to anthropometric measurements, there are also brief educational sessions and cooking demonstration activities for

the elderly using local food ingredients. The selected menu was catfish tekwan and corn pudding. The main local food ingredients used were catfish and corn, both chosen because they are easily available in the Sidoarjo area. Catfish was selected based on its abundant availability, as the region is one of the areas that cultivate catfish, while corn was chosen because it is a local agricultural product rich in fiber and vitamins.

In this activity, the participants showed very high enthusiasm, evident from their active participation in the cooking process and discussions about the benefits of local food ingredients. Some participants also tried processing the ingredients themselves and asked about recipe variations that can be used for PMT (Supplementary Feeding) for the elderly.

The implementation of this Community Service aims to determine the nutritional status of adolescents, adults, and the elderly, as well as provide knowledge related to the utilization of local food ingredients. The results of this screening are expected to serve as evaluation material and motivation for the community to better understand and become aware of their current health conditions, thereby encouraging efforts in the early prevention of nutritional problems and non-communicable diseases (Nabila *et al.*, 2025). In addition, practical cooking interventions using local food resources are expected to improve confidence and healthy eating behaviors in the elderly (Noerper *et al.*, 2025). The results of the nutritional status screening conducted on adolescents, adults, and the elderly are as follows:

Table 1. Results of adolescent nutritional status screening

Indicator	N (%)
Nutritional Status (BMI/Age)	
Severe underweight	4.8
Underweight	13.3
Normal	51.8
Overweight	16.9
Obesity	13.3
Waist circumference	
Normal	94.0
Central obesity	6.0
Blood Pressure	
Low	1.2
Normal	91.6
Hipertention	7.0

Screening results in the adolescent group showed that 51.8% of teenagers had normal nutritional status. Furthermore, the prevalence of overweight among adolescents was 16.9%, obesity 13.3%, undernutrition 13.3%, and severe malnutrition reached 4.8%. These conditions depict the existence of the double burden of malnutrition, which includes both undernutrition and overnutrition, a situation that often occurs in developing countries. Waist circumference measurements indicate that the majority of adolescents are in the normal category (94.0%), while 6.0% of adolescents experience central obesity. Although the results show that central obesity in adolescents is relatively low, it still needs to be monitored because it has the potential to become a risk factor for metabolic syndrome in adulthood. In the blood pressure measurements of adolescents, the majority were in the normal category, although many fall into the normal range, they still need to be monitored.

Table 2. Results of adult nutritional status screening

Indicator	N (%)
Nutritional Status (BMI)	
Underweight	6.3
Normal	6.3
Overweight	9.4
Obesity	78.1
Waist Circumference	
Normal	12.5
Central Obesity	87.5
Blood Pressure	
Low	46.9
Pre-Hipertention	12.5
Hipertention	40.6
Blood Sugar Level	
Normal	75.0
Pre-Diabetes	15.6
Diabetes	9.4

The results of the adult group measurement screening showed a very high prevalence of obesity (78.1%), followed by overweight (9.4%), normal nutrition (6.3%), and undernutrition (6.3%). Central obesity was experienced by 87.5% of individuals, indicating a significant cardiometabolic risk. Low blood pressure was found in 46.9% of adults, hypertension in 40.6%, and pre-hypertension in 12.5%. Meanwhile, 75.0% had normal blood glucose, but 15.6% had pre-diabetes and 9.4% had diabetes, requiring early intervention to prevent complications.

Table 3. Results of elderly nutritional status screening

Indicator	Status	N (%)
Nutritional Status (IMT)		
Underweight		4.5
Normal		22.7
Overweight		18.2

Obesitas 54.4

Waist Circumference	
Normal	9.1
Central Obesity	90.9
Blood Pressure	
Low	4.5
Pre-Hipertention	36.4
Hipertention	59.1
Blood Sugar Level	
Normal	33.3%
Pre-Diabetes	38.1%
Diabetes	28.6%

Based on the screening results from the elderly group, it was found that almost 50% of the elderly were obese (54.4%), while only 22.7% had normal nutritional status, 18.2% were overweight, and 4.5% were undernourished. Central obesity was found in 90.0% of the elderly, indicating a high risk of cardiovascular and metabolic diseases. As many as 59.1% of the elderly were classified as hypertensive, 36.4% as pre-hypertensive, and 4.5% had low blood pressure. Blood sugar measurements revealed 38.1% pre-diabetes, 28.6% diabetes, and only 33.3% normal, indicating the need for consistent management of diet and physical activity.

In adults and the elderly, increased blood pressure is an important risk factor for type II diabetes mellitus through the mechanism of insulin resistance, while body fat distribution, particularly abdominal fat accumulation, is an independent risk factor for coronary artery disease, hypertension, stroke, and type II diabetes mellitus. The higher the level of central obesity, the greater the risk of increased blood sugar levels. As in the research by Gemini & Natalia (2023),

which shows a significant relationship between blood pressure and blood sugar levels in the elderly, as well as between central obesity and blood sugar levels in the elderly.

The results of this screening indicate that the community in Masangan Kulon Village faces a double burden of malnutrition, with undernutrition still present among some teenagers, while overnutrition is the main problem among adults and the elderly. The issue of double nutrition is influenced by rapid changes in the food system, globalization, and urbanization, which promote the consumption of low-nutrition processed foods. This condition triggers unhealthy eating patterns and indicates that nutritional deficiencies early in life can increase the risk of overnutrition in adulthood (Tanzihha & Diana, 2024). In line with Popkin's 2006 concept of nutrition transition, there is a shift in dietary patterns from high-fiber plant foods to high consumption of fats, sugars, and processed foods. This nutritional transition has increased the consumption of fast food and sugary drinks, which according to the WHO contributes to the rising rates of obesity and non-communicable diseases such as diabetes, cardiovascular diseases, and cancer (Hasnah, 2024).

One of the preventive and curative efforts in nutritional intervention is through education. The educational methods applied in this activity are tailored to the characteristics of the target group. For adult and elderly targets, screening and education activities are conducted on the same day. Education is delivered through a presentation method that covers material on balanced nutrition, limiting the consumption of sugar, salt, and fat, the benefits of regular physical activity, and the importance of early

detection of non-communicable diseases. To reinforce the message, participants are also provided with brochures containing guidelines for balanced nutrition that they can take home for further reading.

For the teenage target group, activities were held on separate days at the Village Hall. Education was conducted before the health check-ups by showing a short animated video containing messages about balanced nutrition, the importance of breakfast, limiting fast food, and the benefits of physical activity. After the video screening, a rapid-fire quiz with five questions was held. Each correct answer received a prize, and this session received very enthusiastic responses from the students. The children were not only eager to participate but were also able to answer the questions correctly, demonstrating that delivering information through interactive audiovisual media can capture attention and enhance teenagers' understanding. Interactive media such as digital applications, educational videos, and educational games create a more dynamic and engaging learning environment, thus motivating students and increasing their enthusiasm while optimizing their understanding of the material (Safitri *et al.*, 2025).

A cooking demonstration featuring catfish tekwan and corn pudding, using local ingredients (catfish and corn), has proven effective in nutrition education because it provides hands-on experience. Catfish as a local food source is a source of protein; in addition, catfish also contains important micronutrients that support the health of the elderly. Previous research has shown that catfish meat has a protein content of about 19 g per 100 g, with the proportion of essential amino acids reaching 41.8 g/100 g of protein, including lysine and leucine which are important for maintaining muscle mass

and immune function. In addition, catfish also contain minerals such as calcium, phosphorus, and iron—nutrients that are important in the prevention of osteoporosis and anemia in old age (Abdel-Mobdy et al., 2021).

The elderly appeared very enthusiastic during the activity, actively asking about recipe variations, which indicates that the hands-on approach opens up opportunities for more interactive and enjoyable learning. In the study by Alghamdi et al. (2022), it was shown that a culinary-based nutrition education program that implements interactive cooking workshops (especially for elderly individuals aged ≥ 51 years) creates a conducive environment for improving eating habits and nutrition literacy in older adults. This reflects that cooking demonstrations using local food ingredients are an effective educational approach. Cooking classes do not reduce cardiometabolic indicators (such as BMI, blood pressure, or cholesterol); however, interventions using this method successfully improve positive attitudes, cooking self-efficacy, and the tendency to consume healthy foods in adults. This is relevant because cooking demonstration activities can build self-confidence and the intention to adopt healthier eating patterns (Hasan et al., 2019).

This program combines multi-age health screenings with practical nutritional interventions, so the examination results are immediately followed by education and corrective measures. The community members present were actively involved, from participating in health check-ups to discussing the results of the examinations. Posyandu volunteers and housewives were trained to practice the recipes taught, ensuring the sustainability of the program. Through the implementation of this activity, it is expected that the community

will gain knowledge about nutritional and health status, as well as skills in preparing healthy food. In addition, there is potential to reduce the prevalence of malnutrition in children/adolescents and control obesity in adults/elderly through a diet based on local ingredients. Screening data can be used as a reference for planning village health programs.

CONCLUSION

The community service program in Masangan Kulon Village successfully identified the problem of double malnutrition across different age groups, with undernutrition still found among adolescents, while obesity and non-communicable diseases are major issues among adults and the elderly. Interventions through early detection of nutritional status, nutrition education, and cooking demonstrations based on local foods (catfish and corn) were able to improve knowledge, skills in preparing healthy food, and public awareness of the importance of preventing non-communicable diseases. This activity has the potential to serve as a community-based intervention model that can be replicated in other areas, by adapting the local food resources to enhance community health and food security.

REFERENCES

- Abdel-Mobdy, H. E., Abdel-Aal, H. A., Souzan, S. L., & Nassar, A. G. (2021). Nutritional value of African catfish (*Clarias gariepinus*) meat. *Asian Journal of Applied Chemistry Research*, 8(2), 31-39.
- Alghamdi, M. M., Burrows, T., Barclay, B., Baines, S., & Chojenta, C. (2023). Culinary nutrition education programs in community-dwelling

- older adults: A scoping review. *The Journal of nutrition, health and aging*, 27(2), 142-158.
- Gemini, S., & Natalia, R. (2023). Hubungan tekanan darah dan obesitas sentral dengan kadar gula darah pada lansia penderita diabetes melitus tipe II. *Jurnal Keperawatan Muhammadiyah*, 8(4).
- Hasan, B., Thompson, W. G., Almasri, J., Wang, Z., Lakis, S., Prokop, L. J., & Murad, M. H. (2019). The effect of culinary interventions (cooking classes) on dietary intake and behavioral change: a systematic review and evidence map. *BMC nutrition*, 5(1), 29.
- Hasnah, F. (2024). Analisis Transisi Gizi dan Permasalahannya: Tinjauan Literatur. *Appicare Journal*, 1(1), 27-33
- Noerper, T., Lowery, A., Wright, G., & Burka, A. (2025). Increasing nutrition knowledge and culinary skills in interprofessional healthcare students: an active learning pilot study. *BMC Medical Education*, 25(1), 777.
- Retiaty, F., Andarwulan, N., Palupi, N. S., Ernawati, F., Kazimierczak, R., & Średnicka-Tober, D. (2025). Contribution of Food, Energy, Macronutrients and Fiber Consumption Patterns to Obesity and Other Non-Communicable Disease Risks in the Indonesian Population. *Nutrients*, 17(9), 1459.
- Sudikno, S., Sulistyowati, N., Nainggolan, O., & Tjandrarini, D. H. (2021). Obesity in Older Adults Indonesia: The Role of Healthy Behaviour Factors and Metabolic Syndrome. *Global Journal of Health Science*, 13(6), 124-124.
- Sari, P., Herawati, D. M. D., Dhamayanti, M., & Hilmanto, D. (2022). Anemia among adolescent girls in west java, Indonesia: related factors and consequences on the quality of life. *Nutrients*, 14(18), 3777.
- Setiati, S., Kamaruzzaman, S. B., Chew, S. T. H., Kemala Sari, N., Harimurti, K., Laksmi, P. W., & Istanti, R. (2025). Indonesian Optimal Sarcopenia Cut-off Values of Calf Circumference, Muscle Strength and Physical Performance: A Multicentre Descriptive and Cross-Sectional Study. *Frontiers in Medicine*, 12, 1536848.
- Safitri D., Manik W., YawaiT., Khairunnisa N. (2025) 'Efektivitas Media Pembelajaran Interaktif Berbasis Digital Dalam Pendidikan: Tinjauan Sistematis Lintas Disiplin Ilmu', *Proceeding International Seminar on Islamic Studies*, 6(1), pp. 1714–1721.
- Wahidin, M., Achadi, A., Besral, B., Kosen, S., Nadjib, M., Nurwahyuni, A., & Kusuma, D. (2024). Projection of diabetes morbidity and mortality till 2045 in Indonesia based on risk factors and NCD prevention and control programs. *Scientific reports*, 14(1), 5424.



SOCIALIZATION OF DIABETES MELLITUS PREVENTION IN YOUNG PEOPLE THROUGH THE USE OF HERBAL MEDICINE AT THE ARROHYATI AL FURQON ORPHANAGE

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ABSTRACT

Background Socialization is a process of learning about everything in life, an obligation for parents, society, and the government to teach it to children. The increasing prevalence of obesity in young people is comparable to the increasing proportion of NIDDM cases in young people. Many Indonesian plants are used as medicine for diabetes mellitus, including brotowali (*Tinospora crispa*), cinnamon (*Cinnamomum burmanii* Nees), bitter melon (*Momordica charantia*), and salam (*Syzygium polianthum* weight). **Method** Disseminating knowledge about triggers, prevention, and herbal ingredients found around us that can be used to prevent diabetes mellitus. The pre-test and post-test were used to determine the effectiveness of the socialization material. The activity continued with a health checkup, which included a Body Mass Index (BMI) assessment for the foster children.

Results and discussion There was an increase in the average score of 21.8 after the socialization activity. This indicates an increase in participants' understanding of the material presented. The pre-test score was 68.2 and the post-test score increased significantly to 90. The results of the Body Mass Index (BMI) examination showed a fairly varied distribution of participants' nutritional status, namely severe obesity 6.25%, obesity 12.5%, healthy weight 50%, underweight 31.25%. **Conclusion** There was an increase in knowledge among participants after the presentation of the material, indicated by an increase in the average test score of 21.8 compared to the previous session. The health examination results showed that the majority of foster children (50%) had a BMI classified as healthy weight, 31.25% as underweight, 12.5% as obese, and 6.25% as severely obese.

Keywords: BMI, Diabetes Mellitus, Herbal, Orphan, Orphanage

INTRODUCTION

An orphanage is a non-profit institution that provides care, education, and protection for orphans and abandoned children. Orphanages serve as a substitute for parents, meeting the physical, psychological, and social needs of children (Silitonga et al., 2023). According to Human Rights Law No. 39 of 1999, children defined as individuals under the age of 18, must be guaranteed an environment that supports their growth and development.

Socialization, as a lifelong learning process, is crucial for transmitting cultural and health knowledge. In orphanages, this process helps compensate for the lack of parental guidance (M.Si, 2019). Diabetes mellitus (DM) is a chronic metabolic disorder characterized by hyperglycemia due to defects in insulin secretion, insulin action, or both. Diabetes mellitus contributes significantly to global morbidity and mortality, leading to complications such as neuropathy, nephropathy, and cardiovascular disease (Article et al., 2024).

The WHO predicts a surge in diabetes prevalence in Indonesia—from 8.4 million cases in 2000 to 21.3 million in 2030. The increasing incidence among adolescents is closely linked to sedentary lifestyles and high-calorie diets. Therefore, preventative measures through health education and natural remedies are crucial.

Several Indonesian herbal plants exhibit antidiabetic properties. *Tinospora crispa*, for example, contains antioxidant compounds and has been traditionally used to treat gout, hypertension, and diabetes (Puspitasari et al., 2022). Other herbs such as cinnamon, bitter melon, and bay leaves are also known to improve glucose metabolism. Therefore, herbal medicine is recognized as an affordable and accessible way to improve health literacy and prevent chronic diseases.

The Arrohyati Al Furqon Orphanage, established in 2003 in

Surabaya, currently houses 17 children between elementary and high school ages.

OBJECTIVES

General Purpose

The general objective is to provide information about the use of herbs to maintain the body

Special Purpose

The specific objective of the community service activities at the Arrohyati Al Furqon Orphanage is to provide outreach regarding the use of herbs to protect the body from diabetes mellitus and to conduct Body Mass Index examinations on foster children.

PLAN OF ACTION

Strategy Plan

The UNUSA Faculty of Medicine Community Service Team coordinated with the Arrohyati Al Furqon Orphanage to reach an agreement regarding the implementation of community service activities

Implementation

The event began with an outreach on the use of herbs to protect against diabetes mellitus, followed by a health checkup, which included a Body Mass Index (BMI) assessment.

Setting

The results of the increase in average pre-test and post-test scores are used as indicators of the success of the outreach program. The results of the Body Mass Index (BMI) examination will be used as data on the distribution of nutritional status of the foster children at the Arrohyati Al Furqon Orphanage.

Target

Seventeen foster children and seven orphanage administrators participated in the outreach and health checkup at the Arrohyati Al Furqon Orphanage.

RESULTS AND DISCUSSION

The average pre-test score was 68.2, which increased to 90 after the educational session, representing a 21.8-point rise. This improvement demonstrates the effectiveness of interactive educational methods in enhancing comprehension. Similar findings have been reported by Hosseini et al. (2025), who showed that multi-session educational interventions significantly improved adolescent health literacy.

Body Mass Index (BMI)

BMI Category	Percentage
Severe Obesity	6.25%
Obesity	12.5%
Healthy Weight	50%
Underweight	31.25%

The BMI assessment showed 50% of participants had a healthy weight, 31.25% were underweight, 12.5% obese, and 6.25% severely obese.

CONCLUSION

The community outreach program successfully improved participants' knowledge of diabetes prevention and the use of herbal medicine, as evidenced by a significant rise in post-test scores. BMI assessment showed that half of the children had a healthy weight, though a considerable proportion were under- or overweight. Continued health education, regular monitoring, and nutritional guidance are recommended for long-term well-being.

REFERENCES

1. Puspitasari, R. N., Kurnijasanti, R., Mustafa, M. R., & Sudjarwo, S. A. (2024). Exploring the anti-inflammatory and anti-apoptotic properties of phloroglucinol on pancreatic cells in diabetic models: In silico and in vivo study., *Narra j.* 1–10.
2. I., M. S. (2019). Pentingnya sosialisasi bagi anak. *Jurnal Ilmiah Sosiologi Agama (JISA)*, 2(1), 29. <https://doi.org/10.30829/jisa.v2i1.5406>
3. Puspitasari, R. N., Munir, R. S., Farmakologi, D., Kedokteran, F., Nahdlatul, U., & Surabaya, U. (2024). Sosialisasi jamu kebugaran untuk lansia di Panti Jompo Lestari Gresik., 6, 69–73.
4. Puspitasari, R. N., Sudjarwo, S. A., Pranoto, A., & Basori, A. (2022). Antioxidant activity of *Tinospora crisa* extracted with different ethanol solvents. *Bali Medical Journal*, 11(3), 1107–1110. <https://doi.org/10.15562/bmj.v11i3.3467>
5. Susanti, S., Dalimunthe, K. T., Triwani, R., Naibaho, Y., Conia, A., Anggun, R., & Sari, I. (2024). Peran pengurus panti asuhan dalam menangani masalah kesehatan psikis anak panti di Sahabat Keluarga Indonesia. *Jurnal Media Akademik (JMA)*, 2(6), 284–290.
6. Silitonga, T. F. C., Simatupang, W. P. S., Ginting, L. C., Zaidan, M. A., & Vieri, H. C. (2023). Peran Panti Asuhan Yayasan Rumah Bakti Kasih Anak Indonesia dalam membentuk karakter anak panti. *SOSMANIORA: Jurnal Ilmu Sosial dan Humaniora*, 2(1), 1–6. <https://doi.org/10.55123/sosmaniora.v2i1.1461>
7. Hosseini, M. S., Rakhshanderou, S., Safari-Moradabadi, A., Ghaffari, M., & Pakkhesal, M. (2025). Effectiveness of a school-based oral health literacy promotion intervention: A randomized controlled trial (RCT) among adolescents. *BMC Public Health*, 25, Article 1982.

8. Nazari, A., Hajhashemi, M., Safavi, S. R., & others. (2025). Health promotion theory-based educational interventions for improving oral health in children and adolescents: A systematic review and meta-analysis. *BMC Oral Health*, 25, Article 1153.
9. Kail, N. Z. I. A., Mokhtar, A. H., Yahya, A., & others. (2025). Effects of the MyBFF@school program on anthropometry and body composition among overweight and obese adolescent schoolchildren. *BMC Public Health*, 24(Suppl 1), Article 3625. <https://doi.org/10.1186/s12889-024-20725-0>



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Doi: <https://doi.org/10.36720/csji.v7i2.819>

GEMILANG (BALANCED NUTRITION FOR A BRILLIANT GENERATION): EDUCATION AND EMPOWERMENT OF PREGNANT WOMEN AND TODDLERS IN STUNTING PREVENTION BASED ON LOCAL FOOD

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ABSTRACT

Stunting, or the condition of growth failure in children under five, is caused by chronic malnutrition that occurs from pregnancy until the child is two years old. Children experiencing stunting have a height below the standard for their age and are at risk of cognitive, motor, and immune system impairments. The community service program GEMILANG (Balanced Nutrition for a Brilliant Generation) was carried out in Kesamben Wetan Village, Driyorejo District, Gresik Regency, activity was conducted from Agustus 2025 with the aim of improving the knowledge, skills, and nutritional awareness of pregnant women, mothers of toddlers, and *posyandu* (integrated health post) cadres in stunting prevention based on local food. Activities included education on balanced nutrition, introduction to the potential of local food sources, training on nutritious food processing such as moringa leaf pudding, and strengthening the capacity of *posyandu* cadres in monitoring the nutritional status of toddlers. The implementation method used a participatory approach through interactive lectures, group discussions, demonstrations, and hands-on practice. Evaluation was conducted using pre-tests and post-tests as well as participant practice observations. The results showed an average knowledge increase of 33–35%, 90% of participants were able to practice the recipes at home, and 38% began utilizing their yards to grow vegetables or moringa leaves. In addition, there was a 20% increase in toddler attendance at *posyandu* after the program's implementation. In conclusion, an educational approach combined with local food processing practices proved effective in improving nutrition literacy and encouraging changes in family consumption behavior. This program has the potential to become a model for community empowerment based on local potential to support sustainable stunting reduction efforts.

Keywords: Balanced Nutrition, Community Empowerment, Local Food, Moringa Leaves, Stunting

INTRODUCTION

Stunting is a chronic public health problem that remains a major challenge in Indonesia, including in the Gresik Regency area. Stunting, or growth failure in children under five, is caused by chronic malnutrition that occurs from pregnancy until the child is two years old. Children who experience stunting have a height below the standard for their age and are at risk of cognitive, motor, and immune system impairments. The impact extends beyond individuals, affecting the nation's social and economic development. Stunting is a condition of growth failure in children under five caused by prolonged nutritional deficiencies, especially during the first 1,000 days of life—from pregnancy to two years of age. Stunted children tend to have shorter stature compared to their peers and are at higher risk of cognitive and motor developmental disorders, as well as non-communicable diseases in adulthood (Perwitasari, Nurita, and Armina 2023).

The target area of the GEMILANG Program is a region with a relatively high stunting prevalence compared to the national average. Based on data from the local Health Office, the prevalence of stunting among toddlers remains around 40% (latest data may vary), with chronic nutritional problems such as energy and protein deficiency. This situation is worsened by limited access to primary healthcare services, low family nutrition knowledge, and eating patterns that do not meet the principles of balanced nutrition.

Most residents in the target area work as farmers, laborers, or small traders with low household incomes. This economic

condition affects the family's ability to meet the nutritional needs of pregnant women and toddlers, resulting in a higher risk of malnutrition, anemia in pregnant women, and delayed growth and development among children.

According to data from (Rahma and Nuradhiani 2019), the national stunting prevalence rate is 21.6%, while in Gresik Regency it remains above the East Java provincial average. One of the areas that has shown concern regarding this issue is Kesamben Wetan Village, located in Driyorejo District, which has several pregnant women and toddlers with poor nutritional status. The village continues to face challenges in maternal and child health. Based on initial observations and information from local health workers, there are still pregnant women and toddlers with suboptimal nutritional conditions. These problems are generally caused by a lack of education about the importance of balanced nutrition, inappropriate eating patterns, and the underutilization of local food resources available in the surrounding environment. The lack of education on healthy eating habits, limited understanding of maternal nutrition, and the suboptimal use of local food sources are the main factors worsening the situation (Rido et al. 2023).

Meanwhile, the use of local foods such as sweet potatoes, tempeh, moringa leaves, mung beans, and other vegetables can be a potential solution to improve the nutritional intake of pregnant women and toddlers. When utilized properly, these local food ingredients can serve as

affordable, nutritious supplementary foods (PMT) that meet the nutritional needs of pregnant women and toddlers. However, many community members still lack understanding of proper processing and utilization methods to support child growth and maternal health. According to (Asmawati et al. 2022), the use of local food not only strengthens household food security but also provides nutritional sources that align with local wisdom and are easily accessible.

The importance of education about stunting and the provision of supplementary food based on local ingredients is also emphasized in the National Strategy for Accelerating Stunting Reduction (Stranas Stunting), which mandates specific and sensitive nutritional interventions from pregnancy to the toddler stage (Daulay et al., 2023). Proper education for pregnant women and toddlers, supported by nutritional interventions using local food ingredients, is an effective and sustainable approach to reducing stunting rates at the village level (Santika et al. 2025).

Therefore, this community service activity aims to provide education and training to pregnant women and mothers of toddlers in Kesamben Wetan Village on the importance of nutrition in preventing stunting, while also assisting them in preparing supplementary foods based on local food ingredients. This activity is expected to increase community awareness and capacity to prevent stunting independently and sustainably.

Through an educational and participatory approach, Kesamben Wetan Village is expected to become a foster village that is responsive and self-reliant in fulfilling nutritional needs based on local potential, and to serve as a model of

sustainable community empowerment supporting the creation of a healthy and productive generation.

OBJECTIVES

General Objective

To improve the knowledge, attitudes, and practices of pregnant women, mothers of toddlers, and posyandu cadres in stunting prevention through education and empowerment based on the utilization of local food resources.

Specific Objectives

1. To increase the understanding of pregnant women and mothers of toddlers about the importance of balanced nutrition in preventing stunting.
2. To introduce and promote the potential of local food sources as affordable and nutritious alternatives for daily consumption.
3. To train participants in the processing of local food ingredients into nutritious supplementary foods (PMT), such as moringa leaf pudding and vegetable-based dishes.
4. To strengthen the capacity of posyandu cadres in monitoring the nutritional status and growth of toddlers.
5. To encourage behavioral change toward healthier eating habits and the independent use of local food resources to support family nutrition sustainability.

PLAN OF ACTION

The GEMILANG community service program, implemented in Kesamben Wetan Village, Driyorejo District, Gresik Regency, will be carried out through three main stages: Activity Preparation, Program Implementation, and Assistance &

Evaluation. The primary targets of this program are pregnant women and toddlers. Each stage is systematically designed to address the partner community's priority problems.

a) Strategy Plan

The GEMILANG program adopts a community-based nutrition education approach that emphasizes the use of affordable and culturally familiar local foods. The strategy focuses on three pillars:

1. **Strengthening knowledge** of pregnant women and caregivers through targeted education on balanced nutrition and early stunting prevention.
2. **Enhancing practical skills** in preparing nutrient-dense local food products, such as Moringa Leaf Pudding (Pulor), to increase daily micronutrient intake.
3. **Empowering community support systems** by involving health cadres, local midwives, and village stakeholders to ensure long-term program sustainability.

b) Implementation

Program activities were conducted through a series of structured sessions, including:

- Distribution of Moringa seedlings to encourage household-level food sources.
- Educational workshops focusing on stunting risk factors, balanced nutrition, and maternal-child dietary needs.
- Demonstrations and hands-on training in processing local food ingredients—particularly moringa leaves—into practical and acceptable complementary foods.

- Monitoring and follow-up discussions with participants to reinforce behavioral changes and evaluate knowledge improvement.

c) Setting

The GEMILANG program was implemented in a community-based environment involving Posyandu, village meeting halls, and household demonstration sites. These locations were selected to maximize accessibility for pregnant women and caregivers while fostering active community participation. Collaboration with local health workers provided contextual relevance and ensured alignment with existing maternal and child health services.

d) Target

The primary targets of the program were:

- **Pregnant women**, particularly those in the second and third trimesters, who require enhanced nutritional intake to support fetal growth;
- **Mothers or caregivers of toddlers**, to improve feeding practices and daily nutritional adequacy;
- **Community health cadres** as supporting agents for continual monitoring and dissemination of nutrition messages;
- **Village stakeholders**, whose involvement strengthens program adoption and continuity.

This method is designed not only to provide knowledge but also to build community self-reliance in sustainably preventing stunting through empowerment and optimal utilization of local food potential.

RESULTS AND DISCUSSION

The results of the community service program on Education and Empowerment of Pregnant Women and Toddlers in

Stunting Prevention Based on Local Food are presented in Table 1 and Figure 1.

Table 1. Results of Program Achievement Indicators for Education and Stunting Prevention Based on Local Food

No.	Activity Components	Achievement Indicators	Target	Achievement Results	Achievement Percentage
1	Balanced Nutrition Education for Pregnant Women and Toddlers	Increase in participants' knowledge scores from pre-test to post-test	≥25% increase	Average increase of 35%	140% of target
2	Introduction to Nutritious Local Foods	Participants are able to mention at least 5 types of nutritious local foods	≥80% participants	92% of participants were able to mention them	115% of target
3	Training on Local Food Processing (Moringa Pudding)	Participants are able to practice the recipe at home	≥80% participants	90% 90% of participants practiced it	112% of target
4	Capacity Building for <i>Posyandu</i> Cadres	Cadres are able to use KMS and the e-PPGBM application (100% of cadres)	100% cadres	100% cadres trained and capable	100%
5	<i>Posyandu</i> Participation	Increase in the number of toddlers attending <i>posyandu</i> sessions	≥10% increase	Approximately 20% increase	200% of target
6	Change in Consumption Behavior	Families increase the frequency of animal protein consumption	≥50% of participant families	Approximately 70% of families showed an increase	140% of target

7	Utilization of Home Gardens	Participants begin planting vegetables or moringa leaves in their yards	$\geq 30\%$ of participants	40% of participants started planting	133% of target
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(a)



(b)



(c)

Figure 1. a. Distribution of moringa seedlings, b. Stunting education and demonstration of moringa leaf pudding preparation, c. Moringa Leaf Pudding (Pulor) as a Local Food–Based Stunting Prevention Product.

The GEMILANG Program (Balanced Nutrition for a Brilliant Generation) implemented in Kesamben Wetan Village, Driyorejo District, Gresik Regency, was designed as an effort to educate and empower pregnant women, mothers of toddlers, and *posyandu* cadres in preventing stunting through the utilization of local

food potential. This program combined educational, practical, and participatory approaches, effectively encouraging positive behavioral changes among participants.

1. Improvement of Nutritional Knowledge

Balanced nutrition education delivered through interactive lectures, discussions, and simulations successfully improved participants' understanding. The pre-test and post-test results showed an average score increase of **35%**, exceeding the target ($\geq 25\%$). This demonstrates that delivering relevant, contextual materials using simple language can significantly improve community nutrition literacy (Yunianto et al. 2023).

2. Introduction and Utilization of Local Food

A local food–based approach became the key to this program. Participants were able to identify at least five types of nutritious local foods available in their surroundings, such as tempeh, marine fish, moringa leaves, mung beans, and pumpkin. This success is supported by the fact that local foods are more accessible, affordable, and nutritionally adequate to support child growth (Mardiyani et al. 2024).

3. Improving Skills Through Moringa Leaf Processing Training

Training in local food processing—such as making moringa porridge, vegetable tempeh nuggets, and fish floss—enhanced

participants' skills in preparing nutritious menus. About 90% of participants were able to reapply the recipes at home, showing that skill-based empowerment can directly influence family consumption patterns. One of the program's highlights was educating participants on how to make moringa leaf pudding, which can serve as a nutritious food to help prevent stunting (Suci Apsari Pebrianti et al. 2023).

Every mother wants to provide the best nutrition for her child; however, many still underutilize local plants such as moringa. Concerns about meeting children's nutritional needs often lead mothers to adopt less healthy feeding practices, such as giving unhealthy snacks, formula milk, or complementary foods (MP-ASI) before the baby reaches six months of age (Perwitasari et al. 2023)

A mother's attention and support in food preparation, feeding, and storage are crucial to supporting her child's growth. The role of the family—especially the mother—is a determining factor in child development. Meanwhile, the father's support in providing supplementary feeding (PMT), making child health decisions, and assisting in daily routines can increase the child's nutritional intake, particularly for those suffering from undernutrition. Factors influencing nutritional intake include the type of complementary food, frequency of feeding, the child's appetite, the timing of MP-ASI introduction, and overall feeding practices.

4. Strengthening the Role of *Posyandu* Cadres

Posyandu cadres, as the frontline workers in stunting prevention, received training on how to use the Child Growth Monitoring Card (KMS). All participating cadres (100%) successfully applied their new knowledge and demonstrated

increased confidence in conducting health education sessions. This impact was evident from the 20% increase in toddler attendance at *posyandu* compared to the previous month (Permatasari et al. 2021)

5. Behavioral Changes in Food Consumption

Initial evaluation results showed an increase in animal protein consumption among 70% of participant families. Additionally, 40% of participants began utilizing their home gardens to grow nutritious vegetables such as spinach, water spinach, and moringa leaves. These changes indicate that education and practical mentoring can motivate families to become more independent in meeting their nutritional needs (Asmawati et al. 2022).

6. Supporting Factors and Challenges

The program's success was supported by participants' enthusiasm, cooperation from village officials, and the availability of local food resources. However, several challenges remained, including the limited economic capacity of some families and a strong preference for instant food consumption. Therefore, a follow-up strategy involving long-term mentoring and the development of home-based food enterprises is needed to ensure sustainability (Daulay et al. 2023).

7. Implications for Stunting Prevention

Overall, the GEMILANG program demonstrated that interventions combining education, skill-based training, and local food utilization can serve as an effective strategy for stunting prevention at the village level. Although changes in children's nutritional status require time and continuous monitoring, these initial achievements form a solid foundation for the program's sustainability (Sandi and Rahmadhita 2020).

CONCLUSION

The GEMILANG program demonstrates that education, empowerment, and the utilization of local food resources significantly improve the nutritional awareness and practices of pregnant women and caregivers of toddlers. These outcomes support early stunting prevention efforts through practical, culturally appropriate interventions. To ensure long-term sustainability, the program is recommended to integrate continuous community mentoring, strengthen collaboration with local health cadres, and promote ongoing utilization of affordable, nutrient-dense local foods. These measures will help maintain behavioral changes and reinforce the community's capacity to support optimal maternal and child nutrition in the future.

REFERENCES

- Asmawati, Asmawati, Marianah Marianah, Syirril Ihromi, Desy Ambar Sari, and Nurhayati Nurhayati. 2022. "Edukasi Pemanfaatan Daun Kelor Sebagai Alternatif Pencegahan Gizi Buruk Dan Stunting Pada Ibu-Ibu Rumah Tangga Di Desa Selat Kabupaten Lombok Barat." *JMM (Jurnal Masyarakat Mandiri)* 6(2):1402. <https://doi.org/10.31764/jmm.v6i2.7269>
- Daulay, Ernita, Andi Mahendra, Ishlahiyah Nur Rizky, and Asshifa Nazila Aridzki. 2023. "Inovasi Pangan Lokal Untuk Mendukung Gizi Optimal Dan Pencegahan Stunting." *Journal of Human And Education* 3(1):331-40. <https://doi.org/10.31004/jh.v4i5.1465>
- Mardiyani, Siti Asmaniyah, Nikmatul Khoiriyah, Siti Muslikah, and Anita Qur'ania. 2024. "Pencegahan Stunting Pada Keluarga Balita Di Posyandu RW 01 Kelurahan Tlogomas Melalui Edukasi Olahan Pangan Lokal Berprotein Tinggi." *Indonesian Journal of Community Services* 6(2):166. doi: 10.30659/ijocs.6.2.166-174. <http://dx.doi.org/10.30659/ijocs.6.2.166-174>
- Permatasari, Tria Astika Endah, Yudi Chadirin, Titiek S. Yuliani, and Sutrisno Koswara. 2021. "Pemberdayaan Kader Posyandu Dalam Fortikasi Pangan Organik Berbasis Pangan Lokal Sebagai Upaya Pencegahan Stunting Pada Balita." *Jurnal Pengabdian Masyarakat Teknik* 4(1):1-10. doi: 10.24853/jpmt.4.1.1-10.
- Perwitasari, Tuhu, Suci Rahmani Nurita, and Armina Armina. 2023. "Edukasi Pada Ibu Balita Tentang Pemanfaatan Daun Kelor Untuk Pencegahan Stunting Di Desa Talang Bukit Muaro Jambi." *Jurnal Abdimas Kesehatan (JAK)* 5(2):230. <https://doi.org/10.36565/jak.v5i2.458>
- Rahma, Amalia, and Annisa Nuradhiani. 2019. "Peningkatan Pengetahuan Tentang Pemberian Asi Eksklusif Dan Pendampingan Balita Gizi Buruk Dan Stunting Di Gresik, Jawa Timur." *Ghidza Media Jurnal* 1(1):63. <https://doi.org/10.30587/ghidzamediajurnal.v1i1.1081>
- Rido, Akhyar, Heri Kuswoyo, E. Ngestirosa Endang Woro Kasih, Shavina Lestiani, Rizma Amalia Sa'adah, Sahat Parulian Prantinus Kaban, and Edho Anggara Doby Putra. 2023. "Enhancing English Language Proficiency of SMKS Muhammadiyah 1 Kota Agung Students through TOEIC Coaching." *INCOME: Indonesian Journal of Community Service and Engagement* 2(2):149-59. doi: 10.56855/income.v2i2.407. <https://doi.org/10.56855/income.v2i2.407>
- Sandi, and Kinanti Rahmadhita. 2020. "Permasalahan Stunting Dan Pencegahannya Stunting Problems and Prevention." *Juni* 11(1):225-29. doi: 10.35816/jiskh.v10i2.253.
- Santika, Gayatri Dwi, Anintya Alisyah Syavira, Pupud Deanira Allysa, Reefadhinta Ubaidillah Farchanulhady, and Satrio Thoriq Shenny. 2025. "Efektivitas

Edukasi Daun Kelor Terhadap Pengetahuan Gizi Dan Pencegahan Stunting Di Desa Klatakan.” *Room of Civil Society Development* 4(2):370–80. <https://doi.org/10.59110/rcsd.453>

Suci Apsari Pebrianti, Aisyah Nurkhopipah, Alfiani Rizqi, Muhamad Ikhsan Prawira Negara, and Nandang Hendarsyah. 2023. “Edukasi Keamanan Dan Ketahanan Pangan Rumah Tangga Untuk Pencegahan Stunting Di Jambugeulis Dan Bunigeulis Kuningan.” *BEMAS: Jurnal Bermasyarakat* 4(1):84–91. <https://doi.org/10.37373/bemas.v4i1.490>

Yunianto, Andi Eka, Iseu Siti Aisyah, Neni Neni, Dian Siti Fatimah, Aviaty Dwina Aulia, Diya Salsabila, Sari Khairinisa, Siti Ratna Ningsih, Vira Paujiah Nuriyah, and Zahra Tazkianisa Hadi. 2023. “Edukasi Gizi Dan Pelatihan Ikan Patin Sebagai Salah Satu Makanan Alternatif Peningkatan Kecukupan Protein Dan Pencegahan Stunting.” *JMM (Jurnal Masyarakat Mandiri)* 7(1):275. <https://doi.org/10.31764/jmm.v6i2.7269>



OPTIMIZING ADOLESCENTS AS PROSPECTIVE BRIDES AND GROOMS IN BUILDING A HEALTHY GENERATION WITHOUT STUNTING IN JOMBANG REGENCY

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ABSTRACT

Stunting is a major nutritional problem in Indonesia that remains unresolved. Jombang is a regency in East Java Province. The prevalence of stunting in Jombang Regency remains high, based on 2024 e-PPBGM data. Stunting itself is a nutritional problem that can be reduced. Jombang Regency has a demographic bonus, namely a high number of adolescents. Adolescents are prospective brides and grooms who can play a role in producing healthy, stunting-free future generations. The problem is that adolescents' knowledge of their role in stunting prevention is lacking. Allowing this situation to persist could impede the government's long-term goal of reducing stunting rates. The solution to address this problem is providing education to increase adolescents' knowledge about stunting and their role in stunting prevention. The educational material was generally about stunting, but there was additional material on the topic of stunting that was in accordance with the characteristics of stunting in adolescents in Jombang Regency. The implementation of activities began with seminars and training on reporting suspected stunting among adolescents. This activity can enhance adolescents' understanding of stunting and the procedures for reporting suspected cases in their local area.

Keywords: Adolescent, Nutrition Disorders, Stunting.

INTRODUCTION

The 2020 Global Nutrition Report reported that approximately 149 million (21.9%) toddlers worldwide experienced stunting, with the majority of these children in Asia, representing 81.7 million, or 54.8 percent. Stunting in Indonesia is a problem leading to a crisis or double burden of malnutrition (Global Nutrition Report, 2020). This category includes districts/cities where there has been both a decline and an increase in stunting rates, leading to what is known as dynamic stagnation. Jombang Regency is no exception, with the prevalence of stunting reaching 21.2% in the 2021 SSGI and 18% in the 2024 e-PPBGM. The Jombang Regency government has implemented various programs to reduce stunting rates. However, this approach is still not enough to address the issue completely. Optimal efforts require cooperation and involvement from various parties.

Stunting remains a major public health problem in low- and middle-income countries, including Indonesia (Mulyaningsih et al., 2021). Stunting is not only characterized by growth failure (shortness) but also permanent developmental failure and metabolic disorders that increase the risk of various non-communicable diseases (NCDs) (Achadi et al., 2020). According to the Ministry of Health of the Republic of Indonesia, stunting prevention can begin before marriage through efforts made through marriage-age planning and premarital screening of couples or prospective brides and grooms (Prafitri et al., 2023). Therefore, it is necessary to increase the role of adolescents in stunting prevention. Based on discussions and

analysis between the author and relevant parties in the Jombang government, namely the Population Control, Family Planning, Protection, and Empowerment of Women and Children (PPKB PPPA), innovative efforts are needed, namely involving adolescents in stunting prevention. Adolescence is a life stage full of transitions from childhood to adulthood. The lives of adolescents entering adulthood are often haunted by financial readiness in preparation for marriage. Financial readiness is often a major issue for those preparing to start a family.

However, health preparedness is often overlooked. The incidence of stunting can be reduced by monitoring and providing specific interventions for adolescent brides-to-be. Health workers can educate prospective brides-to-be about preventing stunted offspring. Children with stunting can inherit stunting from parents who are at risk of having stunted offspring. Therefore, this can be prevented through education about health during pregnancy, among other things.

One way to address community health issues is through health education seminars and training to detect suspected stunting in adolescents. Furthermore, Jombang Regency is experiencing a significant demographic bonus in the form of a significant number of adolescents. According to the Central Statistics Agency (BPS) of Jombang Regency, in 2023, the number of adolescents aged 10-14 years was reported to reach 109,934, and those aged 15-19 years reached 101,927 (BPS Jombang, 2023). The hope of this activity is to increase knowledge and create stunting-aware adolescents who can monitor the risk of stunting in their peers and become agents in producing quality children who can

avoid the risk of stunting later in life when they grow up.

OBJECTIVES

Community service activities began with an assignment from the head of the Faculty of Nursing, Universitas Airlangga, as stated in the assignment letter number 3206/TB/UN3.FKp/PM.01.01/2025.

General Purpose

The primary goal is to improve the knowledge of adolescent about stunting and their role to prevent stunting.

Special Purpose

We evaluate the knowledge of adolescent about stunting and their role to prevent stunting.

PLAN OF ACTION

Strategy Plan

Preparation stage

1. Coordinate the community service team.
2. Organize the implementation and assign team tasks.
3. Prepare health education materials and presenters.
4. Develop a module on the role of adolescents in stunting prevention.
5. Coordinate with adolescents affiliated with religious organizations, including the Nahdlatul Ulama Student Association (IPNU) and the Nahdlatul Ulama Female Student Association (IPPNU).
6. Prepare the seminar venue.

Implementation

The detailed implementation of the activities is as follows:

1. Organize the event committee, consisting of the catering, presenter, moderator, and documentation team.

2. Conduct a pre-test by adolescent seminar participants on the seminar topic to determine their level of knowledge before the seminar begins.
3. Open the seminar with a welcome speech by the activity leader, delivered by the head of community service.
4. Presenting seminar material with four speakers, each with topics including preventing and accelerating stunting reduction in Jombang, the concept of stunting and the role of adolescents as prospective brides and grooms in stunting prevention, adolescent reproductive health, and nutritional support in stunting prevention.
5. Conducting a post-test by adolescent seminar participants on the seminar topics presented to determine their level of knowledge after the seminar.
6. Conducting training with a demonstration of how adolescents fill out a form for suspected stunting by adolescent seminar participants.
7. Adolescent seminar participants (adolescents on stunting alert) have developed the skills to report suspected stunting using a link in gform-based.

Setting

The activity was held in a hall at a restaurant in the Denanyar District, Jombang Regency.

Target

Fifty adolescents participated in the seminar.

RESULTS AND DISCUSSION

The evaluation was carried out by measuring the level of knowledge of adolescents before and after receiving

education on all the topics presented in the seminar by filling out a questionnaire.

Table 1 Average pretest and posttest results of the level of knowledge of adolescents alert to stunting in Jombang Regency (n=50)

No	Indicator (main topic)	Pret est	Postt est	Improve ment
1	Family life planning	55	82	+27
2	Positive self-concept	52	80	+28
3	Family role	48	77	+29
4	Maintaining personal health	57	84	+27
5	Fulfillment of balanced nutrition	50	82	+32
6	Clean and Healthy Living Behavior (PHBS)	60	85	+25
7	Personal hygiene of the genital organs	49	80	+31
8	Utilization of nutrients	47	78	+31
9	Independence in fulfilling nutritional needs	50	79	+29
10	Introduction to adolescent reproductive health	53	80	+27

Based on the table above, the aspect with the largest point increase was "fulfillment of balanced nutrition." Meanwhile, the aspect with the smallest point increase was "Clean and Healthy Living Behavior." The lowest pretest score was for "Family Role," and the highest for "Clean and Healthy Living Behavior." The lowest posttest score was for "Utilization of Nutrients," and the highest for "Clean and Healthy Living Behavior."

This community service initiative began with a collaborative problem identification process with the community service partner, the Jombang Regency PPKB PPPA Office. The identification revealed that stunting rates in Jombang Regency were still above the standard target set by East Java Province. A potential target for the community service program is optimizing the role of youth or youth organizations in stunting prevention.

The chosen activity to optimize the role of adolescents in stunting prevention was a seminar. The seminar involved one speaker from the Jombang Regency PPKB PPPA Office as a partner in community service. Three other speakers were from academics at Airlangga University: one doctoral student from the Faculty of Medicine and two lecturers. The four topics presented at the seminar included preventing and accelerating stunting reduction in Jombang, the concept of stunting and the role of adolescents as prospective brides and grooms in stunting prevention, adolescent reproductive health, and nutritional fulfillment in stunting prevention.

The seminar was held in a hall and attended by adolescents in Jombang Regency, aged 15-21, with educational backgrounds ranging from high school to

university. The seminar was held on Sunday, September 28, 2025. The organizing team for this activity included the event committee, the consumption committee, and the documentation committee. The results of the evaluation of adolescents' knowledge levels showed an increase in knowledge about stunting and the role of adolescents in stunting prevention.

The technology was implemented through the use of audiovisual media, interactive tools and props, and a gform link (<https://forms.gle/zjDoXT7shUgGyjFf9>) that teenagers used to report any suspected stunting in their neighborhoods. This facilitated the teenagers' reporting, which we could then monitor and provide input for to our partners. Reporting training was conducted at the end of the seminar, followed by a simulation of filling out the questionnaire a week after the seminar, conducted by several participants.

Dewangga and Istifadah (2024), in their study of hypertension in adolescents, found that the Healthy Youth Movement to Prevent Hypertension (GEMAS GASI) program was able to increase knowledge related to hypertension in high school-aged children (SMA) before and after participating in the program. It was reported that as many as 64.3% of students had increased knowledge, and as many as 35.7% of students had stable knowledge after the program. The program was able to increase student knowledge by more than 50%. The GEMAS GASI program consists of 2 activities, namely counseling and making infographic posters. Counseling activities include education on hypertension, risk factors, and hypertension prevention. This is in line with counseling on the first 1000 days of life (HPK) with

educational video media on knowledge and attitudes in high school students (SMA) in preventing stunting. Counseling using this video media succeeded in increasing adolescent knowledge and attitudes, where there was an increase in the knowledge value category before the intervention, namely from 30% after the intervention to 80%, and for the attitude value category from 26% to 90% (Yuliam & Mariyani, 2023). This is supported by a literature review on the use of video media to prevent stunting of the knowledge and attitudes of adolescent girls. Stunting education using video media has a significant impact. Adolescent girls tend to experience improvements in knowledge and attitudes regarding stunting prevention after intervention using video media. The study results concluded that video media is considered the most effective media compared to other media in stunting prevention education (Dermawan & Rahfiludin, 2024).

The use of innovative educational media has been widespread and has had a positive impact on knowledge and so on for various subjects such as adolescents and adult audiences. A study (Siregar et al., 2025) on the use of audio-visual media was able to improve the knowledge and attitudes of pregnant women about stunting prevention. The results of the data analysis stated that the results of the study showed that there was a significant difference between the knowledge and attitudes of pregnant women before and after the intervention using audio-visual media. In adolescent audiences, adolescents themselves have a big role in conveying nutritional information to fellow adolescents (peers) in an effort to prevent stunting. This was conveyed by

(Purnamasari et al., 2022) in their study on the effect of nutritional counseling on stunting prevention using animated video media on adolescent knowledge and attitudes. The study design used a pre-experiment involving 29 adolescents concluded that there was an effect of nutritional counseling on stunting prevention with animated video media on adolescent knowledge and attitudes.

The knowledge of adolescent participants in a stunting prevention seminar increased immediately after receiving health education about stunting. This was quite effective in increasing adolescent knowledge. Not only did it depend on what was presented in the seminar, but also the expertise of the presenter also influenced the level of understanding of participants in receiving the material presented. This was conveyed by several participants after the seminar. This is in line with a study (Yusuf & Mangile, 2019) that stated that many factors determine the success of counseling, starting from the content of the counseling material, the environment, the tools, the room used, and the presenter's expertise in the counseling.

The youth participating in the seminar received vests as a symbol of their status as stunting-aware youth in Jombang Regency. The stunting-aware youth will become stunting prevention agents by filling out a reporting link for suspected stunting youth in their area of residence. This is a step to optimize the role of youth, which can be implemented through ongoing education programs and mentoring for the roles they play in 2023. In addition, youth were given motivation about their role as agents of change, disseminators of health

information, and role models for other youth (Parinduri, 2021).

The partners, who also served as speakers at the seminar, received positive feedback. Following the seminar, the speakers discussed the possibility of similar activities next year with the committee. Sustainable stunting prevention efforts need to be considered through various innovative activities. Increasing community participation and program sustainability in reducing stunting prevalence can be achieved by providing further training to cadres and intensive health promotion (Firdaus et al., 2023)

Various forms of activities that are able to maintain the sustainability of the program so as to reduce the number of stunted growths have been widely carried out. Siregar (2025) in his study, the implementation and impact of the program on community welfare and stunting prevention produced outcomes such as increased community participation in Integrated Service Post (Posyandu) activities, household food diversity, and the formation of 5 sustainable micro-enterprises with increased income. The program successfully addressed the determinants of stunting through a holistic approach that integrates aspects of nutrition, environmental health, access to health services, and social and economic empowerment. The above study is supported by a study. Regarding the concept of sustainable development goals (SDGs) as a framework adopted by the Indonesian government in reducing the prevalence of stunting cases. The study concluded that collaboration between state actors and non-state actors is needed to address stunting cases in Indonesia. Starting from synergy between

ministries/institutions and collaboration with academics, public health scholars, companies, and foreign parties. These results are important as recommendations for every stakeholder in implementing the SDGs concept to reduce the prevalence of stunting cases in Indonesia (Situmenang & Putri, 2021).

CONCLUSION

Community service activities have been implemented through educational activities in the form of seminars and training through a simulation of reporting adolescents suspected of stunting. The seminar on prevention efforts and the role of adolescents in stunting was able to increase adolescent knowledge. The reporting system for adolescents suspected of stunting was further enhanced through a simulation after its implementation was explained at the end of the seminar. The seminar and training on reporting adolescents suspected of stunting provided an enjoyable experience for both partners and adolescents. Overall, this community service has proven to provide real benefits in reducing the risk of stunting and increasing the capacity of adolescents as prospective brides and grooms.

REFERENCES

Achadi, E. L., Achadi, A., & Anindita, T. (2020). *Pencegahan Stunting Pentingnya Peran 1000 Hari Pertama Kehidupan* [PT.Rajagrafindo Jakarta]. <http://www.rajagrafindo.co.id/produk/pencegahan-stunting-pentingnya-peran-1000-hari-pertama-kehidupan-endang-l-achadi>

BPS Jombang. (2023). *Jumlah Penduduk Menurut Kelompok Umur dan Jenis Kelamin di Kabupaten Jombang*. Bada Pusat Statistik Kabupaten Jombang. <https://jombangkab.bps.go.id/id/statistics-table/3/WVc0MGEyMXBkVFUxY25KeE9Hd>

DZkbTQzWkVkb1p6MDkjMyMzNTE3/jumlah-penduduk-menurut-kelompok-umur-dan-jenis-kelamin--ribu-jiwa--di-kabupaten-jombang.html?year=2023

Dermawan, R., & Rahfiludin, M. Z. (2024). *Pengaruh Media Video Pencegahan Stunting terhadap Pengetahuan dan Sikap Remaja Putri: Literature Review*. 7(4). <https://doi.org/10.56338/mppki.v7i4.4777>

Dewangga, A. S., & Istifadah, N. (2024). *Program Peningkatan Pengetahuan Pencegahan Hipertensi GEMAS GASI pada Remaja di SMA Al-Hikmah Surabaya*. 7(5). <https://doi.org/10.56338/mppki.v7i5.5115>

Firdaus, Ahmad, S., Akhyar, & Haeril. (2023). *Efektivitas Program Kesehatan Berbasis Masyarakat untuk Mengurangi Prevalensi Stunting di Kabupaten Bima*. 5(3). <https://doi.org/10.36418/syntax-imperatif.v5i3.418>.

Global Nutrition Report. (2020). *Laporan Nutrisi Global 2020*. https://globalnutritionreport.org.translate.google/reports/2020-global-nutrition-report/?_x_tr_sl=en&_x_tr_tl=id&_x_tr_hl=id&_x_tr_pto=tc

Mulyaningsih, T., Mohanty, I., Widyaningsih, V., Gebremedhin, T. A., Miranti, R., & Wiyono, V. H. (2021). *Beyond personal factors: Multilevel determinants of childhood stunting in Indonesia*. 16(November), 1–19.

Parinduri, S. K. (2021). *Optimalisasi Potensi Remaja Putri Dalam Pencegahan Stunting di Desa Wangunjaya Kecamatan Leuwisadeng Kabupaten Bogor*. 4(1). <http://ejournal.uika-bogor.ac.id/index.php/PROMOTOR>

Prafitri, L. D., Zuhana, N., Budiarto, E., & Widayastuti, W. (2023). *Edukasi Layanan Konvergensi Stunting pada Ibu Hamil*. PT Nasya Expanding Managemen.

Purnamasari, N. IW., Supariasa, I. D. N., Komalyna, I. N. T., & Riyadi, B. D. (2022). *Pencegahan Stunting terhadap Pengetahuan dan Sikap Pengurus Insan Genre Majapahit*. 5(12).

Siregar, S. N., Fauzi, A. N., Siregar, F. S. R., Pane, N. H. M., & Hutagalung, S. S. (2025). *Implementasi Program Pemberdayaan Masyarakat Berbasis Ekonomi Kreatif Dalam Upaya Peningkatan Kesejahteraan dan Pencegahan Stunting di Desa Aek Najaji*. 4(1), 3765–3772.

Situmenang, N., & Putri, S. Y. (2021). *Implementasi Program Tujuan Pembangunan Berkelanjutan (Sustainable Development Goals) Pada Kasus Stunting di Indonesia*. 5(2).

Yuliam, T. H., & Mariyani. (2023). *Upaya Meningkatkan Pengetahuan dan Sikap Remaja dalam Pencegahan Stunting 1000 Hari Pertama Kehidupan (1000 HPK)*. 7(4), 190–198. <https://doi.org/10.36590/kepo.v4i2.684>

Yusuf, Z. K., & Mangile, F. K. (2019). *Pengaruh Penyuluhan Terhadap Tingkat Pengetahuan Masyarakat Menghadapi Bencana Banjir*. 1(2).

EFFORTS TO IMPROVE MASK USE AS A PREVENTIVE MEASURE AGAINST RESPIRATORY INFECTIONS AMONG WORKERS AT THE OPAK GADUNG FACTORY IN KEDIRI REGENCY

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ABSTRACT

Respiratory tract infections are common among informal workers who are exposed to dust, smoke, and airborne particles during production activities. This community service program aimed to improve workers' knowledge regarding the importance of using masks as a preventive measure against respiratory infections. Health education was delivered through counseling, discussion, and demonstration to 12 workers Opak Gadung factory, Desa Ringinsari, Kediri. Knowledge was assessed using pre- and post-tests. The results showed a significant increase in the average knowledge score from 52.50 to 79.90, with a p-value of 0.000, indicating that the educational intervention was effective. This activity successfully enhanced workers' awareness and proper mask-use practices. Continuous education programs are recommended to support occupational health and safety in informal workplaces.

Keywords: Health Education, Mask, Occupational Health, Respiratory Infection, Workers

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INTRODUCTION

One of the diseases with the highest incidence rates worldwide is respiratory tract infections. While respiratory tract

infections are not new, they remain a concern. Globally, respiratory infections are the third most common cause of death, particularly among workers (Wiemken et

al., 2012). Respiratory tract infections are infections that occur in the respiratory tract and can lead to several respiratory disorders. Respiratory tract infections can occur suddenly or acutely. These conditions are called acute respiratory infections (ARI), such as Pneumonia, Bronchitis, Pneumonia, and Tuberculosis (TB).

Tuberculosis (TB), caused by the pathogenic bacteria *Mycobacterium tuberculosis*, is a significant public health problem, as it is one of the leading causes of death from infectious diseases. The number of pulmonary TB sufferers in 2013 was 297 per 100,000 population, with new cases reaching 460,000. Approximately 75% of pulmonary TB sufferers are in the economically productive age group, namely 15-50 years old (Sulistiyani and Yunita, 2015). Besides tuberculosis, other respiratory infections in Indonesia are also endemic, with an estimated 1.2 million deaths annually due to pneumonia (WHO, 2015). Pneumonia is an inflammation of the lungs caused by bacteria, with symptoms such as a high fever accompanied by a cough with phlegm, rapid breathing (>50 breaths/minute), shortness of breath, and other symptoms such as headache and decreased appetite (Risksedas, 2013).

Respiratory tract infections such as TB and acute respiratory infections (ARI) can be caused by bacteria, viruses, fungi, or parasites. Toren et al. (2022) stated that exposure to dust and metal fumes in the workplace is strongly linked to pneumonia, which has been reported and then forgotten more than once. Dust is a particle produced by humans or in the wild, resulting from production or industrial processes (Mukono, 2005).

Exposure to dust can cause discomfort or irritation, and can even cause health impacts. Small dust particles have the potential to cause lung problems (respiratory tract infections) in workers, as dust particles less than 1 μ penetrate the alveoli. Dust particles <0.1 μ move in and out of the alveoli and do not settle on the alveolar surface (Suma'mur, 2013). Research by Darmawan (2013) indicates that dust inhaled by workers can cause lung dysfunction. Dust buildup in the lungs during respiration, which then enters the alveoli, reduces oxygen levels, thus reducing lung capacity (Slamet and Kamilla, 2017).

Dust concentration in the workplace is related to host and environmental factors (Rini Pratiwi et al., 2022). Environmental factors include crowded workplaces/homes, inadequate ventilation, room temperature and humidity, and the raw materials used in the workplace (Putri Purwandari et al., 2023). One workplace with a high risk of respiratory disorders in workers is the informal sector. The majority of workers in this sector are at higher risk of accidents and exposure to diseases, particularly respiratory infections, caused by several factors, one of which is a lack of knowledge of occupational safety and health in the workplace.

Tuberculosis (TB) in Indonesia ranks second after India, with 969,000 cases and 93,000 deaths per year, equivalent to 11 deaths per hour. According to data from the Central Statistics Agency (BPS) in 2022, 78% of TB cases were found in East Java, from various regions such as Surabaya, Jember, Sidoarjo, Malang, Gresik, Bojonegoro, and Kediri, which ranks 10th in the region with the highest TB prevalence. The

distribution of infectious diseases in Kediri Regency in 2022, as seen from data from the Central Statistics Agency of East Java Province, shows that there were 2,259 cases of Tuberculosis (TB) and 1,294 cases of Pneumonia (Central Statistics Agency of East Java Province, 2023), with the most cases occurring in people of productive age 18-50 years, the majority of whom were informal workers.

Besides tofu, Kediri City is known for its various leading industries, such as weaving, dodol (sweet sticky rice cake), herbal medicine, and gadung chips. One area known for its herbal medicine and gadung chip production is Ringinsari Village. Gadung chips (Opak Gadung) are a popular chip known for their delicious and savory taste. The Opak Gadung home industry in Ringinsari Village produces 11 to 15 quintals of Opak Gadung daily. Previous observations indicate that the production process uses various additives, such as ash, which can produce small particles that can become airborne and produce dust. Furthermore, the cooking process uses firewood, which produces dust and smoke from the combustion.

One way to mitigate respiratory problems or poisoning caused by dust from production is to use Personal Protective Equipment (PPE). Research by Ombuh et al. (2017) suggests that wearing a mask is one factor that affects lung function due to industrial dust exposure. Masks prevent dust from entering the nose directly. The importance of mask use in the workplace is largely overlooked. Environmental damage will continue to occur if control measures are not implemented. Environmental control measures include policy development, monitoring of businesses, and providing

environmental education to the public. Education is an activity or effort to convey a message to individuals, groups, or communities with the goal of changing the behavior of the target group based on the message conveyed (Notoatmodjo, 2012). Providing education about the importance of mask use in the workplace to the public is done with the hope of changing public behavior and thereby supporting efforts to control environmental damage.

OBJECTIVES

General Purpose

This community service aims to provide health education on the importance of using masks to prevent respiratory diseases among workers at the Opak Gadung factory in Ringinsari Village, Kediri Regency.

Special Purpose

1. Improving workers' knowledge and skills regarding occupational safety and health in the workplace
2. Improving workers' knowledge and skills regarding diseases that can be caused by dust
3. Improving workers' knowledge and skills regarding the importance of wearing masks

PLAN OF ACTION

Strategy Plan

1. Identifying health problems in the Opak Gadung MSME in Ringinsari Village
2. Coordinating with the Village Head and business owners to implement community service activities in the form of health education at the Opak Gadung MSME in Ringinsari Village

3. Determining the target, time, and location of the community service activities
4. Implementing community service activities in the form of health education on the importance of wearing masks to prevent respiratory diseases

Implementation

1. Coordinate with the Head of Ringinsari Village, Kediri Regency, to determine the implementation of community service activities.
2. Coordinate with MSME owners to arrange the technical aspects of community service activities.
3. Prepare the equipment and materials needed for the activities.
4. Implement the community service activities.

Setting

Community Service related to Health Education on the Importance of Using Masks to Prevent Respiratory Tract Infections in Opak Gadung MSME Workers, Ringinsari Village, Kediri Regency was carried out on August 7, 2024 at the Opak Gadung MSME production house, Ringinsari Village, Kandat District, Kediri Regency.

Target

The target of this community service activity is all workers at the Opak Gadung Ringinsari factory, Kediri Regency.

RESULTS AND DISCUSSION

We conducted community service focused on health education on the importance of mask use to prevent

respiratory infections in workers. To assess public knowledge about optimizing airway clearance in COPD patients, we used a 10-question questionnaire and obtained the following results.

Tabel 1. Demographic Data of Participants in Health Education on the Importance of Using Masks to Prevent Respiratory Tract Infections (n=12)

Variabel	N	%
Gender		
Male	8	33.33
Female	4	66.67
Total	12	100
Age		
45 – 50 years old	6	50
51 – 55 years old	4	33.33
56 – 60 years old	2	16.67
Total	12	100

The health educational activities the importance of using masks as a prevention of respiratory tract infections involved all opak gadung industrial workers in Ringinsari Village, Kediri Regency. Based on gender distribution, the majority of respondents were female, which was 4 people (33.33%), while male respondents were 8 people (66.67%). This shows higher participation from male teenagers in this education activity. In terms of age, Respondents consisted of three age groups. Workers were aged 45 to 60 years. In the 45-50 age group, there were 6 respondents (50%), in the 50-55 age group, there were 4 respondents (33.33%), and in the 55-60 age group, there were 2 respondents (16.67%). This age distribution shows that this educational activity reaches workers in the productive or middle age where according to Konde, et al (2020) Pulmonary tuberculosis is most often

found in the productive age, namely at the age of 15-50 years. At that age, the demographic transition occurs, which can lead to a higher life expectancy for the elderly. At the age of over 55 years the immunological system declines, making them very susceptible to various diseases.

Table 2. Average Distribution Based on Workers' Pre-Post Knowledge Test

Knowledge	Mean	N	Standard Deviation
Pre-Test	52.50	12	7.42
Post-Test	79.90	12	6.58

The analysis showed in Tabel 2. that the average pre-test score for participants was 52.5, indicating a relatively low initial level of knowledge regarding the importance of mask use. After health education, the average post-test score increased to 79.9, indicating a significant increase in knowledge.

Table 3. Normality Test of Respondents' Knowledge

Knowledge	Statistic	N	Sig.
Pre-Test	.944	12	.540
Post-Test	.958	12	.720

*Normal Distribution $\alpha > 0,05$ Shapiro Wilk Test

Table 3 shows the results of the normality test using the Shapiro–Wilk method to determine whether the pre-test and post-test data are normally distributed. Based on the analysis, the significance value (Sig.) for the pre-test variable is 0.540 and for the post-test variable is 0.720. Both values are greater than the significance limit of $\alpha = 0.05$.

Table 4. The Influence of Health Education on Workers' Knowledge About Mask Usage (n = 12)

Knowledge	Median	Mean Difference	P value
Pre-Test	52	27.40	0.000*
Post-Test	80		

* $\alpha < 0.05$ significant with the Wilcoxon Signed-Rank Test

Table 4 shows that providing health education on the importance of mask use resulted in a significant increase in knowledge among Opak Gadung MSME workers. The median knowledge score before education was 52, while after education it increased to 80. The difference in mean knowledge showed an increase of 27.40 points, indicating a positive impact of the educational activity.

The Wilcoxon Signed-Rank test yielded a p-value of 0.000 ($\alpha < 0.05$), indicating a significant difference between knowledge scores before and after health education. Therefore, it can be concluded that the educational intervention was highly effective in increasing workers' understanding of the importance of mask use as a preventive measure for respiratory infections. The results of this study are in line with the research of Rahmania and Maryantari (2022) which showed a significant difference in respondents' knowledge before and after health education. This is also supported by Syuhada et al. (2022) who stated that the provision of health education was effective in increasing respondents' knowledge about efforts to prevent occupational lung disease after workers participated in the counseling activities properly. This health education provided knowledge to opak gadung factory workers about the dangers

of tuberculosis and the importance of wearing masks in the workplace to avoid exposure to dust and other infectious diseases. Silica dust produced during the sandstone production process, how dust can enter the respiratory tract to the lungs, and the long-term impacts of silica dust exposure in the form of chronic obstructive pulmonary disease, silicosis, and lung cancer. The craftsmen also received education on self-protection measures and were distributed N95 masks

CONCLUSION

The Community Service activity was successfully implemented according to the plan. This activity succeeded in increasing workers' knowledge about the risks of respiratory infections that can arise from exposure to dust, combustion smoke, and small particles produced during the opak gadung production process.

REFERENCES

- Darmawan, A. (2013). *Penyakit Sistem Respirasi Akibat Kerja*. Jambi Medical Journal, 1(1) : 68 – 83.
- Kementerian PPN/Bappenas. (2020). *Pedoman Teknis Penyusunan Rencana Aksi Tujuan Pembangunan Berkelanjutan (TPB)/Sustainable Development Goals (SDGs)*. Kedepati Bidang Kemaritiman dan Sumber Daya Alam Kementerian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional.
- Mukono, H. J. (2005). *Toksikologi Lingkungan*. Surabaya: Airlangga University Press
- Notoatmodjo, S. (2012). *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta: Rineka Cipta.
- Ombuh, R.V., Nurjazuli., dan Raharjo, M. (2017). Hubungan Paparan Debu Terhirup Terhadap Gangguan Fungsi Paru Pada Pekerja Bongkar Muat Di Pelabuhan Manado Sulawesi Utara Tahun 2017. *Higiene Jurnal Kesehatan Lingkungan*, 3(2): 69-75
- Putri Purwandari, N., Dyah Listyarini, A., Rias Arsy, G., Setyo Wulan, E., Bella, I., Setiawan Jordi, F., Tangan, M., Masker, M., & Saluran Pernafasan Akut, I. (2023). Pencegahan Resiko Penularan Penyakit Ispa Dengan Cara Mencuci Tangan Dan Memakai Masker Di Pabrik Gula Desa Samirejo Kecamatan Dawe Kabupaten Kudus Kata Kunci(Vol. 3, Issue 1). <https://doi.org/>
- Rahmania, N. E. N. and Maryiantari, E. S. (2022). The Effectiveness Of Health Education On Sandstone Craftsmen's Knowledge And Attitude About Occupational Lung Disease Prevention. *Nurse and Health: Jurnal Keperawatan*. 11 (2): 294-300
- Rini Pratiwi, Jati Untari, Nuraini, Markus Gelar Kumara Agni4, Dwi Endah Kurniasih, Syenni Grazia, & Yesi Melinda Septiani. (2022). Pemberian Edukasi Infeksi Saluran Pernafasan Akut (ISPA) Melalui Penyuluhan di Kalurahan Purwobinangun Kapanewon Pakem. *Jurnal Pengabdian Kesehatan Masyarakat*, 1(1), 1–8.
- Slamet dan Kamilla, L. (2017). Faktor-Faktor Yang Berhubungan Dengan Gangguan Fungsi Paru pada Pekerja Pengelasan di Kota Pontianak. *Jurnal Laboratorium Khatulistiwa*, 1 (1) : 72 – 80.
- Sulistiyani dan Yunita, N.A., 2015. *Faktor Risiko Kejadian TB Paru Pada Pekerja Perempuan di Lingkungan LIK Kaligawe Semarang*, Laporan Penelitian, Universitas Diponegoro, Semarang

Suma'mur, P. K. (2013). *Higiene Perusahaan dan Kesehatan Kerja (HIPERKES)*. Jakarta: Agung Seto.

Syuhada AD, Budiman, Syarifah W, Haryani L. (2022). Effectiveness of Health Promotion on the Prevention of COVID-19 in the Blacksmith Industry in Aceh Province. *The 4th International Seminar on Global Health*. Vol. 2022, p. 151-160.

ENHANCING ELDERLY KNOWLEDGE THROUGH HEALTH EDUCATION ON HYPERTENSION AT TAMAN VILLAGE HALL SIDOARJO

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ABSTRACT

Taman village in Sidoarjo is a developing village; however, many of its elderly residents still lack awareness regarding the importance of health knowledge, especially about hypertension. Many elderly individuals do not understand how to recognize symptoms, risk factors, or prevention efforts. This situation is worsened by misinformation obtained from unreliable sources. Families and community leaders often do not prioritize health education, causing essential hypertension-related information to be poorly delivered. This community service program was conducted at Taman Village Hall during a community meeting. The aim of this activity was to enhance elderly knowledge about hypertension and encourage preventive behavior such as maintaining a healthy diet, reducing salt intake, and regularly monitoring blood pressure. The activity was carried out through direct health education using leaflets and visual aids. The stages included: (1) Pre-test to assess baseline knowledge; (2) Material presentation on hypertension; (3) Discussion and Q&A session; (4) Post-test to evaluate knowledge improvement; and (5) Monitoring and evaluation. A total of 50 participants joined the program, although not all were elderly. Expected outcomes include the completion of a publishable article and the development of educational leaflets that can be proposed for intellectual property rights.

Keywords: Community Service, Elderly, Health Education, Hypertension, Knowledge

INTRODUCTION

Hypertension is one of the most common health issues among the elderly and contributes significantly to morbidity and mortality due to complications such as stroke, heart failure, and kidney disease. Although hypertension can be prevented and managed, knowledge levels among elderly populations remain low, leading to poor understanding of risk factors, symptoms, and necessary preventive measures (Haldi et al., 2020).

Taman Village in Sidoarjo is a developing area; however, observations indicate that many elderly residents lack awareness regarding the importance of health education, particularly about hypertension. Much of the information they receive is inaccurate or unverified. Families and local leaders also often do not prioritize health education, contributing to limited access to reliable information.

This lack of understanding results in inadequate prevention behaviors, including poor salt intake control, low physical activity, and irregular blood pressure monitoring. Therefore, structured and easy-to-understand health education is essential to empower the elderly to better manage their health (Harjo et al., 2019).

This community service activity was conducted as part of an institutional commitment to improving elderly knowledge and awareness. Through direct health education using leaflets and interactive discussions, the program aims to encourage better prevention and management of hypertension among the elderly (Maulidah et al., 2022; Oktaria et al., 2023).

OBJECTIVES

General Purpose

The general objective of this community service activity is to improve elderly knowledge and awareness regarding hypertension, including risk factors, symptoms, prevention, and management through interactive health education.

Special Purpose

1. To provide an understanding of the definition of hypertension.
2. To increase elderly knowledge regarding risk factors of hypertension.
3. To identify baseline knowledge through a pre-test.
4. To educate participants about symptoms and early warning signs.
5. To teach prevention strategies such as salt restriction and physical activity.
6. To provide opportunities for discussion and clarification.
7. To evaluate knowledge improvement through post-test results.
8. To increase motivation among the elderly in applying preventive behaviors.

PLAN OF ACTION

Strategy Plan

1. Providing direct health education to elderly participants.
2. Using engaging educational media such as leaflets and visual aids.
3. Involving village officials and health cadres in spreading information.
4. Conducting structured evaluation to measure knowledge improvement.
5. Encouraging healthy habits through guidance and advocacy.

Implementation

1. The activity was carried out in several stages:
 1. Preparation: Coordination, material development, leaflet production, and survey creation.

2. Pre-test: Assessing baseline knowledge.
3. Health Education: Delivering material on hypertension.
4. Discussion and Q&A session.
5. Post-test: Measuring knowledge improvement.
6. Documentation and reporting.

Setting

Arrangements included scheduling, selecting a strategic location (village hall), preparing educational materials, and assigning responsibilities to each team member.

Target

1. Participants: 40–60 elderly individuals.
2. Knowledge improvement: Minimum 30% increase from pre-test to post-test.
3. Deliverables: Scientific article, educational leaflet (HKI), documentation.
4. Impact: Increased awareness and preventive behavior among the elderly.

RESULTS AND DISCUSSION

The community service activity involved 50 participants. Pre-test results indicated low baseline knowledge regarding hypertension. Following the health education session, post-test results showed that 80% of participants achieved a 'good understanding' score ($\geq 75\%$ correct answers).

Participants demonstrated strong interest during discussions and blood pressure checks. However, several challenges were noted, such as some elderly leaving early and fewer elderly participants than expected due to concurrent village activities.

The program successfully improved knowledge and awareness, aligning with previous findings that health education

significantly enhances understanding among the elderly.



Figure 1 Opening Ceremony



Figure 2 Community Health Check

CONCLUSION

The community service activity effectively improved elderly knowledge regarding hypertension prevention and management. Health education through interactive sessions and leaflets proved to be an effective method. Although challenges existed, the overall

implementation was successful and achieved its objectives. Continued health education efforts and collaboration with community leaders are recommended.

REFERENCES

- Harjo, M. S., Setiyawan, S., & Rizqie, N. S. (2019). The relationship between the level of knowledge about hypertension and attitudes in preventing hypertension complications among elderly Prolanis participants at Jenawi Health Center, Karanganyar. *Placentum: Scientific Journal of Health and Its Applications*, 7(2), 34–40. <https://doi.org/10.20961/placentum.v7i2.29734>
- Maulidah, K., Neni, N., & Maywati, S. (2022). The relationship between knowledge, attitudes, and family support with hypertension control efforts among the elderly in the working area of Cikampek Health Center, Karawang Regency. *Indonesian Community Health Journal*, 18(2), 484–494. <https://doi.org/10.37058/jkki.v18i2.5613>
- Oktaria, M., Hardono, H., Wijayanto, W. P., & Amiruddin, I. (2023). Relationship between knowledge and diet attitudes for hypertension in the elderly. *Indonesian Medical Science Journal*, 2(2), 69–75. <https://penerbitgoodwood.com/index.php/jimi/article/view/1512>
- Priyadarsani, A. M. A., Sutresna, I. N., & Wirajaya, I. G. (2021). The relationship between the level of knowledge about hypertension and efforts to prevent recurrent hypertension among the elderly. *Nursing Media: Makassar Health Polytechnic*, 12(1), 101–107. <https://doi.org/10.32382/jmk.v12i1.2039>
- Setiarini, S. (2018). The relationship between knowledge level and attitudes of hypertensive patients toward hypertension control at Danguang Health Center. *Menara Ilmu*, 12(8), 141–148. <https://jurnal.umsb.ac.id/index.php/menarailmu/article/view/877>
- Simanjuntak, E. Y., & Situmorang, H. (2022). Knowledge and attitudes about hypertension and blood pressure control. *Indogenius*, 1(1), 10–17. <https://doi.org/10.56359/igj.v1i1.57>



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COMMUNITY-BASED EDUCATION ON HEALTHY SNACK CHOICES TO PREVENT EARLY DIABETES AMONG STUDENTS OF AL-HIKAM ISLAMIC BOARDING SCHOOL, BANGKALAN

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ABSTRACT

Diabetes mellitus (DM) is one of the global health threats, and in Indonesia, the prevalence of DM continues to increase every year. The risk factors for DM that are currently challenging are an unbalanced lifestyle, including the habit of consuming snacks high in sugar. Situation analysis shows that students at Islamic boarding schools have limited knowledge about diabetes and often enjoy snacks without considering their sugar content. On the other hand, sweet potatoes grow abundantly in the environment of the Al-Hikam Bangkalan Islamic boarding school. Sweet potatoes are known to have a low glycemic index and are high in fiber, making them a healthy snack alternative to prevent the risk of diabetes. The purpose of this community service is to introduce healthy snacks for diabetes to prevent the early risk of diabetes among students at PP. Al-Hikam Bangkalan. This community service used an observational analytical method in processing questionnaire data. Activities included counseling on the dangers of DM and healthy anti-diabetic snacks. The Participants consisted of 51 male and female students at PP. Al-Hikam Bangkalan, which began with a pre-test, continued with the delivery of material, and ended with a post-test as an evaluation. The results of the Wilcoxon signed rank test showed an increase in the knowledge of the participants, with a pre-test average score of 31 and a post-test average score of 64, representing a significant increase ($P < 0.001$). The conclusion is that students were able to understand diabetes mellitus and recognize healthy anti-diabetic snacks after receiving counseling, so it is hoped that students can maintain a balanced diet and make healthy snacks as an alternative to snacks so that they can prevent diabetes early on.

Keywords: Diabetes Mellitus, Healthy Snacks, Islamic Boarding School, Students, Sweet Potatoes

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INTRODUCTION

Diabetes mellitus (DM), often referred to as diabetes, is a group of metabolic disorders characterized by elevated blood glucose levels (hyperglycemia) due to impaired insulin secretion, impaired insulin action, or a combination of both (PERKENI, 2021). Based on data from the 2018 Riskesdas, the prevalence of DM in Indonesia reached 8.5% or 20.4 million people in Indonesia diagnosed with DM, and the WHO predicts that this number will continue to increase, reaching 21.3 million by 2030 (Kemenkes, 2019; PERKENI, 2021).

Poor lifestyle choices, such as an unbalanced diet and lack of physical activity, can be risk factors for diabetes (Irwansyah & Kasim, 2021). Consumption of foods high in simple carbohydrates, sugar, saturated fats, and low in fiber can increase blood glucose levels (Clemente-Suárez, et al., 2022). The fiber content in food can reduce the body's glycemic response to consuming carbohydrate-rich foods and can help delay the absorption of glucose and lipids in the intestines (Makki, et al., 2018; Giutini et al, 2022). One good source of fiber is sweet potatoes. Sweet potatoes have a low glycemic index (GI) of 44, which is lower than rice (51), potatoes (74), and corn (59). Consuming foods high in fiber, amylose, and low GI can improve insulin sensitivity and control blood glucose, which is beneficial for preventing complications of type 2 diabetes (Avianty & Ayustaningwarno, 2013).

The results of the 2015 Global School Health Survey show that adolescents' eating habits are still poor, characterized by a tendency not to eat breakfast regularly (65.2%), low consumption of vegetables and fruits as sources of fiber (93.6%), and high consumption of foods with added flavor enhancers (75.7%). In addition, nearly half of adolescents (42.5%) have a sedentary lifestyle characterized by minimal physical activity (Ministry of Health, 2018). Students at Islamic boarding schools, who are predominantly adolescents, are a community group at risk in terms of dietary patterns.

The results of a situation analysis conducted at the Al-Hikam Islamic Boarding School in Bangkalan found that most students consume fried foods and sweet drinks available around the boarding school. The students' busy daily schedule exacerbates this habit, causing them to often delay meals and rely more on unhealthy snacks. This condition increases the risk of early diabetes mellitus and can have an impact on long-term health.

Based on these conditions, this community service program was carried out at the Al-Hikam Islamic Boarding School in Bangkalan with the aim of introducing and providing education related to diabetes-friendly snacks made from sweet potatoes. Sweet potatoes were chosen because they are easily found in the boarding school environment, have a low glycemic index, and are high in fiber. It is hoped that through this activity, the

students' knowledge and awareness of the risks of diabetes will increase, as well as the importance of a healthy diet and having nutritious snack alternatives that have the potential to prevent the risk of diabetes mellitus from an early age.

OBJECTIVES

General Purpose

Conducting community service through educational outreach on healthy snacks for diabetics to prevent early-onset diabetes among students at the Al-Hikam Islamic boarding school in Bangkalan.

Special Purpose

1. Introduce students to snacks that are good for diabetics and have the benefit of making them feel fuller for longer
2. Encourage students to take early preventive measures against diabetes mellitus

PLAN OF ACTION

This activity was carried out in May 2025 at the Al-Hikam Islamic Boarding School in Bangkalan. This community service activity was carried out on 51 male and female students at the Al-Hikam Islamic Boarding School in Bangkalan. The stages of community service are as follows:

1. Preparation stage

The preparation stage of the program began with a survey and discussion to obtain the information needed to increase the target audience's interest and the quality of the program provided.

2. Implementation of counseling

This community service activity was carried out by providing counseling on healthy anti-diabetic snacks, in collaboration with the boarding school

administrators and the local health center. Before the activity took place, participants first filled out a pre-test questionnaire. The counseling material provided patients with explanations about diabetes mellitus, risk factors and prevention, as well as an introduction to healthy snacks as an alternative to anti-diabetic snacks. At the end of the counseling, a post-test questionnaire was given to assess the increase in knowledge.

3. Evaluation and reporting

Evaluation and reporting include evaluating the success of the program and reporting the results to the boarding school leadership, as well as writing a program report to be published in a community service journal.

The program evaluation is conducted before (pre), during (durante), and after (post). The program evaluation includes:

1. Knowledge change indicators
2. Participant attendance indicators
3. Activity indicators

RESULTS AND DISCUSSION

The Healthy Snack Introduction Program for Diabetes Prevention in Early Diabetes Risk Among Students at Al-Hikam Islamic Boarding School in Bangkalan has been successfully implemented. The event was held on Saturday, May 3, 2025, for 51 students and boarding school administrators. The event was attended by the board of administrators and the boarding school supervisor, who participated enthusiastically. The activity took place from 9:00 a.m. to 12:00 p.m.

The students arrived on time and followed the program from start to finish. Before the seminar began, participants were given leaflets containing information on "healthy anti-diabetes snacks." The

students were active and enthusiastic throughout the seminar. They also appeared enthusiastic about the material presented. The most active participants and those with the highest pre-test and post-test scores in the educational session were given awards. The event ran smoothly from start to finish. At the closing of the event, a group photo was taken with the participants of the educational session.



Figure 1. Group photo with the most active participants, highest pre-test and post-test scores



Figure 2. Leaflet entitled “Healthy Anti-Diabetes Snacks” distributed to participants during the educational session.

Before and after the counseling session, participants were given a questionnaire on santri knowledge of diabetes mellitus. The results of the counseling session were as follows:

Table 1. Results of the Wilcoxon rank test on students' knowledge of diabetes mellitus and healthy eating patterns

	Mean	Std. Deviasi	Min	Max	-P-value
Pre-Test	31,3	15,7	0	30	<0,001
Post-Test	64,7	18,2	30	100	

The average pre-test score was 31.3, while the average post-test score was 64.7. There was an increase of 33.3 from before the material was given (pre-test) to after the material was given (post-test). Based on the results of the statistical analysis above, there was a significant increase in the post-test score compared to the pre-test. This indicates an increase in students' understanding of the risks of early diabetes and the importance of a healthy diet. Before the counseling, the students did not fully understand the negative effects of consuming foods high in sugar and low in fiber on long-term health. These results are in line with the community service conducted by Istyi'aroh, et al (2022) on Early Diabetes Mellitus Prevention Education: Community Service at the Nyamplungsari Qur'an Tahfidh Islamic Boarding School in Pemalang, Central Java. The results of the counseling showed an increase in understanding of early diabetes mellitus prevention in the good category, from 68.4% to 83.2%.

Type 2 diabetes mellitus now affects not only adults but also adolescents, mainly due to changes in lifestyle and unhealthy eating patterns (Andrew, 2024). One of the main contributing factors is excessive consumption of foods high in sugar, saturated fat, and simple carbohydrates. This habit is also found in the Al-Hikam Islamic Boarding School in Bangkalan,

where students tend to consume fried snacks and sweet drinks due to limited time and access to healthy foods.

The management and prevention of diabetes mellitus through a dietary approach emphasizes the importance of choosing healthy snacks to help control blood sugar levels. A number of studies have reported that the use of functional foods in the daily diet can improve glycemic regulation while reducing the risk of type 2 diabetes. One of the main aspects that needs to be considered in choosing snacks for individuals at risk of diabetes is the glycemic index (GI) value, which is a measure of the extent to which carbohydrate foods affect blood glucose increases. Consumption of foods with a low GI is highly recommended because they produce a slower increase in glucose, making them more effective in maintaining stable blood sugar levels. Additionally, snacks rich in fiber, whole grains, and high in protein provide additional benefits. For example, high-protein snacks have been shown to increase feelings of fullness and reduce food intake, ultimately supporting optimal blood glucose control (Yang et al., 2021; Olagunju et al., 2023).

Education aimed at promoting healthy living needs to be carried out as part of diabetes prevention efforts. One healthy lifestyle behavior can be achieved by following a healthy diet. According to PERKENI (2021), the recommended food composition consists of: carbohydrates amounting to 45-65% of total energy intake, fat intake of around 20-25% of calorie requirements, and no more than 30% of total energy intake, as well as fiber consumption of 20.35 grams per day (PERKENI, 2021). Diet education is nutrition education with an approach that

disseminates nutritional information based on the principles of nutritional science in the form of information relevant to the problems faced, such as how to choose nutritionally balanced foods, eating habits, dietary restrictions related to various diseases, and maintaining ideal body weight according to Contento Isobel (Supriasa, 2012).

Thus, the introduction of healthy diabetes snacks based on sweet potatoes not only provides nutritional benefits but also serves as an effective educational tool in preventing the risk of early-onset diabetes. It is hoped that this initiative will be the first step in fostering a culture of healthy consumption within the boarding school environment and supporting the long-term health of the students.

CONCLUSION

Introducing healthy anti-diabetes snacks to students at the Al-Hikam Islamic Boarding School in Bangkalan has increased their knowledge about diabetes mellitus and healthy anti-diabetes snacks after receiving education on the subject. This activity is expected to encourage healthier snacking habits, maintain a balanced diet, and promote healthy snacks as an alternative to unhealthy snacks, so that students have an understanding and habits that support the prevention of diabetes mellitus from an early age.

REFERENCES

- Andrew, C. (2024) *Diabetes Mellitus (DM) in Children and Adolescents*. MSD Manual.
<https://www.msdmanuals.com/home/children-s-health-issues/hormonal-disorders-in-children/diabetes-mellitus-dm-in-children-and-adolescents>

- Avianty, S., & Ayustaningwarno, F. (2013). Kandungan Zat Gizi Dan Tingkat Kesukaan Snack Bar Ubi Jalar Kedelai Hitam Sebagai Alternatif Makanan Selingan Penderita Diabetes Melitus Tipe 2. *Journal of Nutrition College*, 2(4), 622-629. <http://ejournal-s1.undip.ac.id/index.php/jnc>
- Clemente-Suárez, V. J., Mielgo-Ayuso, J., Martín-Rodríguez, A., Ramos-Campo, D. J., Redondo-Flórez, L., & Tornero-Aguilera, J. F. (2022). The Burden of Carbohydrates in Health and Disease. *Nutrients*, 14(18), 3809. <https://doi.org/10.3390/nu14183809>
- Giuntini, E. B., Sardá, F. A. H., & de Menezes, E. W. (2022). The Effects of Soluble Dietary Fibers on Glycemic Response: An Overview and Futures Perspectives. *Foods (Basel, Switzerland)*, 11(23), 3934. <https://doi.org/10.3390/foods11233934>
- Irwansyah, & Kasim, I.S. (2021). Identifikasi Keterkaitan Lifestyle Dengan Risiko Diabetes Melitus. *JIKSH: Jurnal Ilmiah Kesehatan Sandi Husada*, 10(1), 62-69.
- Isyti'aroh., Fijianto, D., Fara, A., & Cahya, S.N. (2022). Edukasi Pencegahan Diabetes Melitus Sejak Dini: Pengabdian Masyarakat di Pesantren Tahfidh Qur'an Nyamplungsari Pematang Jawa Tengah. *Abdi Geomedisains*, Vol.2(2) Januari2022:100-107.
- Kemenkes. (2018). *Kenali Masalah Gizi yang Ancam Remaja Indonesia*. Jakarta: Depkes RI. <http://www.depkes.go.id/article/view/18051600005/kenali-masalah-giziyang-ancam-remaja-indonesia.html>
- Kementerian Kesehatan RI. (2019). *Hasil Utama Riset Kesehatan Dasar (Riskesdas) 2018*. Badan Penelitian dan Pengembangan Kesehatan.
- Makki, K., Deehan, E. C., Walter, J., & Bäckhed, F. (2018). The Impact of Dietary Fiber on Gut Microbiota in Host Health and Disease. *Cell host & microbe*, 23(6), 705–715. <https://doi.org/10.1016/j.chom.2018.05.012>
- Olagunju, A., Arigbede, T., Oyeleye, S., Makanjuola, S., Oyeboode, E., & Enikuomihin, A. (2023). High-protein, low glycemic index snack from optimized blend of three wholegrains exhibit nutraceutical quality and elicit low glycemic response in diabetic human subjects. <https://doi.org/10.21203/rs.3.rs-2625577/v1>
- PERKENI Perkumpulan Endokrinologi Indonesia. (2021). *Pedoman Pengelolaan Dan Pencegahan Diabetes Melitus Tipe 2 Dewasa Di Indonesia 2021*.
- Supariasa, I.D.W. (2012). *Pendidikan & Konsultasi Gizi*. Jakarta: EGC
- Yang, J., Park, H., Hwang, W., Kim, T., Kim, H., Oh, J., & Cho, M. (2021). Changes in the glucose and insulin responses according to high-protein snacks for diabetic patients. *Nutrition Research and Practice*, 15(1), 54. <https://doi.org/10.4162/nrp.2021.15.1.54>



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OPTIMIZING CREATIVE POETRY WRITING THROUGH THE PICTURE-TO-PICTURE METHOD : INTEGRATING LOCAL WISDOM IN MALAYSIAN ISLAMIC EDUCATION

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ABSTRACT

This community service activity aims to optimize the poetry writing creativity of students through the application of the Picture to Picture method combined with local wisdom values. The service was carried out at the Guidance Studio of the An-Nahdloh Islamic Boarding School, Selangor, Malaysia, on July 29, 2025. The method of implementation of the activity was a workshop that included providing materials, an introduction to the Picture to Picture method, poetry writing exercises, presentations of works, and reflections. The results of the activity showed that students were able to improve their creative writing skills by being more imaginative, communicative, and contextual. The poems produced were full of nuances of religiosity, Islamic boarding school life, and local Malay culture. Thus, the Picture to Picture method has proven effective in developing writing skills based on local wisdom and is suitable for implementation in various educational institutions.

Keywords: Islamic Boarding School, Local Wisdom, Picture to Picture Method, Writing Creativity, Writing Poetry

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INTRODUCTION

Writing skills are a key pillar in language and literature learning. Among various forms of creative writing, poetry holds a special place because it allows writers to express ideas, feelings, and experiences aesthetically. However, many students, particularly in Islamic boarding schools (pesantren), experience obstacles in writing poetry. These obstacles include difficulty starting writing, limited poetic vocabulary, and a lack of imagination (Rahmawati, 2021). This situation results in less than optimal development of students' creative writing skills.

One of the key issues in creative writing instruction in educational institutions is the lack of innovative learning strategies that can motivate students. According to Nugroho & Lestari (2020), poetry writing instruction is often monotonous and emphasizes theory, making it difficult for students to explore their creativity. Therefore, methods are needed that can provide real-world stimuli, stimulate imagination, and relate to students' lives.

The Picture-to-Picture method presents an innovative solution because it relies on visual media to stimulate creative ideas. Arsyad (2019) emphasized that the use of visual media in learning can increase motivation, facilitate understanding, and help students express ideas more focused. In the context of writing poetry, visual media serves as a bridge between real-life experiences and students' creative imaginations.

Furthermore, learning to write poetry will be more meaningful if integrated with local wisdom. Local wisdom is not only a cultural heritage but also an authentic source of inspiration for creating literary works (Sartini, 2016). Research by Sari

(2022) shows that integrating local wisdom into language learning can increase student engagement and enrich the content of their writing. Therefore, teaching poetry writing based on local wisdom can be a solution for improving writing skills while strengthening cultural identity.

Several previous community service activities have also demonstrated the effectiveness of visual-based creative strategies. For example, a community service conducted by Hidayat & Kusuma (2021) in a middle school demonstrated that implementing an image-based method improved the quality of students' poetry by up to 70% compared to conventional methods. This reinforces the importance of innovative writing learning through visual media.

Based on the background and study, the community service team of Nahdlatul Ulama University Surabaya carried out the activity Optimizing creative poetry writing through the picture-to-picture method: integrating local wisdom in malaysian islamic education, on July 29, 2025.

The objectives of this community service activity are: (1) To optimize the poetry writing skills of students through the Picture to Picture Method . (2) To increase writing creativity by integrating local wisdom values. (3) To provide a fun, contextual, and applicable literary learning experience. (4) To foster participants' love for local culture through literary works.

OBJECTIVES

The community service activity titled "Optimizing creative poetry writing through the picture-to-picture method: integrating local wisdom in malaysian islamic education, aims to achieve the following objectives: (1) To enhance students' ability in creative poetry writing

through the application of the Picture-to-Picture method, which utilizes visual media to stimulate ideas, imagination, and emotional expression. (2) To integrate local wisdom values into poetry writing, enabling students to produce literary works that reflect cultural identity, moral values, and the richness of local traditions. (3) To increase students' motivation and engagement in learning poetry by providing an innovative, enjoyable, and interactive learning experience that differs from conventional theoretical approaches. (4) To develop teachers' capacity at the An-Nahdloh Islamic Boarding School in implementing creative learning models particularly visual-based and culture-oriented strategies for language and literature instruction. (5) To strengthen cultural appreciation and awareness among students by encouraging them to explore local stories, symbols, and values as sources of inspiration for poetic expression. (6) To promote the sustainability of culturally responsive education, by fostering collaboration between higher education institutions and Islamic boarding schools in developing contextual and locally grounded teaching practices.

PLAN OF ACTION

This community service activity was carried out using a training method (participatory workshop) designed to develop the poetry writing skills of students through the application of the Picture to Picture Method based on local wisdom.

1. Activity Partners

The activity partner is the An-Nahdloh Islamic Boarding School in Selangor, Malaysia, a non-formal educational institution for students aged 9–15. The partner faced major challenges in developing creative writing skills,

particularly poetry, due to limited innovative learning methods and a lack of supporting media.

2. Implementation Time

This activity was held on July 29, 2025, with a total duration of 1 day (6 effective hours) in the meeting room of the An-Nahdloh Islamic Boarding School Guidance Center.

3. Activity Method

The training method used is a participatory workshop approach. Participants not only receive material but also practice writing poetry, discuss their work, and reflect together. This approach was chosen to develop writing skills through practical experience and active interaction among participants.

4. Implementation Stages

a. Activity Preparation

Coordination with Islamic boarding school administrators regarding needs and technical implementation. Development of training modules containing poetry writing theory, examples of poetry based on local wisdom, and worksheets. Selection of visual media that represent local wisdom, such as Malay traditions, the lives of Islamic boarding school students, and the natural panorama of Selangor.

b. Implementation of the Workshop

Introduction to the elements of poetry (diction, figures of speech, rhyme, theme), as well as an explanation of the advantages of the Picture To Picture Method in stimulating creativity. Introduction to the Picture To Picture Method Participants are shown a series of pictures, asked to observe, describe, and express the meaning contained in them. (Poetry Writing Practice), participants are asked to write poetry based on the pictures of their choice. The facilitator assists in the use of diction, selection of figures of speech, and

development of ideas. (Work Presentation), participants read poetry in front of friends, followed by appreciation and group discussion. (Joint Reflection), the facilitator invites participants to reflect on their writing experiences, challenges faced, and the benefits of the Picture To Picture Method in helping them be creative.

5. Activity Evaluation

Evaluation was conducted through observation to assess participants' active involvement in each stage. Analysis of the resulting poetry to examine aspects of creativity, language use, and reinforcement of local values. A short questionnaire was distributed to assess participants' responses regarding their understanding of the material, their writing experience, and their impressions of the learning method.

Through this workshop-based training method, students not only gain a theoretical understanding of writing poetry, but also practical skills to express ideas creatively through image media that is close to their lives.

RESULTS AND DISCUSSION

Results

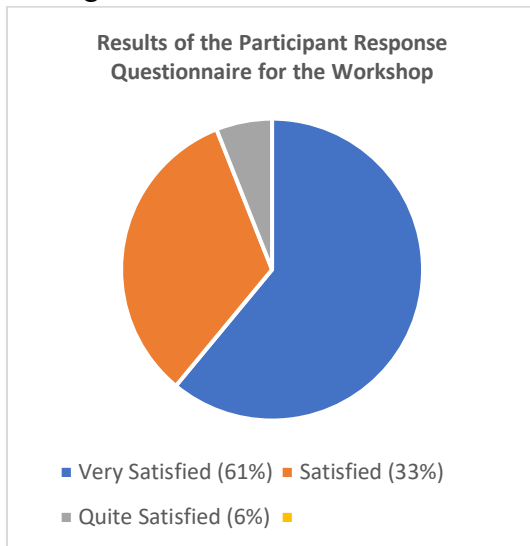
The community service activity at the An-Nahdloh Islamic Boarding School in Selangor, Malaysia, proceeded smoothly and received a positive response from both participants and partners. The 18 students who participated in the activity demonstrated high enthusiasm in every session, from the presentation of the material to the poetry readings. Based on evaluations through observation, work analysis, and a short questionnaire, the following results were obtained:

Table 1. Achievements from the Poetry Writing Workshop Using *the Picture to Picture Method*

Rated aspect	Achievement Indicators	Results (%)	Information
Active participation	Students are involved in discussions, asking questions, and taking part in writing exercises.	90%	16 of the 18 students actively participated
Ability to write poetry	Poetry fulfills the aspects of theme, diction, figures of speech, and rhyme.	72%	13 of the 18 students produced good quality poetry
Courage to read works	Students read poetry in front of the group	83%	15 of the 18 students appeared confident
Positive response to the method	Students feel that <i>the Picture to Picture Method</i> helps them in finding ideas.	94%	Based on participant satisfaction questionnaire

Table 1 shows that the majority of students at An-Nahdloh Islamic Boarding School were able to produce poetry that met the assessment criteria quite well. Most participants demonstrated increased creativity, characterized by their ability to develop themes, use more varied diction, and rhyme that aligned with the poem's content. However, a small number of students still experienced difficulties, particularly in selecting appropriate words (diction) and building the power of poetic imagery in their poems. This demonstrates that the process of learning to write poetry using *the Picture to Picture Method* not only encouraged students' courage to write but also provided direct experience in expressing ideas through beautiful

language. The limitations still experienced by some participants were more directed towards technical abilities in processing poetic language, so that continued ongoing mentoring was needed.



Meanwhile, the questionnaire results displayed in the chart above show the tendency of participant responses to the workshop activities. As many as 61% of participants stated that they were very satisfied, 33% stated that they were satisfied, and 6% stated that they were quite satisfied. Interestingly, not a single participant stated that they were dissatisfied. This picture confirms that the activities carried out were not only well received but also provided a meaningful learning experience for the students. The high level of satisfaction indicates that *the Picture to Picture Method* applied has proven effective in developing creativity in writing poetry. Visualization of images can trigger imagination, so that participants find it easier to express their ideas and experiences into literary works.

Furthermore, these positive results also demonstrate the relevance of writing learning to the participants' lives. Many of the poems they wrote addressed themes close to their daily lives, such as life in

Islamic boarding schools, Malay traditions, the natural beauty of Selangor, and their religious values. Thus, this activity not only improved writing skills but also strengthened the students' sense of cultural and religious identity.

Overall, the quantitative data, including the students' work and questionnaire responses, combined with the qualitative findings of the poetry themes produced, demonstrate that this community service activity has achieved its objectives. *The Picture to Picture method* has proven to be not only a creative strategy for writing poetry, but also an effective means of integrating literary learning with local wisdom.

This activity produced several important findings: (1) Increased imagination and creativity of students. Students who previously had difficulty writing poetry were able to develop ideas based on image stimuli. (2) Poetry works have a local nuance. The themes of the poems often raise the life of Islamic boarding schools, Malay traditions, and the nature of Selangor, thus demonstrating the internalization of cultural values. (3) Increased self-confidence. The poetry reading session trains participants' courage to appear in public. (4) The learning atmosphere is more enjoyable. Participants feel that learning to write poetry is not just theory, but through creative practical experiences.

Discussion

The results of this community service activity demonstrate that the application of the *Picture to Picture Method* has proven effective as a learning strategy in developing poetry writing skills among students. The image media presented in the workshop not only serves as a visual illustration that beautifies the learning

process, but also has a far more strategic function, namely as an imaginative stimulus that encourages the birth of creative ideas. Through this visual stimulus, students are able to build a bridge between personal experiences, prior knowledge, and aesthetic expression manifested in the form of poetry. Thus, the creative process does not only rely on abstract imagination alone, but also receives support from a concrete visual context. This is in line with the view of Arsyad (2019) who emphasized that visual media can strengthen learning motivation while making it easier for students to understand, remember, and develop new knowledge.

From a quantitative perspective, the data shows that 72% of students successfully produced high-quality poetry. This achievement indicates a significant improvement in creative writing skills. These results support the findings of Hidayat & Kusuma (2021), who demonstrated that using image-based methods in language learning can improve the quality of students' poetry by up to 70% compared to conventional lecture-based methods. In other words, the use of visual media has been shown to stimulate language sensitivity, enrich diction choices, and train students to construct more vivid poetic imagery. This demonstrates that the students' success in this activity is not incidental but aligns with various previous studies.

Meanwhile, from a qualitative perspective, the success achieved can be measured not only in terms of the technical aspects of writing poetry, but also in terms of the substance of the cultural and religious values contained in their works. The poems produced by the students not only display the beauty of language, play of

diction, and imaginative structure, but also represent the noble values that grow in their daily lives in the Islamic boarding school environment. The values of religiosity, the simplicity of daily life, and strong Malay cultural traditions appear to be dominant themes that enrich the meaning of the works. This finding supports the research of Sari (2022), which emphasized that the integration of local wisdom in language and literature learning not only enriches the content of literary works but also strengthens students' cultural identity. Thus, this activity not only develops literacy skills but also plays a vital role in maintaining and preserving local wisdom amidst the currents of globalization.

In addition, this activity also provides empirical evidence regarding the relevance of contextual learning theory in educational practice. Johnson (2011) in the concept of Contextual Teaching and Learning (CTL) emphasizes the importance of linking the learning process to the real experiences of students, so that the knowledge gained is not abstract and detached from the reality of everyday life. In the context of this activity, the use of visual media close to the lives of students, such as the atmosphere of Islamic boarding schools, religious traditions, and local cultural environments, has proven to be an effective bridge in helping the process of creating poetry. In this way, learning to write poetry becomes more meaningful, because students do not only copy aesthetic forms, but also pour the reality of their lives into literary works.

Therefore, it can be concluded that community service through the application of the Picture to Picture Method at the An-Nahdloh Islamic Boarding School, Selangor, Malaysia, not only provides a learning experience in writing poetry, but also becomes a vehicle for empowering

literacy based on local culture. The quantitatively measurable improvement in writing skills, combined with the strengthening of cultural identity through the resulting work, confirms that this method is relevant for continued development in literature learning, especially in Islamic boarding school-based educational institutions.

CONCLUSION

This part can be the achievement of these activities. The community service activity entitled "Optimizing Creativity in Writing Poetry Through the Picture to Picture Method : Developing Writing Skills Based on Local Wisdom at the Guidance Studio of the An-Nahdloh Islamic Boarding School, Selangor, Malaysia" which was held on July 29, 2025, went well and provided positive results. First, the Picture to Picture Method has proven effective in increasing the creativity of students in writing poetry. The image media can be a strong stimulus to build imagination, express ideas, and enrich expression in literary works.

Second, the evaluation results showed that 72% of the students' work showed improved quality, both in terms of diction, imagery, and message. This indicates that the image-based approach is more effective than conventional methods, which tend to be monotonous.

Third, the resulting poems often highlight religious values, daily life in Islamic boarding schools, and Malay traditions. This demonstrates that integrating local wisdom can strengthen cultural identity while providing deeper meaning to literary works. Fourth, the participants' response to this activity was very positive. 61% expressed very satisfied, 33% satisfied, and 6% somewhat satisfied.

No participants expressed dissatisfaction, indicating that this activity successfully provided tangible benefits in learning to write poetry.

Overall, this activity demonstrates that the Picture to Picture Method can be used as an alternative strategy for teaching literature, particularly for writing poetry based on local wisdom. Going forward, this approach is expected to be replicated in various educational institutions, both formal and informal, to foster literacy skills, literary appreciation, and a love of local culture in the younger generation.

REFERENCES

- Arsyad, A. (2019). *Learning media*. Jakarta: Rajawali Pers.
- Creswell, J. W. (2018). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research (6th ed.)*. Pearson Education.
- Hidayat, R., & Kusuma, A. (2021). Application of image-based methods to improve poetry writing skills of high school students. *Journal of Educational Service*, 5(2), 101–110.
- Ismail, S. (2018). Literary appreciation learning strategies in secondary schools. *Journal of Language and Literature Education*, 18(1), 56–67.
- Johnson, E. B. (2011). *Contextual teaching and learning: What it is and why it's here to stay*. Thousand Oaks, CA: Corwin Press.
- Mulyasa, E. (2017). *Development and implementation of the 2013 curriculum*. Bandung: Rosdakarya Youth.

- Nugroho, A., & Lestari, W. (2020). Innovation in literature learning strategies to improve poetry writing skills. *Journal of Language and Literature Education*, 10(1), 45–56.
- Nurhayati, E. (2020). Student creativity in learning to write poetry with a contextual approach. *Scientific Journal of Language and Literature Education*, 8(2), 145–153.
- Rahmawati, D. (2021). Students' obstacles in writing poetry: An analysis of Indonesian language learning in Islamic boarding schools. *Journal of Language and Literature Studies*, 6(3), 233–245.
- Sari, M. (2022). Integrating local wisdom in language learning to strengthen students' cultural identity. *Journal of Education and Culture*, 12(1), 77–88.
- Sartini, NW (2016). Exploring local wisdom of the archipelago as a source of literary learning. *Journal of Character Education*, 7(2), 123–134.
- Slavin, R.E. (2019). *Educational psychology: Theory and practice (13th ed.)*. Boston: Pearson.
- Sugiyono. (2019). *Educational research methods: Quantitative, qualitative, and R&D approaches*. Bandung: Alfabeta.
- Wulandari, D., & Prasetyo, B. (2021). Application of picture series media to improve elementary school students' writing skills. *Journal of Pedagogy*, 11(2), 88–96.

ANEMIA PREVENTION EFFORTS THROUGH HEALTH EDUCATION FOR ADOLESCENT GIRLS

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ABSTRACT

Prevention and treatment of anemia in adolescent girls must be carried out through a comprehensive approach. Health education about anemia in adolescent girls must be accompanied by special education for adolescent girls about the importance of an active lifestyle and a healthy diet. The results of community service activities regarding anemia prevention efforts through health education for adolescent girls show that the number of counseling participants who have a good level of knowledge before the implementation of the counseling activity about anemia is 5 people to 15 participants. The level of knowledge is poor before the implementation of the counseling activity is 7 people to no participants who have a low level of knowledge. The number of participants with a good level of knowledge about iron supplements before the counseling activity is 4 participants and after the counseling activity the number of participants with a good level of knowledge is 14 people. The number of participants with a low level of knowledge before the counseling activity is 9 people and after the counseling activity there are no participants who have a low level of knowledge. The results of the Hb check show that none of the participants suffer from anemia, the average Hb level obtained is normal at 12 mg / dl. Overall, this activity has a positive impact in increasing awareness among young women in increasing their knowledge about anemia and iron tablets.

Keywords: Anemia, Girls, Iron Supplements, Knowledge, Teenagers

INTRODUCTION

Prevention and treatment of anemia in adolescents daughter must done through approach comprehensive . Collaboration between various party will strengthen implementation of health programs aimed at for reduce amount cases of anemia in adolescents specifically teenager daughter. Health education about anemia in adolescents daughter must accompanied by with education special to teenager daughter about importance style life active and pattern Eat healthy. A phenomenon that occurs a lot happen moment This is teenager daughter Lots doing the wrong diet to guard ideal body weight. Consumption food that is not fulfil standard need nutrition cause occurrence improvement number the incidence of anemia in adolescents daughter. Management of anemia in the population this is very important Because can prevent various problem health that can happen consequence lack substance iron. Correct understanding and correct behavior related with importance absorption substance iron can help teenager daughter maintain health physique them and improve quality life. Proper care and pattern balanced diet can reduce risk affected by anemia and increase quality life teenager daughter in a way overall. Have awareness will importance substance iron in body, it is expected teenager daughter can more proactive in guard health them and prevent anemia.

The incidence of anemia in adolescents, especially young women, tends to be high in developing countries (Laili, 2024). Indonesia has a nutritional problem incidence of iron deficiency anemia of 3.2% in young women aged 15-24 years in 2024. Young women who experience nutritional problems such as

iron deficiency anemia will cause the risk of giving birth to babies with stunting. As many as 28% of young women in East Java suffer from anemia, this is due to their unhealthy diet patterns such as consuming spicy noodles with snacks that contain no nutrients. In 2023, cases of anemia in young women in Sidoarjo tended to be high, reaching 15.6% or 12,061 people. This can be seen as one of the factors hindering the achievement of the Indonesian Nutrition Status Survey (SSGI) in Sidoarjo Regency (Bhirawa, 2024). Many young women prefer to eat unhealthy or unsafe foods that affect their health. Most of them tend not to eat if the menu actually contains good nutrition (Anwar, 2024).

Efforts to address anemia in adolescent girls include health education on anemia, iron supplementation, exercise, and a nutritious breakfast. Some issues that arise in this program include the reluctance of many adolescent girls to take iron supplements. This is due to misconceptions about iron supplements that need to be addressed. This is because long-term consumption of iron supplements can negatively impact human organs. (Ministry of Health of the Republic of Indonesia, 2023)

Activity devotion to public This is downstreaming from research conducted by the chairman the team entitled *The Effect of Health Education on Adolescent Knowledge About Anemia*. Activity This want to finish problems that exist with partners, in frame support effort eradication of anemia in adolescents daughter for increase achievements detection early anemia in the village Tension Overcome Sidoarjo, via approach empowerment integrated health post teenager namely with weave cooperation with integrated health

post teenager village Tension Overcome Sidoarjo which provides service health for teenagers in the village Tension Overcome Sidoarjo. Activities This aim for do counseling for members integrated health post teenager about anemia and iron supplements blood for increase achievements detection early anemia in the village Tension Overcome Sidoarjo. Problems priorities faced by partners: 1) not yet There is activity counseling about anemia in adolescents and additional tablets blood, 2) activities detection early anemia with Hb measurement routine Not yet Once carried out by cadres integrated health post teenager.

Integrated Health Post is a service program health - based a community focused on development source Power man since early. Therefore that, activity Integrated Health Post need empowerment community. Integrated Health Post can used for prevent and ward off problem health, such as nutrition, health mother and child, pattern life clean, and immunization. Improvement economy family is one of the service social main integrated health post, which includes formation save borrow special for group women, cooperatives, training and skills for increase economy family (Dwi Faqihatus Haq, 2021)

Integrated Health Post teenager village tension overcome Sidoarjo under coaching Community Health Center Overcome Sidoarjo. Integrated Health Post teenager this founded in 2023 and has 10 cadres posyandu. Characteristics part big cadres and members integrated health post teenager originate from teenagers who live in the village local. Based on on-site monitoring, activities done in a way routine every month covering weighing weight, measurement height, measurement

circumference arm above, measurement circumference stomach and measurements pressure blood. Equipment owned by the integrated health post teenager village Tension Overcome Sidoarjo including: tensiometer, stethoscope, scales weight, measuring height, measuring tape circumference arm top and measuring tape circumference stomach. Partner not yet own Hb meter tool. Activities anemia detection and additional tablets blood in adolescents daughter member integrated health post teenager village Tension Overcome Sidoarjo not yet once done.

Implementation activity Devotion To this Community For fulfil objective development sustainable that is good health and well- being as well as education quality . Meets IKU 2 (students) get experience outside campus), IKU 3 (lecturer doing activities outside campus), and IKU 4 (results Work lecturer used by the community). Apart from That For support Asta the 4th goal is strengthen development source human resources, science, technology, education, health, achievements sports , gender equality , and strengthening role women, youth and people with disabilities disability.

OBJECTIVES

General Purpose

Increasing the Knowledge of Young Women about Anemia and Iron Tablets and Early Detection of Anemia in Young Women.

Special Purpose

- 1) Improving adolescent girls' knowledge about anemia
- 2) Increasing knowledge of young women about iron supplements
- 3) Conducting early detection of anemia in adolescent girls

PLAN OF ACTION

Strategy Plan

The strategic plans implemented in this community service activity include:

1. Conduct a situation analysis based on initial case studies from secondary data and interviews with partners.
2. Conducting the preparation of activity proposals
3. Coordinating with the LPPM Poltekkes Kerta Cendekia
4. Permission to partners in this case was given to the head of the Youth Posyandu in Ketegan Tamgulangin Village, Sidoarjo.
5. Coordinate with the activity implementation team
6. Prepare tools and materials

Implementation

Activity devotion to public with theme effort prevention of anemia through education health in adolescents daughter implemented after get licensing from party Polytechnic of Health Paper Cemdekia and parties Integrated Health Post Teenager Village Tension Overcome Sidoarjo. Implementation activity devotion to public covering activity:

1. Committee preparation and participant attendance
2. Completion of questionnaires by activity participants
3. Carrying out Hb check activities
4. Conducting health education about anemia and iron tablets
5. Feedback from extension participants
6. Completion of questionnaires by activity participants
7. Closing

Settings

This activity was carried out at the Youth Posyandu, Ketegan Village, Tanggulangin, Sidoarjo on June 28, 2025, at 07.00-10.40 WIB.

Target

There are 18 young women who are members of the youth health post in Ketegan Village, Tanggulangin, Sidoarjo.

RESULTS AND DISCUSSION

Activity results devotion to public about effort prevention of anemia through education health to teenager daughter show existence improvement knowledge and understanding teenager daughter about definition, causes, signs and symptoms, classification, impacts and efforts anemia prevention. Participants counseling is also capable explain about importance increased tablet consumption blood, around myth about the added tablet blood, role intake nutritious balanced, role sour folate, the role of vitamin C and habits life Healthy as effort prevention of anemia in adolescents daughter. Besides that participants also showed high enthusiasm for follow activity proven with No there is none of them participant counseling that leaves the activity program until with activity finished, active in discussion and questions answer. Participants counseling can also be explain return with Language they alone at the moment given questions by the team implementer. Based on results evaluation obtained that there is improvement score level knowledge participant counseling known through results questionnaire distributed by the team implementer before activity counseling and after activity counseling. The following This results activity devotion to public:

Table 1. Level of Knowledge Young Women on Anemia

Level of Knowledge	Pre		Post	
	f	%	f	%
Good	5	28	15	83
Enough	6	33	3	17
Not enough	7	39	0	0
Amount	18	100	18	100

Table 1 shows existence improvement amount participant counseling that has level knowledge Good before implementation activity counseling about anemia as many as 5 people to 15 participants. The level of knowledge not enough before implementation activity counseling as many as 7 people became No There is participants who have level knowledge not enough.

Table 2. Level of Knowledge Teenage Girls on Iron Tablets

Level of Knowledge	Pre		Post	
	f	%	f	%
Good	4	22	14	78
Enough	5	28	4	22
Not enough	9	50	0	0
Amount	18	100	18	100

Table 2 shows the number of participants with a good level of knowledge about iron tablets before the counseling activity was 4 participants and after the counseling activity the number of participants who had a good level of knowledge was 14 people. The number of participants who had a poor level of knowledge before the counseling activity was 9 people and after the

counseling activity there were no participants who had a poor level of knowledge. The results of the Hb check showed that none of the participants suffered from anemia, the Hb level obtained was on average normal, namely 12 mg / dl.

Based on results implementation activity counseling show existence improvement knowledge participant about anemia and iron supplements blood after given material education. This is expected can form attitudes and behavior positive teenager daughter. However, still found a number of obstacles, such as habit No breakfast, consumption food fast serving that is still high, and assumption that the tablet is added blood cause effect the side that is not comfortable. This is show that education need done in a way sustainable and involving support from various parties. Activities this also shows that method education interactive, discussion and practice direct more effective in increase involvement participant compared to method lecture one direction. With Thus, the approach participatory is highly recommended for activity similar in the future. Results of activities devotion to public This in line with results research conducted by Musniati N and Fitria F (2024) shows difference significant average between score study pre-test and post-test or There is influence education nutrition to knowledge teenager daughter in prevention of anemia (p 0.000).

CONCLUSION

In a way overall, activities This give impact positive in increase awareness teenager daughter in increase knowledge teenager daughter about anemia and iron

supplements blood. Good knowledge can form positive attitudes and behavior.

Anemia, accessed March 26 , 2025, from <https://beritajatim.co.id>

REFERENCES

Bhirawa, (2024), Anemia Rate Young Women in Sidoarjo Once High, accessed March 26 , 2025, from <https://harianbhirawa.co.id>

Devita Madiuw, Dian Thiofany Sopacua, Zefanya Lea Latuputty, (2024), Empowerment of Posyandu Cadres in Effort Detection Health Problems of Pregnant Women in Amasuhu , *Journal Community Service and Empowerment*, 5(2), 12-18

Fitria Jannatul Laili , Erni Setiawati Zakiah, (2024), Early Detection of Anemia with Hb Examination and Administration Education Anemia Prevention in Adolescent Girls of PGRI Banjarbaru Vocational School, *Journal Abdimas -HIP*, 5(1), 17-22

Ministry of Health of the Republic of Indonesia, (2023), Book Pocket Anemia Prevention in Pregnant Women and Adolescent Girls, Jakarta: Ministry of Health of the Republic of Indonesia

Nia Musniati, Fitria Fitria (2024), Influence Education Nutrition To Knowledge in Prevention of Anemia in Adolescent Girls, *Journal Bhakti Husada Health Science Journal* , 15 (2), 583-588

Shohibul A, (2024), 28 Percent Young Women in East Java Suffer from



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PEDULI SC : AN INTEGRATED INNOVATION FOR CESAREAN SECTION WOUND RECORDING AND EDUCATING AS A STRENGTHENING EFFORT IN SURGICAL SITE INFECTION PREVENTION AT EKA CANDRARINI GENERAL HOSPITAL

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ABSTRACT

Patients undergoing cesarean section (CS) are at risk of developing wound complications, including infection, which directly affect patient safety, readmission rates, length of hospital stay, treatment costs, and patient's quality of life. This community service project aimed to strengthen healthcare workers' competence in recording, monitoring, and educating patients regarding cesarean section wound care through the PEDULI SC innovation, an integrated system combining a structured Google Form checklist and digital educational media. The program also promoted patient and family engagement in preventing Surgical Site Infection. Activities included counseling, dissemination, interactive discussions, and case simulations involving midwives at Eka Candrarini General Hospital, Surabaya. Evaluation through pre-post tests and satisfaction surveys showed a significant increase in knowledge (mean score 60.4 to 94.4) and positive feedback on usability. All participants successfully completed the form and identified SSI symptoms accurately. It demonstrates that simple, technology-based tools can enhance clinical documentation, empower healthcare staff, and foster patient participation.

Keywords: Cesarean Section, Patient Education, Surgical Site Infection, Wound

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INTRODUCTION

Postoperative wound complications, including *Surgical Site Infection* (SSI), remain a major challenge in maternal healthcare. Patients undergoing cesarean section (CS) are at risk of developing wound complications, including infection, which directly affect patient safety, readmission rates, length of hospital stay, treatment costs, and patient's quality of life. Eka Candrarini General Hospital is a newly established government hospital in Surabaya inaugurated in December 2024, focusing on maternal and child health. Based on data from the Obstetrics and Gynecology Department between January and June 2025, four postoperative CS wound complications were recorded, two of which were SSI cases requiring hospitalization and antibiotic therapy. One of the main barriers to SSI control is the absence of a standardized system for documenting and monitoring postoperative wound complications, as well as the lack of structured and consistent education for patients and their families regarding proper CS wound care.

This community service activity was conducted to enhance the awareness and competence of healthcare personnel at Eka Candrarini General Hospital in documenting, recording, monitoring, and educating cesarean section patients to prevent SSI. This program was designed to strengthen the healthcare workers' capability in monitoring, documenting, and educating patients using an integrated approach—PEDULI SC (Recording, Monitoring, and Education of Cesarean Section Wounds). The project also aimed to promote accountability and strengthen

collaboration between healthcare workers and patients. This program integrates a digital-based clinical recording system with structured patient and family education.

OBJECTIVES

General Purpose

The main purpose of this program is to improve healthcare workers' competence in recording, monitoring, and educating patients regarding postoperative CS wound care to prevent wound complication in Eka Candrarini General Hospital Surabaya.

Special Purpose

The specific purposes of this community service activity are:

1. To develop and implement the PEDULI SC link that integrating and combining wound recording and education.
2. To evaluate the effectiveness of the PEDULI SC program using pre and post-tests.
3. To assess healthcare workers' satisfaction and usability perception of the PEDULI SC form.
4. To promote patient and family involvement in postoperative wound care.

PLAN OF ACTION

Strategy Plan

This innovation was implemented through PEDULI SC (Recording, Monitoring, and Education for Cesarean Section Wounds), which integrates digital form-based clinical documentation of CS wound with structured digital education for patients and their families. The initial phase consisted of the following preparatory steps:

1. Developing a structured Google Form checklist for documenting postoperative cesarean wound conditions, adapted locally from the SSI checklists issued by WHO (2016), Onyekwelu (2017), and CDC (2025) to align with the hospital's condition.
2. Designing a digital educational material (leaflet and instructional video) to provide patients and families with proper guidance on cesarean wound care.
3. Integrating both the Google Form checklist and the digital educational media into a single unified accessible link named PEDULI SC.

Implementation

After the preparation phase, the implementation stage consisted of the following activities:

1. Initial program dissemination: The PEDULI SC link was introduced to representatives of healthcare personnel, including obstetricians and midwives that held on August 5, 2025.
2. Pre and post-test evaluations were conducted before and after the dissemination to assess participants' understanding, accompanied by a questionnaire survey to evaluate satisfaction and usability.
3. Following the initial dissemination, the PEDULI SC link was widely distributed via the hospital's official internal WhatsApp groups—used as the primary coordination channel among healthcare workers—to ensure accessibility and consistent implementation. In addition, direct field visits were conducted to inpatient wards and outpatient clinics to confirm that each healthcare worker could access the form, understood the completion process, and was able to use

it independently in daily clinical practice. This strategy aimed not only to expand the coverage and utilization of the PEDULI SC link but also to build commitment to implementation and ensure the program's sustainability within the targeted service units.

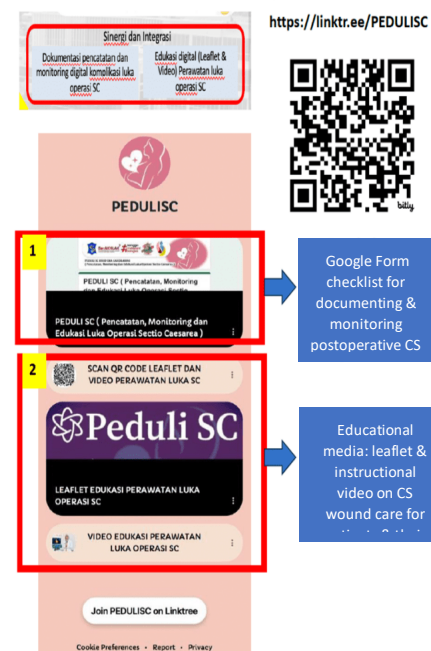


Figure 1. The PEDULI SC link interface, accessible via QR code and shared hyperlinks, was distributed to healthcare personnel.

4. A form-filling simulation based on case studies was conducted two weeks after the dissemination of the PEDULI SC link as a field implementation evaluation. The simulation was carried out randomly among representatives from each unit to assess the extent to which the PEDULI SC form had been distributed, understood, and independently applied in practice.
5. The effectiveness of the program was evaluated through the analysis of pre and post-test results, questionnaire feedback, and case simulation assessments. Data were analyzed using descriptive and comparative methods to determine the

level of healthcare workers' understanding and compliance.

Figure 2. The PEDULI SC - Google Form checklist interface, completed by healthcare personnel, was used for the documentation and monitoring of postoperative CS wound complications.

leaflet can be accessed digitally and downloaded directly by patients and their families (top); The video can be viewed directly through a linked YouTube channel (down).

Setting

This program was carried out at Eka Candrarini General Hospital Surabaya in July – Agustus 2025.

Target

The target participants of this activity were healthcare workers in the obstetrics-gynecology department including maternal emergency unit, maternal ward and outpatient clinic.

RESULTS AND DISCUSSION

The dissemination session of PEDULI SC link on August 5, 2025 was attended by 25 midwives representing various related units: 16 from the maternal emergency unit, two from the obstetrics and gynecology outpatient clinic, and seven from the maternal inpatient ward.

Table 1. Characteristics of Respondents in Dissemination Session of PEDULI SC link

Characteristic (total =25)	Variable	Frequency n (%)
Age (years)	< 25	1 (4)
	25-30	12 (48)
	31-34	7 (28)
	>=35	5 (20)
Work Unit	Maternal emergency	16 (64)
	Outpatient Clinic	2 (8)
	Maternal Inpatient Ward	7 (28)
Last Education	Diploma 3	14 (56)
	Diploma 4	6 (24)
	Undergraduate	5 (20)
Length of working as Midwife	< 5	8 (32)
	5 – 10	12 (48)
	11-15	4 (16)



Figure 3. Display of the digital educational media (leaflet and video) embedded in the PEDULI SC link, illustrating proper postoperative wound care procedures. The

(years)	> 15	1 (4)
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Most participants were aged 25–30 years (48%), held a Diploma III (D3) qualification (56%), and had 5–10 years of professional experience as midwives (48%). These participants were selected to join the face-to-face session as part of the initial strategy for program dissemination. The session materials covered the definition and diagnosis of postoperative CS wound complications, including SSI classification, as well as guidelines for identifying and monitoring wounds using the Google Form checklist, and patient education methods as part of SSI prevention efforts. Pre and post-tests were conducted before and after the dissemination of the PEDULI SC link, accompanied by an evaluation questionnaire to assess the outcomes of the socialization activity.



Figure 4. (a) Initial Stage of Program Dissemination of the PEDULI SC Link on August 5, 2025. (b) Distribution of the PEDULI SC Link through internal WhatsApp groups and direct field visits as an effort to ensure equitable access to the link among healthcare personnel

This innovation program (PEDULI SC) significantly improved healthcare workers’ understanding and practice of SSI prevention. The pre-test average score was 60.8, which increased to 94.4 post-intervention. This finding demonstrates that the socialization activity effectively improved the clinical literacy of healthcare personnel regarding the early identification of cesarean wound infections and the importance of structured documentation.

Table 2. Results of the Pre and Post-Test for the PEDULI SC Socialization

Score Category	Pre-Test	Post-Test
Excellent (≥ 90)	5 (20%)	20 (80%)
Good (80-89)	1 (4%)	5 (20%)
Fair (70-79)	4 (16%)	0
Poor (< 70)	15 (60%)	0
Total = 25 Respondents	Pre-Test	Post-Test
Average Score	60.8	94.4
Highest Score	90	100
Lowest Score	30	80

From Table 2, it is evident that the PEDULI SC link had a highly positive impact in improving participants’ understanding of CS wound infection documentation and monitoring. The intervention not only enhanced general knowledge but also elevated participants’ performance from the *poor* category to *good* and *excellent* levels. These findings are consistent with Putri et al. (2022), who stated that increased knowledge among medical personnel directly improves the quality of postoperative wound care services. According to Gagné’s Theory of Instructional Design, improved post-intervention learning outcomes reflect the achievement of learning stages-attention, retention, and transfer to practice (Gagné et al., 2005). In this context, participants demonstrated readiness to transfer

knowledge into clinical practice, particularly in documenting and monitoring cesarean wound conditions to prevent SSI. Furthermore, Miller et al. (2015) reported that form or checklist-based surgical wound monitoring systems can reduce postoperative infection risk by 20–30%. In line with this, the World Health Organization (WHO) recommends a holistic, data-driven, and education-based approach as one of the most cost-effective strategies for infection control in healthcare facilities.

The post-socialization evaluation questionnaire completed by healthcare staff demonstrated a high level of acceptance toward the PEDULI SC link. In the questionnaire, respondents rated eight assessment aspects, each using a five-point Likert scale (strongly disagree, disagree, neutral, agree, strongly agree). The assessed aspects included:

- a) The socialization material was easy to understand.
- b) Individual understanding of the purpose of using the PEDULI SC link.
- c) Individual ability to complete the Google Form according to the provided standards.
- d) Implementation of the PEDULI SC link in the respective work unit.
- e) Perception of the PEDULI SC link's usefulness in assisting staff to monitor CS wound conditions.
- f) Perception of the usefulness of the educational media within the PEDULI SC link for supporting staff in educating patients and families about proper CS wound care.
- g) Perception of the PEDULI SC link's contribution to improving patients' quality of life after cesarean section.
- h) Perception of supervisor or managerial support for the use of the PEDULI SC

link.

Across these eight aspects, the average score was 4.8 (on a 0–5 scale), with 88% (22 respondents) selecting strongly agree for all aspects and the remaining 12% (3 respondents) selecting agree. This indicates that respondents gave a very positive evaluation of the PEDULI SC socialization and its application in the Obstetrics and Gynecology services. The session was well-received and conducted enthusiastically. Most participants expressed readiness to implement the form in their respective units and acknowledged its benefits in supporting wound monitoring, patient education, and overall patient safety. They also emphasized that the form not only simplifies and assists their work but also has a positive impact on patients, particularly by enhancing postoperative quality of life.

The key factors contributing to this success were the simple and logical form design, which aligns with daily clinical workflows, and the integration of supplementary educational media (leaflet and video) that strengthened patient understanding. This finding supports Lestari & Sari (2021), who reported that the use of educational media such as leaflets and videos improves patients' knowledge and enhances healthcare workers' readiness to provide education.

The case simulation was conducted two weeks after the dissemination of the PEDULI SC link. Two approaches were employed in evaluating the form implementation:

1. Simulated (fictitious) cases:

Healthcare workers participating in the simulation were selected randomly, and not necessarily identical to those who attended the initial socialization session. This variation in participants was intentionally

designed as part of a broader dissemination and field validation strategy following the wider distribution of the PEDULI SC link to ensure accessibility beyond the initial training group. This approach aimed to assess the overall acceptance of the program and to ensure that the PEDULI SC link effectively reached relevant healthcare personnel in the field, not limited to those who attended the initial dissemination.

A total of 25 midwives participated (two from the outpatient clinic, fifteen from the maternal inpatient ward, and ten from the maternal emergency unit). The simulated scenario involved a post-cesarean patient presenting with wound redness, discharge, and mild fever. The objective of this simulation was to evaluate healthcare workers' ability and readiness to complete the form accurately according to the provided case scenario.

The analysis revealed that all respondents successfully completed the patient identity section, provided detailed and clear clinical information, reported the wound condition comprehensively following the given example, and included photographic documentation of the surgical wound as well as a treatment follow-up plan.

2. Real case:

A real case report was submitted by one healthcare worker regarding a patient who truly experienced a cesarean wound infection. The form was completed thoroughly, including patient identity, timing of the cesarean procedure, wound condition (redness, tenderness, discharge), subsequent management (referral to the outpatient clinic), and documentation of patient education. This case exemplified the successful implementation of standardized, real-time clinical documentation, which can also serve as a model for reporting to

the Infection Prevention and Control (IPC) Team.

The results of the simulation trials and the initial implementation of the PEDULI SC form indicated that healthcare personnel in the related units were able to understand and complete the form effectively, although minor technical adjustments were still needed. These findings are consistent with the study by Santoso & Mulyadi (2021), which demonstrated that the use of interactive and case-based media significantly enhances healthcare workers' understanding of clinical procedures. In this program, the simulation of PEDULI SC form completion based on real patient cases served as a key strategy in strengthening the clinical comprehension of healthcare providers.

Educational approaches such as lectures, discussions, and simulations have been proven effective in improving healthcare workers' understanding of clinical workflows and service delivery (Gagné et al., 2005). However, the sustainability of such innovations requires structural and peer support, as highlighted by Handayani & Rachmawati (2022), who found that organizational support positively correlates with the successful implementation of service innovations in healthcare facilities.

The outcomes of this community service activity provide significant theoretical and practical implications for improving the quality of maternal health services, particularly in the prevention of Surgical Site Infections (SSI) following cesarean section. From a theoretical perspective, the PEDULI SC innovation demonstrates that an integrative approach combining structured documentation, clinical monitoring, and media-based education (leaflet and video) can

effectively enhance healthcare workers' literacy and clinical capacity in preventing postoperative wound complications. This finding reinforces previous theories emphasizing the importance of clinical empowerment through integrated educational systems within healthcare services. Moreover, this innovation may serve as a reference model for developing new concepts in research related to nursing management and nosocomial infection prevention utilizing simple yet effective technological tools.

reporting of postoperative wound conditions. With its user-friendly interface, inclusion of documentation space for wound care outcomes, and simple yet communicative educational media, healthcare personnel reported increased confidence in providing patient education and greater accountability in clinical documentation. This directly contributes to improved service quality, operational efficiency, and faster detection and management of SSI. The innovation can be replicated and integrated into hospital information management systems (HIMS) in other healthcare facilities, and further developed into a mobile-based application for patients and families.

Furthermore, the active involvement of patients and their families in self-monitoring of postoperative cesarean wounds represents a participatory approach that aligns with the principles of patient safety and patient-centered care, emphasizing comprehensive and continuous healthcare engagement

CONCLUSION

The PEDULI SC innovation (Recording, Monitoring, and Education for Post-Cesarean Section Wound Care), implemented at Eka Candrarini General Hospital Surabaya, has proven to have a significant impact on improving the quality of postoperative care for cesarean section patients. It improved healthcare workers' competence, standardized wound documentation, and strengthened patient education. The program demonstrates that low-cost, technology-based interventions can effectively improve hospital service quality and patient safety. Further integration into the Hospital Information Management System (HIMS) and

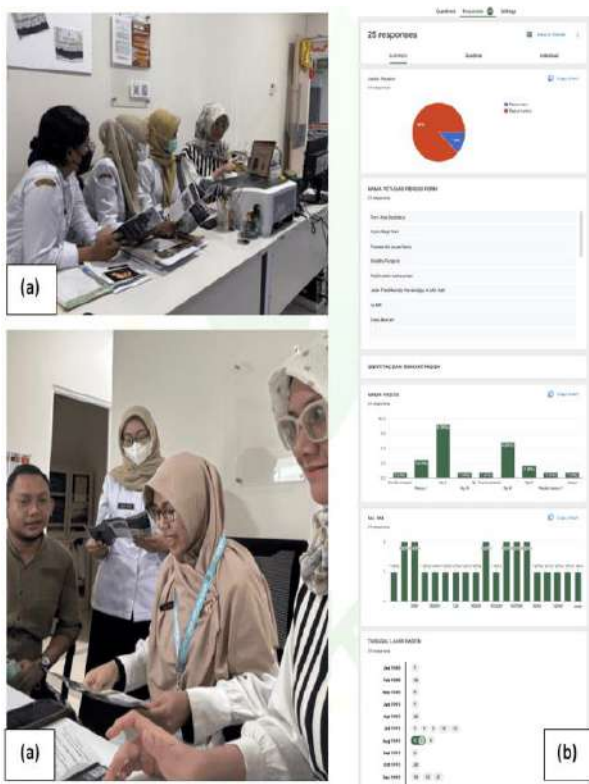


Figure 4. (a) Case simulation conducted by representatives from each unit. (b) Completed PEDULI SC Google Form checklist showing the results of data entry from the case simulation

From a practical standpoint, the findings confirm that the digital PEDULI SC form, completed independently by healthcare workers, is effective in facilitating real-time recording and

adaptation for other types of nosocomial infections are highly recommended.

REFERENCES

- CDC. (2025). NHSN Surgical Site Infection (SSI) Checklist. Retrieved July 1st, 2025, from <https://www.cdc.gov/nhsn/pdfs/checklists/2025-nhsn-surgical-site-infection-ssi-checklist-final.pdf>
- Gagné, R. M., Wager, W. W., Golas, K. C., & Keller, J. M. (2005). *Principles of Instructional Design* (5th ed.). Wadsworth.
- Handayani, F., & Rachmawati, R. (2022). Peran Dukungan Manajemen dalam Implementasi Inovasi Pelayanan Kesehatan. *Jurnal Administrasi Rumah Sakit*, 11(1), 23–30.
- Lestari, I. Y., & Sari, D. K. (2021). Efektivitas Media Leaflet dan Video terhadap Peningkatan Pengetahuan Ibu Pasien Pasca SC tentang Perawatan Luka. *Jurnal Kesehatan Reproduksi*, 12(1), 88–94.
- Miller, L. E., et al. (2015). Surgical Site Infection Prevention: The Role of Standardized Monitoring and Patient Education. *Journal of Infection Control*, 43(4), 310–316.
- Onyekwelu I, Yakkanti R, Protzer L, Pinkston CM, Tucker C, Seligson D. 2017. Surgical Wound Classification and Surgical Site Infections in the Orthopaedic Patient. *J Am Acad Orthop Surg Glob Res Rev*. 1(3):e022. doi: 10.5435/JAAOSGlobal-D-17-00022. PMID: 30211353; PMCID: PMC6132296.
- Putri, A. D., Nurhayati, N., & Pratiwi, I. (2022). Pengaruh Edukasi Kesehatan Terhadap Pengetahuan dan Kepatuhan Ibu Dalam Perawatan Luka Pasca Operasi Sectio Caesarea. *Jurnal Ilmu Kesehatan*, 10(2), 134–141. <https://doi.org/10.31227/osf.io/234kj>
- Santoso, A. & Mulyadi, E. (2021). Efektivitas Pembelajaran dengan Simulasi pada Tenaga Kesehatan. *Jurnal Pendidikan Kesehatan*, 9(2), 112–119.
- WHO. (2016). *Global Guidelines for the Prevention of Surgical Site Infection*. Geneva: World Health Organization. Retrieved July 1st, 2025, from <https://www.who.int/publications/i/item/9789241550475>



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IMPROVING MADRASAH TEACHERS' COMPETENCIES IN ARTIFICIAL INTELLIGENCE-BASED LEARNING DATA PROCESSING IN BATU CITY

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ABSTRACT

Teacher competence is a crucial factor in improving the quality of education..This community service program aimed to enhance the professional competence of madrasah teachers in processing learning data using artificial intelligence (AI)-based tools. Conducted through a one-day intensive workshop in Batu City, the program involved 18 teachers from five madrasahs at the Madrasah Aliyah and Madrasah Tsanawiyah levels. The training adopted the ADDIE instructional design model, covering needs analysis, AI-assisted data processing with Google Sheets and ChatGPT/OpenAI, reinforcement of AI ethics, and infographic creation. Quantitative evaluation showed a significant improvement in participants' competencies, with average scores increasing from 60.3 (pre-test) to 86.3 (post-test). The most notable progress was observed in logical operations (IF function mastery) and ethical awareness in AI use, while 88% of participants reported high satisfaction with the training content and delivery. The program effectively integrated digital literacy, ethical reflection, and practical application to foster teacher professionalism. Beyond individual competence, this initiative contributed to building a sustainable collaborative network through the Subject Teachers' Working Group (MGMP) and provided a replicable model for technology-based professional development in Islamic education.

Keywords: Artificial Intelligence, Batu City, Learning Data, Madrasah, Teacher Competency

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INTRODUCTION

Teacher competence is a crucial factor in improving the quality of education. Ministerial Regulation No. 16 of 2007 emphasizes four competency domains that must be mastered: pedagogical, professional, personality, and social. In the professional domain, the ability to process and interpret learning outcome data is essential because it enables teachers to assess student progress, evaluate learning effectiveness, and design evidence-based improvements (Shopia et al., 2022; Hendriani et al., 2022). One frequently used approach is Classroom Action Research (CAR), which involves a cycle of planning, implementation, observation, and reflection (Nunggalina et al., 2018; Kunlasomboon et al., 2015; Handoyono et al., 2019; Zulkifli, 2023).

Despite this, many madrasah teachers still experience challenges in managing learning data. Frequently encountered obstacles include limitations in instrument design, difficulties conducting systematic analysis, and a lack of skills in utilizing digital tools (Daud & Kaleka, 2020; Susanti et al., 2022; Fitria et al., 2019; Harjito et al., 2022). Limited training and weak institutional support further hamper the optimal utilization of learning outcome data (Chandra et al., 2022).

Technological advancements present new opportunities, particularly through Artificial Intelligence (AI). AI can accelerate data processing, provide qualitative and quantitative analysis, and visualize learning outcomes for easier understanding (Onesi-Ozigagun et al., 2024; Wang et al., 2024; Aggarwal et al., 2023; Tapalova & Zhiyenbayeva, 2022). However, the implementation of AI must be accompanied by ethical awareness to safeguard student privacy and avoid bias,

so that its use remains aligned with educational values (Shaik et al., 2022; Modran et al., 2024; Alkan, 2024; Sallu et al., 2024).

The urgency of integrating AI and computing into education is growing. AI not only functions to personalize learning and expand access, but can also automate administrative tasks, allowing teachers to focus more on teaching. Visionary and adaptive leadership is also needed to ensure optimal AI adoption and contribute to the transformation of technology-based learning.

Based on these conditions, this community service program was designed to improve the competency of madrasah teachers in Batu City in managing AI-based learning outcome data. The Analysis, Design, Development, Implementation, Evaluation (ADDIE) learning model was chosen to ensure systematic training. The focus of activities includes practicing the use of Google Sheets, implementing AI applications for data analysis, strengthening understanding of AI ethics, and creating infographics. This effort is expected to not only address teachers' real-world needs but also support the development of students' 21st-century skills for the digital era.

OBJECTIVES

The objectives of this community service program are divided into general and specific purposes to ensure clarity, measurability, and alignment with the needs of madrasah teachers in the digital era.

General Purpose

The general purpose of this program is to enhance the professional competence of madrasah teachers in processing and

analyzing learning data using AI-based tools, thereby fostering digital literacy, ethical awareness, and evidence-based teaching practices.

Special Purpose

The specific purposes of this community service program are:

1. To train madrasah teachers in the use of AI-integrated applications such as Google Sheets and ChatGPT/OpenAI for efficient learning data management and interpretation.
2. To strengthen teachers' understanding of AI ethics, emphasizing data privacy, fairness, and responsible technology use in educational contexts.
3. To develop teachers' ability to design informative and communicative infographics based on processed data for Classroom Action Research and lesson reflection.
4. To implement the ADDIE instructional design model as a structured framework for training, from needs analysis to evaluation.
5. To evaluate the effectiveness of the program through pre-test and post-test analysis and participant satisfaction surveys.
6. To establish a sustainable mentoring and collaboration system through the Subject Teachers' Working Group so that the acquired skills can continue to be applied and expanded in schools.
7. To produce measurable outcomes including enhanced digital competence, ethical AI literacy, and improved classroom data analysis skills among teachers.

PLAN OF ACTION

Strategy Plan

Before the implementation, the authors designed a systematic training strategy using the ADDIE instructional design model. The planning stages included:

1. Needs Analysis
Conducted through interviews, surveys, and discussions with Subject Teachers' Working Group to identify teachers' challenges in managing learning data and classroom action research.
2. Program Design
Developed a structured training module covering topics such as AI introduction, use of Google Sheets, application of AI tools (Google AI add-on and ChatGPT/OpenAI API) for data analysis, AI ethics, and infographic design techniques.
3. Learning Materials Development
Prepared teaching media including printed modules and presentation slides to ensure conceptual understanding and practical engagement.
4. Scheduling and Coordination
Established collaboration with Subject Teachers' Working Group and participating schools for participant recruitment, venue preparation, and technical setup to ensure smooth execution.

This strategy ensured that the activity could run efficiently, with clear objectives, measurable outputs, and a focus on hands-on learning experiences for teachers.

Implementation

The program was implemented in the form of a one-day workshop involving 18 teachers from five madrasahs in Batu City. Activities included:

1. Pre-test administration to assess initial competence.
2. Lectures and demonstrations on AI concepts and tools.

3. Hands-on practice using Google Sheets and AI-based applications for analyzing student learning data.
4. Group discussions and collaboration sessions for experience sharing among participants.
5. Post-test and satisfaction surveys to assess knowledge gains and participant responses.
6. Each session was designed to last 60–90 minutes, ensuring sufficient time for conceptual understanding and practical exercises. The implementation adopted an andragogical approach, emphasizing experience sharing, collaboration, and reflection.

Setting

The training took place at the Subject Teachers' Working Group coordination hall in Batu City, which provided adequate facilities for computer-based workshops. All required equipment, including laptops, internet connectivity, and projection tools, was supplied by the organizing team. The setting enabled real-time collaboration between participants and facilitators, fostering a conducive environment for active learning and experimentation.

Target

The primary target participants were madrasah teachers from both public and private institutions within Batu City. A total of 18 teachers (11 from Madrasah Aliyah and 7 from Madrasah Tsanawiyah) took part in the program. The selection prioritized teachers responsible for managing student performance data and conducting classroom research. This diverse participant composition encouraged cross-school knowledge exchange and collaborative learning.

The long-term target is to establish a

sustainable mentoring system through Subject Teachers' Working Group, ensuring that AI-based data literacy and ethical awareness continue to develop beyond the initial workshop.

This structured plan ensured efficient implementation, measurable improvements in AI-based data literacy, and the strengthening of teacher collaboration networks across madrasahs in Batu City.

RESULTS AND DISCUSSION

This section presents the various findings obtained during the implementation of the community service program. The presentation begins with a comprehensive description of the program outcomes, followed by an in-depth discussion. The discussion is structured systematically, starting from general aspects and progressing toward more specific analyses aligned with the program's focus. At the beginning, the profile of program participants is presented as a basis for understanding the training context and the characteristics of the madrasah teachers involved.

The program involved 18 teachers from five madrasahs in Batu City: MAN Kota Batu, MTs Hasyim Asy'ari, MTsN Kota Batu, MA Bilingual Batu, and MA 01 Ma'arif. of these, 11 participants were from Madrasah Aliyah (MA) and 7 from Madrasah Tsanawiyah (MTs). This diversity of school backgrounds provided opportunities for teachers from both public and private institutions to exchange experiences, enriching the discussions and practice sessions. Figure 1 (a) shows the distribution of participants by institution, while Figure 1(b) shows the distribution by educational level.

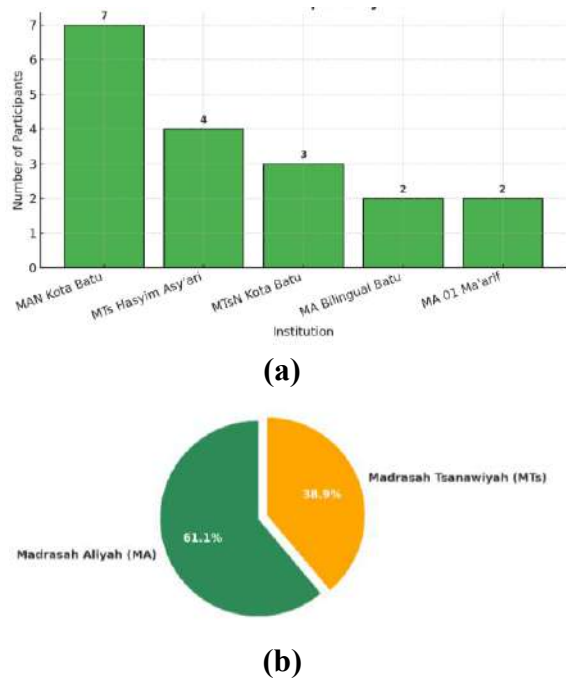


Figure 1. (a) Participant distribution by institution; (b) Participant distribution by educational level.



Figure 2. Documentation of the AI-based learning data processing training in Batu City.

The program implementation was carried out through a full-day workshop, including a pre-test, material delivery, hands-on practice using Google Sheets and AI applications, group discussions, and a post-test. During the activities, participants were actively engaged in every session—listening to explanations, experimenting

directly with applications, and engaging in problem-solving discussions. The documentation in Figure 3 shows the training atmosphere, where madrasah teachers participated in practice and discussion sessions.

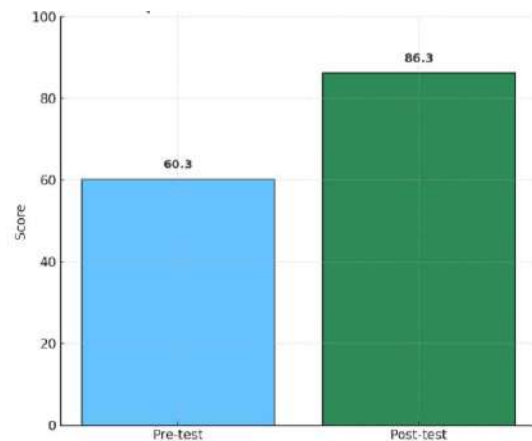


Figure 3. Comparison of pre-test and post-test scores.

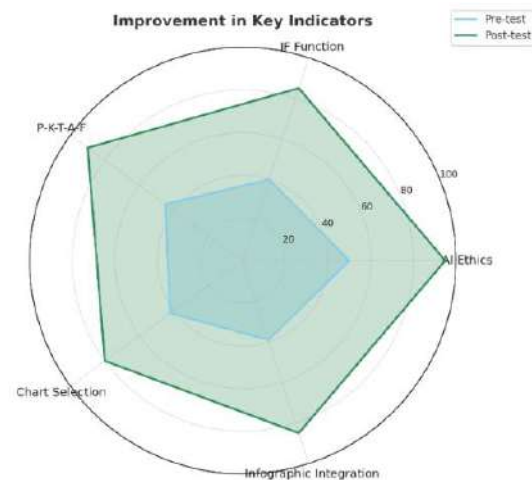


Figure 4. Improvement across significant indicators.

Quantitative evaluation showed an increase in the average score from 60.3 (pre-test) to 86.3 (post-test), as shown in Figure 3. This 26-point (approximately 43%) improvement confirms a significant enhancement in teachers' competence in learning data processing after participating in the training. The success was largely influenced by the hands-on, practice-based training method using Google Sheets and

AI applications, which proved more effective than purely theoretical approaches.

Furthermore, a detailed analysis of the five competency indicators in Figure 4 reveals substantial improvement across all aspects. The analysis of each aspect is as follows:

- **IF Function**
Teachers' ability to use the IF function increased from around 40 to 85, showing a rapid improvement in their logical understanding of spreadsheet operations.
- **AI Ethics**
Teachers' understanding of AI ethics increased from 50 to 95, indicating greater awareness of professional responsibility, student privacy protection, and potential bias in AI usage.
- **P-K-T-A-F (Process, Knowledge, Technique, Analysis, Format)**
Teachers' understanding of the P-K-T-A-F framework rose from 45 to 90, demonstrating stronger conceptual ability in conducting data analysis.
- **Chart Selection**
The ability to select appropriate charts increased from 42 to 80, reflecting improved skill in choosing suitable and informative data representations.
- **Infographic Integration**
The ability to integrate infographics increased from 39 to 85, showing greater capability to present data in a more communicative, engaging, and comprehensible way.

The improvement across these indicators confirms that the training enhanced not only technical skills but also conceptual and ethical dimensions. This aligns with previous research emphasizing

the importance of digital literacy and AI ethics in education (Onesi-Ozigagun et al., 2024; Shaik et al., 2022).

The three analysed graphs complement each other in illustrating the program's impact: participant distribution reflects cross-level madrasah representation; the pre- and post-test score comparison shows the overall effectiveness of the training; and the radar chart highlights detailed improvements in technical, ethical, and visual communication skills. Thus, this program proved to be comprehensive and effective in enhancing madrasah teachers' competencies in AI-based learning data processing, with the potential to serve as a replicable professional development model in other regions.

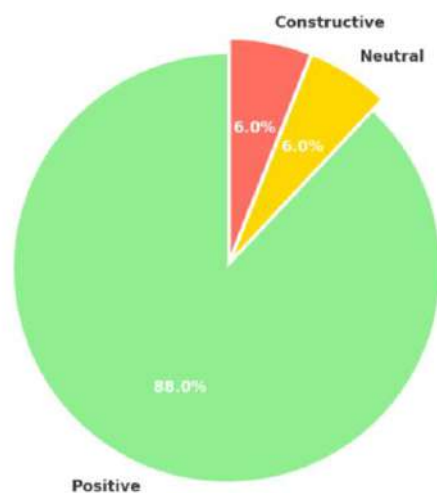


Figure 5. Participant satisfaction toward the training.

Participant satisfaction evaluation results show that most teachers gave positive feedback on the program. Eighty-eight percent (88%) of participants found the training useful and relevant to their needs, 6% responded neutrally, and 6% provided constructive suggestions (Figure 5). This indicates that the training was not only well-received but also encouraged valuable feedback for future improvement.

These findings have important implications for developing madrasah teacher competencies, as improved AI-based data processing skills contribute directly to more transparent, accountable, and evidence-based teaching practices. Moreover, the enhancement of AI ethics demonstrates that teachers are increasingly ready to use technology responsibly, supporting the creation of an education ecosystem adaptive to digital transformation.

Nevertheless, several open problems remain for future community service programs. First, although teachers' technical skills improved, continuous mentoring is needed to ensure that these skills become embedded in daily teaching practice. Second, AI adoption in madrasahs still faces challenges, such as limited digital infrastructure and insufficient school policy support. Third, further research is required to evaluate the effectiveness of AI use in Classroom Action Research to generate best-practice recommendations.

Therefore, future programs are recommended to develop long-term mentoring schemes, enhance madrasah digital capacity, and explore more advanced AI applications in learning analytics. Through this approach, community engagement can be expanded, not only improving individual teachers' competencies but also building institutional capacity for sustainable educational transformation.

These findings affirm that madrasah teachers' need for AI and computational literacy is genuine and that practical, AI-integrated training effectively addresses existing competency gaps.

CONCLUSION

This community service program introduced an innovative approach by integrating AI into the professional development of madrasah teachers, particularly in processing learning outcomes data and conducting Classroom Action Research. As an emerging practice in Indonesian madrasahs, this integration successfully combined technical competence, such as the use of spreadsheet formulas, chart selection, and infographic design, with strengthened ethical awareness through the understanding of AI ethics. The program achieved substantial results, with teachers' average scores improving from 60.3 (pre-test) to 86.3 (post-test), accompanied by significant gains across five competency indicators. Moreover, 88% of participants expressed positive satisfaction, highlighting the program's practical relevance. Collaboration through the Subject Teachers' Working Group further reinforced data-driven teaching practices and established a foundation for continuous professional exchange among educators. From a theoretical perspective, the program validated the ADDIE instructional design model as an effective framework for technology-based training. It also demonstrated how AI integration in teacher capacity-building can bridge the gap between digital literacy and ethical competence. Looking forward, sustained mentoring, digital infrastructure enhancement, and the adoption of advanced AI tools for learning analytics are recommended to ensure long-term impact. Through these efforts, community engagement can evolve beyond individual skill enhancement toward building institutional readiness for sustainable educational transformation. Ultimately, this program not only strengthened teachers' technical and ethical competencies but also underscored the critical role of AI and

computational literacy as foundational skills for educators navigating the digital era.

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REFERENCES

- Aggarwal, D., Sharma, D., & Saxena, A. B. (2023). Adoption of artificial intelligence (AI) for development of smart education as the future of a sustainable education system. *Journal of Artificial Intelligence Machine Learning and Neural Network*, 3(6), 23–28. <https://doi.org/10.55529/jaimlenn.36.23.28>
- Alkan, A. (2024). Artificial intelligence: Its role and potential in education. *İnsan Ve Toplum Bilimleri Araştırmaları Dergisi*, 13(3), 1201–1215. <https://doi.org/10.15869/itobiad.133.1201>
- Branch, R. M. (2010). Instructional design: The ADDIE approach. *Springer*. <https://doi.org/10.1007/978-0-387-09506-6>
- Chandra, N. E., Listia, R., Rosalina, E., Aprilia, R. D., Devisasmita, K. R., & Laheba, S. M. V. (2022). Pendampingan penyusunan penelitian tindakan kelas (PTK) di masa pandemi Covid-19 pada guru-guru bahasa Inggris SMA di Kota Banjarbaru. *Bubungan Tinggi: Jurnal Pengabdian Masyarakat*, 4(1), 34–41. <https://doi.org/10.20527/btjpm.v4i1.4325>
- Daud, M. H., & Kaleka, M. B. U. (2020). Analisis kesulitan bagi guru IPA untuk melakukan penelitian tindakan kelas (PTK). *Optika: Jurnal Pendidikan Fisika*, 3(2), 41–49. <https://doi.org/10.37478/optika.v3i02.502>
- Fitria, H., Kristiawan, M., & Rahmat, N. (2019). Upaya meningkatkan kompetensi guru melalui pelatihan penelitian tindakan kelas. *Abdimas Unwahas*, 4(1), 42–50. <https://doi.org/10.31942/abd.v4i1.2690>
- Handoyono, N. A., Rabiman, R., Pribadi, P., & Purnomo, S. (2019). Improvement of learning motivation and learning outcomes by applying the problem-based learning method. *Taman Vokasi*, 7(2), 167–174. <https://doi.org/10.30738/jtv.v7i2.6318>
- Harjito, H., Kadarwati, S., Nuswowati, M., Sumarni, W., & Sulistyani, M. (2022). Pendampingan guru dalam mendesain penelitian tindakan kelas berbasis teknologi informasi Trello. *Jurnal Abdimas*, 26(1), 45–52. <https://doi.org/10.15294/abdimas.v26i1.35657>
- Hendriani, S., Rahmawati, R., Deswita, D., & Khairina, K. (2022). Female teacher workload, problem, and social competence: A study on secondary school teachers. *Ta'dib*, 25(1), 34–45. <https://doi.org/10.31958/jt.v25i1.5678>
- Kunlasomboon, N., Wongwanich, S., & Suwanmonkha, S. (2015). Research and development of classroom action research process to enhance school

- learning. *Procedia - Social and Behavioral Sciences*, 171, 1315–1324.
<https://doi.org/10.1016/j.sbspro.2015.01.248>
- Modran, H. A., Ursuțiu, D., & Samoilă, C. (2024). Using the theoretical-experiential binomial for educating AI-literate students. *Sustainability*, 16(10), 4068.
<https://doi.org/10.3390/su16104068>
- Nunggalina, O. C., Muhari, M., & Setyowati, R. R. N. (2018). Quantum teaching-learning model to increase motivation and learning outcomes. In *Proceedings of International Conference on Education Innovation (ICEI)* (pp. 123–127).
<https://doi.org/10.2991/icei-18.2018.27>
- Onesi-Ozigagun, O., Ololade, Y. J., Eyo-Udo, N. L., & Ogundipe, D. O. (2024). Revolutionizing education through AI: A comprehensive review of enhancing learning experiences. *International Journal of Applied Research in Social Sciences*, 6(4), 1011–1025.
<https://doi.org/10.51594/ijarss.v6i4.1011>
- Shaik, T., et al. (2022). A review of the trends and challenges in adopting natural language processing methods for education feedback analysis. *IEEE Access*, 10, 3177752–3177765.
<https://doi.org/10.1109/access.2022.3177752>
- Shopia, K., Sudarmaji, I., Purnawati, P., Chairunnisa, D., & Febriliyana, N. (2022). Analysis of English teachers' professional competence in 21st century learning. In *Proceedings of EAI International Conference*.
<https://doi.org/10.4108/eai.25-11-2021.2318834>
- Susanti, S., Wijayanti, A., Ernawati, T., & Indahsari, R. N. (2022). Pelatihan penelitian tindakan kelas bagi guru di masa pandemi. *Jurnal Abdi Insani*, 9(2), 268–275.
<https://doi.org/10.29303/abdiinsani.v9i2.628>
- Tapalova, O., & Zhiyenbayeva, N. (2022). Artificial intelligence in education: AIED for personalised learning pathways. *The Electronic Journal of E-Learning*, 20(5), 259–270.
<https://doi.org/10.34190/ejel.20.5.2597>
- Wang, C., Zou, J., & Xie, Z. (2024). AI-powered educational data analysis for early identification of learning difficulties. *Preprints*.
<https://doi.org/10.20944/preprints202408.0226.v1>
- Zulkifli, D. (2023). The use of a collaborative learning strategy of think-pair-share by listening to English dialogues to improve learning outcomes. *Sultra Educational Journal*, 3(1), 25–34.
<https://doi.org/10.54297/seduj.v3i1.481>



VAPE IS NOT A SAFE ALTERNATIVE: STRENGTHENING ADOLESCENTS' AWARENESS THROUGH MEDICAL AND ISLAMIC-BASED EDUCATION AT SMK PGRI 13 SURABAYA

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ABSTRACT

In recent years, a worrying shift has occurred from conventional cigarettes to electronic cigarettes (vapes), which are often perceived as safer. However, evidence indicates that vape liquids contain nicotine, formaldehyde, and toxic chemicals capable of causing addiction, neurodevelopmental harm, and lung injury in adolescents. This community service project aimed to increase students' awareness regarding the dangers of conventional cigarettes and electronic cigarettes (vapes) through an integrated medical and Islamic-based educational approach. The program was conducted at SMK PGRI 13 Surabaya and included interactive lectures, video presentations, group discussions, leaflet distribution, personal reflection, selection of youth anti-smoking ambassadors, and basic health screening. Knowledge evaluation was conducted using pre and posttests. The results showed an increase in students' knowledge scores from 77 to 87 (a 12% improvement). Nutritional status assessment among 76 students showed 36.8% were in the normal BMI category, 26.3% underweight, 11.8% overweight, and 25% obese. Several active smokers expressed commitment to quitting smoking, and student anti-smoking ambassadors were appointed to promote a smoke-free environment. This program demonstrates that integrating health education with Islamic values effectively enhances adolescents' awareness and motivation to avoid smoking and vaping. The sustainability of the initiative is supported by school involvement and the empowerment of peer ambassadors.

Keywords: Adolescent Health, Health Promotion, Islamic Perspective, Smoking Behavior, Vaping Prevention

INTRODUCTION

Adolescent smoking remains a major public health concern in Indonesia, with tobacco consumption contributing significantly to morbidity and mortality. Cigarettes contain more than 4,000 harmful chemical substances, including nicotine, tar, and carcinogens that damage respiratory and cardiovascular health (Nidianti et al., 2022). The World Health Organization has stated that tobacco use causes cancers, heart disease, respiratory disorders, infertility, and sudden infant death syndrome, making smoking among youth an urgent issue to address (Mukri, 2010).

In recent years, a worrying shift has occurred from conventional cigarettes to electronic cigarettes (vapes), which are often perceived as safer. However, evidence indicates that vape liquids contain nicotine, formaldehyde, and toxic chemicals capable of causing addiction, neurodevelopmental harm, and lung injury in adolescents (Adiba & Arsanti, 2023). School-based data support this increasing trend, reflecting national concerns about the rising popularity of vaping products among youth (Gardner et al., 2023; Gardner, Rethy, & Robledo, 2024).

From an Islamic ethical perspective, smoking contradicts the principle of *hifzh al-nafs* (preservation of life) and the rule *la dharar wa la dhirar* (do not harm yourself or others). The Qur'an prohibits self-destruction and wasteful spending, reinforcing the moral stance against smoking (Mukri, 2010). The Indonesian Council of Ulama (MUI) has issued a fatwa declaring smoking, especially in public

places or by minors, as prohibited (Umniyatun & Nurmansyah, 2020).

Social environment factors further influence youth smoking behavior. A previous study found that 82% of adolescents in Surabaya supported smoking behavior, and 63% of males aged 18–21 were active smokers (Amalizar et al., 2023). Economic considerations also show a concerning pattern: household spending on cigarettes in Indonesia exceeds expenses for education and health (BPS, 2021). These data emphasize that smoking is not only a health issue but also a religious, behavioral, and socioeconomic problem.

Despite government regulations and smoke-free zone enforcement in Surabaya, including fines and social sanctions (Salman & Purba, 2025), adolescent smoking behavior persists, particularly in school environments. Observation at SMK PGRI 13 Surabaya revealed the presence of student smokers and vape users, as well as misconceptions about perceived safety of vaping.

Therefore, this community service program was designed to provide integrated health-religious education to improve knowledge, attitudes, and preventive behavior among high-school students regarding tobacco and vaping hazards. Integrating medical explanations with Islamic values aims to strengthen personal awareness, moral responsibility, and commitment to maintaining health.

OBJECTIVES

The primary objective of this community service program was to strengthen students' understanding and awareness regarding the dangers of

conventional cigarettes and electronic cigarettes (vaping) through a comprehensive education approach. Recognizing that adolescents are particularly susceptible to peer influence, misinformation, and aggressive marketing of vaping products, the program sought to provide scientifically grounded knowledge about the short- and long-term health risks associated with nicotine exposure and harmful chemical inhalation.

In addition to the biomedical perspective, the program integrated Islamic ethical principles to reinforce internal motivation for behavioral change. By emphasizing concepts such as *hifzh al-nafs* (the preservation of life) and the prohibition of self-harm and wasteful behavior, the initiative aimed to cultivate a moral and religious foundation for students to avoid smoking and vaping practices.

The program also aimed to empower students through experiential learning and personal reflection. Health screening activities, including blood pressure measurement, oxygen saturation checks, and *Body Mass Index* (BMI) assessments, were incorporated to enable students to recognize their current health status and understand the importance of preventive behavior. Furthermore, through group dialogue and reflection activities, students were encouraged to express personal views, internalize health messages, and build commitment to healthy behavioral choices.

Beyond increasing knowledge and awareness, the program intended to establish a supportive health-promoting environment within the school. By appointing motivated students as anti-smoking ambassadors, the initiative aimed to foster peer-led advocacy and sustain positive behavioral influence beyond the intervention period. Ultimately, this

program sought not only to improve students' health literacy but also to create a sustainable culture of health consciousness and smoke-free attitudes among adolescents at SMK PGRI 13 Surabaya.

PLAN OF ACTION

The community service program was carried out through a structured and collaborative approach involving the school, students, and academic team. Prior to implementation, the team conducted a preliminary observation at SMK PGRI 13 Surabaya to assess students' smoking behavior and their understanding of the risks associated with cigarettes and electronic cigarettes. This initial assessment also served to identify the misconceptions students held, particularly the belief that vaping is a safer alternative to conventional smoking.

Coordination with school administrators and teachers was established early to ensure smooth implementation and to integrate the program into the school's learning schedule. Educational materials combining medical facts and Islamic ethical perspectives were then developed by the academic team, consisting of physicians and Islamic scholars. These materials included PowerPoint slides, posters, a short educational video on tobacco and vape hazards, and informational leaflets designed for students and their families.

The community service intervention consisted of a comprehensive educational session delivered in an interactive format. Students participated in a face-to-face seminar in the school hall, where facilitators presented health consequences of smoking and vaping, including respiratory, cardiovascular, metabolic, and neurological risks. Islamic values and

ethical teachings regarding self-preservation (*hifzh al-nafs*), avoiding harm (*la dharar wa la dhirar*), and responsible personal conduct were integrated throughout the session to strengthen internal motivation for behavior change. Students were encouraged to express their views and experiences, and an open discussion allowed them to ask questions and share their reflections.

To reinforce awareness at an individual level, a simple health screening was conducted for participating students. Measurements included blood pressure, oxygen saturation, body weight, and height, followed by Body Mass Index (BMI) calculation. These examinations not only helped students identify their current health status but also provided tangible evidence of the importance of maintaining healthy lifestyles and avoiding harmful habits such as smoking.

At the end of the educational session, students were invited to write personal reflections regarding smoking and vaping behavior. Those who demonstrated strong commitment and leadership potential were appointed as anti-smoking ambassadors. Their role was to promote healthy behavior and become peer advocates for a smoke-free school environment. Educational posters and leaflets were distributed for continued reinforcement, and teachers were encouraged to display them in strategic school areas.

The effectiveness of the program was measured using pre-test and post-test evaluations. Knowledge scores before and after the intervention were compared to assess learning outcomes, while observational notes, student reflections, and ambassador participation supported qualitative evaluation. This approach ensured that both cognitive improvement

and behavioral commitment were captured as program outcomes.

RESULTS AND DISCUSSION

The implementation of the integrated health and Islamic-based education program at SMK PGRI 13 Surabaya proceeded smoothly and was well-received by both students and school staff. A total of 76 students participated actively throughout the intervention, demonstrating high enthusiasm during the educational session, group discussion, and health screening activities. The openness of students to engage in dialogue and share personal experiences indicated the relevance of the topic to their daily lives and peer environment, consistent with prior findings that adolescent smoking behavior is strongly influenced by social context and peer norms (Amalizar et al., 2023).

Improvement in Knowledge and Awareness

The knowledge assessment conducted before and after the intervention showed a notable improvement in students' understanding of the health risks associated with cigarettes and electronic cigarettes. The average pre-test score was 77, increasing to 87 in the post-test, indicating approximately a 12% improvement. This reinforces the effectiveness of structured school-based education in improving tobacco-related knowledge among adolescents, similar to outcomes reported by Hidayat et al. (2022).

Importantly, the integration of Islamic values throughout the session strengthened students' internal motivation to avoid smoking. The combination of biomedical information with religious guidance aligns with findings from Umniyatun and Nurmansyah (2020), who reported that faith-based reinforcement

increases anti-smoking adherence among Muslim youth. Religious framing around *hifzh al-nafs* (protection of life) and avoidance of self-harm (*la dharar wa la dhirar*) amplifies personal responsibility and moral commitment to healthy behaviors (Mukri, 2010; Adiba & Arsanti, 2023).

Health Screening Outcomes

Simple health screening activities were conducted to reinforce students' awareness of personal health status. BMI analysis revealed varied nutritional status among participants, with 36.8% classified as normal, 26.3% underweight, 11.8% overweight, and 25% obese. These results indicate that adolescent health issues in this population include both undernutrition and overnutrition risks — a pattern consistent with recent studies on youth health trends in Indonesia (Nidianti et al., 2022).

Direct feedback from health measurements helped students internalize the need for preventive behavior. Real-time exposure to personal biometric data has been shown to enhance awareness and increase readiness to modify risky behavior (Masithah et al., 2023). Students reported increased concern about their health and expressed greater intention to improve lifestyle choices.

Behavioral Attitude Shifts and Peer Leadership

In addition to knowledge gains, shifts in attitudes toward smoking and vaping were observed. Several students who were active smokers expressed intention to reduce or stop smoking following the intervention. The establishment of student anti-smoking ambassadors further strengthened behavior change potential through peer-led influence. Previous research highlights that peer education is a powerful strategy in adolescent health

promotion, particularly in anti-tobacco initiatives (Puspitasari et al., 2023; Gardner et al., 2023).

The ambassadors appointed in this program are expected to serve as role models and catalysts for sustaining anti-smoking messages within the school environment. This aligns with behavior-change frameworks emphasizing social support and peer reinforcement in adolescent populations (Truth Initiative, 2024).

School Engagement and Sustainability

Teachers and school administrators expressed positive feedback, demonstrating strong institutional support. Educational posters and leaflets remain displayed within the school, enabling ongoing exposure to health messages. Engagement of school authorities has been recognized as a key factor in ensuring sustainability of school-based health programs (Gardner, Rethy, & Robledo, 2024).

Collectively, these outcomes demonstrate that combining medical knowledge, faith-based values, experiential learning, and peer empowerment yields a comprehensive and effective strategy for tobacco prevention among adolescents.

CONCLUSION

This community service program successfully improved students' knowledge, awareness, and attitudes regarding the dangers of smoking and vaping through an integrated medical and Islamic education approach. The significant increase in students' post-test scores demonstrates that structured school-based interventions are effective in enhancing tobacco-related health literacy among adolescents, consistent with previous findings on youth health education

programs in Indonesia (Hidayat et al., 2022; Nidianti et al., 2022).

Beyond cognitive improvement, the incorporation of Islamic ethical principles such as *hifzh al-nafs* and the prohibition of self-harm strengthened internal motivation for behavioral change, aligning with earlier studies that highlight the influence of religious values on smoking attitudes among Muslim adolescents (Umniyatun & Nurmansyah, 2020; Adiba & Arsanti, 2023; Mukri, 2010). The appointment of student anti-smoking ambassadors further reinforced the behavioral impact of the program by establishing peer-driven advocacy, a strategy supported by youth health-promotion literature (Puspitasari et al., 2023; Gardner et al., 2023).

The results also revealed varied nutritional status among participating students, emphasizing the need for holistic school-based health programs that address smoking prevention alongside overall lifestyle and nutrition education. This finding echoes reports of dual-burden nutritional challenges among Indonesian adolescents (Nidianti et al., 2022).

Overall, the program demonstrates that a culturally grounded and spiritually aligned intervention model—combining medical insight, religious values, experiential learning, and peer support—can effectively guide adolescents toward healthier behavior and strengthen school-based health promotion systems. Sustained collaboration between educational institutions, healthcare educators, and student peer leaders is recommended to ensure long-term impact and replication in other school settings. Future initiatives may focus on digital health campaigns and follow-up monitoring to maintain momentum and support continuous behavior change.

REFERENCES

- Adiba, N. T., & Arsanti, M. (2023). Perilaku merokok dalam pandangan Islam. *Jurnal Teras Kesehatan*, 6(1), 29–38. <https://doi.org/10.38215/jtkes.v6i1.108>
- Amalizar, D., et al. (2023). *Smoking behavior trends among adolescents in Surabaya*. (Institutional source, internal data).
- Badan Pusat Statistik. (2021). *Pengeluaran rumah tangga untuk rokok di Indonesia*. BPS Indonesia.
- Gardner, L. A., Hides, L., Leung, R., Barrett, E., Newton, N. C., Chapman, C., ... Teesson, M. (2023). Co-design of the OurFutures Vaping programme: A school-based eHealth intervention to prevent e-cigarette use. *BMC Public Health*, 23(1), 1560. <https://doi.org/10.1186/s12889-023-15609-8>
- Gardner, A., Rethy, L., & Robledo, I. C. (2024). A systematic review and meta-analysis of school-based preventive interventions targeting e-cigarette use among adolescents. *Prevention Science*, 25(8), 1281–1298. <https://doi.org/10.1007/s11121-024-01730-6>
- Hidayat, M., Puspitasari, M., & Ramadhani, A. (2022). Efektivitas program edukasi berbasis komunitas dalam meningkatkan kesadaran bahaya merokok di Indonesia. *Jurnal Kesehatan Masyarakat*, 8(2), 105–120.
- Masithah, D., Firdaus, A. A. A., Hasina, S. N., Wikurendra, E. A., & Agnovianto, Y. (2023). *Metode eksperimen merokok dengan alat*

- sederhana sebagai upaya menurunkan perilaku merokok pada santri di PP. Al Hikam Bangkalan.* Universitas Nahdlatul Ulama Surabaya.
- Masithah, D., Widya, M., Prastini, M. S. A., Robbani, D. A., & Nusantara, A. A. T. (2025). Self-healing therapy untuk mengurangi perilaku merokok pada remaja di PP. Assalafi Al-Fithrah Surabaya. *Journal of Community Development Diversity, 1*(1).
- Mukri, M. (2010). Menyoal hukum merokok dalam perspektif hukum Islam. *Al-Manahij: Jurnal Kajian Hukum Islam, 4*(1), 91–112. <https://doi.org/10.24090/mnh.v4i1.3667>
- Nidianti, E., Lukiyono, Y. T., Masithah, D., Putri, B. A. R., Puspitasari, F., & Pertiwi, P. (2022). Peningkatan pengetahuan dan pemeriksaan oksigen dalam darah akibat paparan asap rokok di wilayah Surabaya. *Jurnal Pengabdian Kepada Masyarakat, 6*(1), 45–49.
- Puspitasari, M., Rahman, A., & Prasetyo, B. (2023). Video edukasi di media sosial untuk meningkatkan kesadaran bahaya rokok pada remaja. *Jurnal Promosi Kesehatan, 11*(2), 78–86.
- Salman, & Purba, D. (2025). *Implementasi Kawasan Tanpa Rokok di Surabaya.* Pending publication details.
- Truth Initiative. (2024). A vaping cessation text message program for adolescent e-cigarette users: A randomized clinical trial. *JAMA, 332*(6), 543–552. <https://doi.org/10.1001/jama.2024.11057>
- Umniyatun, Y., & Nurmansyah, M. I. (2020). Keyakinan agama dan hubungannya dengan perilaku merokok pada pelajar sekolah menengah atas Muhammadiyah di Kota Depok. *Journal of Religion and Public Health, 1*(1), 42–46. <https://doi.org/10.15408/jrph.v1i1.14146>

EFFORTS TO IMPROVE KNOWLEDGE IN IMPLEMENTING CLEAN AND HEALTHY LIVING AMONG ELEMENTARY SCHOOL CHILDREN

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ABSTRACT

Clean and Healthy Living Behavior (PHBS) is a reflection of a family lifestyle that always pays attention to and maintains the health of all family members, including elementary schools . Effort promotional And preventive through giving education health expected able to increase the understanding of elementary school children to behave in a clean and healthy way. Improving Understanding in Elementary School Children Elementary school students' knowledge related to behaving in a clean and healthy way The method of increasing knowledge in preventing diseases in children such as diarrhea is carried out by providing health education through Power media. Point And leaflet to 40 student class V SDN in Peterongan. Implementation All over student given questionnaire *pre-test* and *post-test* for evaluate effectiveness education health to knowledge. Counseling health conducted on October 25, 2025. The results of the *Wilcoxon Signed Rank Test* showed a significant value ($p < 0,000$) which indicates that health education has a significant effect on increasing knowledge clean and healthy living behavior. Education health proven effective in increase and equalize the level of knowledge of school children in behaving in a clean and healthy way, providing education can provide understanding to elementary school children. Good understanding has an impact on clean and healthy behavior to improve the health level of students.

Keywords: Clean And Healthy Living Behavior, Elementary School Children, Knowledge

INTRODUCTION

School-aged children often enjoy activities outside the home or while at school. A major challenge currently facing Indonesia is the triple burden of health, caused by the persistence of various infectious diseases and high rates of non-communicable diseases (NCDs). Some diseases that were previously manageable are now resurfacing (Proverawati, 2016). Children are at greater risk of health problems, such as infectious diseases, when they engage in frequent activities outside the home. Diarrhea is one of the infectious diseases that frequently affects school-aged children. However, one of the causes of this shift in disease patterns, or epidemiological transition, is changing lifestyles (Ministry of Health, 2016). Implementing Clean and Healthy Living Behaviors (PHBS) is an example of a lifestyle that prioritizes and protects the health of all family members. Awareness of health-promoting behaviors enables family members to play an active role in health activities within the community (Proverawati, 2016).

Diarrhea is a public health problem in Indonesia, with a high prevalence of diarrhea. In 2018, according to data from the Indonesian Ministry of Health, the prevalence of diarrhea was approximately 37,88%. Meanwhile, diarrhea cases in toddlers were recorded at 57,150% in 2018. Furthermore, diarrhea cases were recorded at 56,592% in 2019 and 44,839% in 2020. However, in 2020, these cases decreased due to the COVID-19 pandemic. The target for diarrhea service coverage for toddlers is $\geq 55\%$ (East Java Provincial Health Office, 2021).

Efforts to empower students, teachers, and all school residents include

implementing clean and healthy living behaviors at school, ensuring that they are willing, knowledgeable, and able to implement these behaviors in their lives and have an active role in supporting healthy schools (Muhani *et al.*, 2022).

Students and educators, as well as health professionals, will strive diligently to instill clean and healthy living habits. Schoolchildren require guidance and support to improve their daily behavior. Through this, school-age children need to be instilled with these values.

Feeling aware of clean and healthy living behaviors. The response that arises from students' poor knowledge and attitudes, and some individuals, can also be a factor influencing clean and healthy living behaviors (Chrisnawati, 2020).

This lack of knowledge has an impact on the decline in clean and healthy behavior in elementary school children. Therefore, comprehensive and sustainable intervention is needed, one of which is by providing health education in school as effort promotional and preventive for improve clean and healthy behavior.

The aim of this health education activity is to increase the knowledge of elementary school students to behave in a clean and healthy way so that participants can avoid behavior that has the potential to cause disease and improve the health of children.

OBJECTIVES

General Purpose

After conducting counseling on clean and healthy living, expected elementary school children can understand and improve clean and healthy living behavior.

Special Purpose

After conducting counseling on clean and healthy living behavior, Students are expected to be able to providing knowledge about clean and healthy living behavior, increasing disease prevention efforts in children, improving health levels in children.

PLAN OF ACTION

Strategy Plan

It contains things that are planned by the authors before the implementation of the activity, so that the activity can be carried out properly.

The strategy for preparing this health counseling includes coordinating with the school principal to obtain approval and support for the activity, determining the implementation time through an agreement with the students, and carrying out the health counseling activities according to the established plan.

Implementation

Counseling carried out after obtaining a permit to carry out community service and obtaining a letter issued by the Research and Community Service Institute Public Husada Health College Jombang with Number: 1 0 3-SK / STIKES / HSD / X / 202 5

The implementation in strategic planning includes contacting the school principal to request permission to conduct counseling on clean and healthy living behavior, preparing the venue and equipment for the outreach activities, and carrying out educational sessions on clean and healthy living behaviors.

Setting

The extension activity was carried out at one of the Peterongan Elementary Schools on October 25th, 2025. Health education activities about clean and healthy living behavior were given to 40 elementary school students.

Target

Target activity outreach This is Student elementary school.

RESULTS AND DISCUSSION

Table 1 Respondent characteristics based on gender

No	Gender	Frequency	Percentage (%)
1	Man	18	45
2	Woman	22	55
Total		40	100

Table 2 Respondent characteristics based on age

No	Age	Frequency	Percentage (%)
1	10 yearsold	5	12,5
2	11 yearsold	27	67,5
3	12 yearsold	8	20,0
Total		40	100

Based on the table above, it shows that the majority of respondents were female, 22 people (55%), and the majority of respondents were 11 years old, 27 people (67,5%).

Table 3 Characteristics of knowledge of clean and healthy living behavior in elementary school students before counseling

No	Knowledge	Frequency	Percentage (%)
1	Good	5	12.5
2	Enough	34	85.0
3	Poor	1	2.5
Total		40	100.0

Based on the table presented, it states that Sanya Almost all respondents' knowledge of clean and healthy living

behavior was sufficient, amounting to 34 people (85,0 %).

The results of the study before being given health education showed that almost all respondents' knowledge of clean and healthy living behavior was sufficient, amounting to 34 respondents (85,0%). Clean and Healthy Living Behavior (PHBS) is a reflection of a family lifestyle that always monitors and protects the health of all family members. Awareness of healthy behavior enables family members to play a role active in health activities in society (Proverawati, 2016).

Age is a factor that influences Clean and Healthy Living Behavior because school-age children are quite young and require guidance from those around them, especially in their immediate environment or school environment through teachers or educators. A nation needs educators or teachers who are the smallest units that can provide positive opportunities to become the beginning of the educational process and cultural socialization, one of which is PHBS. School communities really need to instill PHBS lifestyle patterns in the school environment for children, including for their educators (Anggraeni, 2019). Meanwhile, research activities conducted by Utami (2018) stated that women and men have equal roles in efforts to improve health, where various healthy behaviors can be implemented in everyday life through clean and healthy living behaviors.

Table 4 Characteristics of attitudes towards clean and healthy living behavior in elementary school students after being given counseling

No	Knowledge	Frequency	Percentage (%)
1	Good	37	92,5
2	Enogh	3	7,5

3	Poor	0	0
Total		40	100

Based on the table above, it shows that almost all respondents' knowledge of clean and healthy living behavior is good, amounting to 37 people (92,5 %).

From the research, it was found that almost all respondents, 37 people (92,5 %) had good knowledge of clean and healthy living behavior. Health education is the application or implementation of education in the health sector. All activities aimed at providing and improving attitudes, knowledge, and practices, both in groups and individually, constitute operational health education, which is useful for improving and maintaining one's own health (Indriani, 2020). Education means a process of changing the behavior and attitudes of an individual or group in order to strive to mature themselves through training, teaching, processes, and methods of education (Department of Education and Culture, City Education Jambi, 2020). The Basic Idea of Health Promotion is essentially an activity aimed at conveying health messages to the general public, specific groups, or individuals. Behavioral changes are influenced by various factors, one of which is the method or technique. This is a health advertising process aimed at achieving health education goals. Methods must not be the same for each target community, specific group, or individual (Susilowati, 2016).

Clean and Healthy Living Behavior is an effort to strengthen the culture of an individual, a particular group, or the general public so that they have concern and prioritize their own health in order to achieve a better quality of life (Ministry of Social Affairs of the Republic of Indonesia, 2019).

According to researchers, all respondents showed improvement after receiving health education, significantly influencing the questionnaire results. Health education is very helpful in fostering an understanding of clean and healthy living behaviors (PHBS) among children/respondents. Children's health begins with cleanliness at home and even at school. After the treatment, the number of respondents with good criteria increased significantly compared to before the treatment. Therefore, the researchers concluded that there was an increase in the number of respondents after the health education. Children began to understand the importance of clean and healthy living behaviors. By explaining clean and healthy living behaviors to children, respondents' attention during health education fostered motivation to change their attitudes and enable them to digest the information effectively. The explanations were easy to understand and combined with games, which made the children very enthusiastic.

Table 5 SPSS Test Results

Pre attitude – post attitude	
Asymp. Sig. (2-tailed)	,000

Wilcoxon statistical test, a significant number or *probability value* (0,000) was obtained which was much lower than the significant standard of 0,05 or ($p < \alpha$), so the H_0 data was rejected and H_1 was accepted, which means that there is an influence of health education on knowledge of clean and healthy living behavior (PHBS) in students.

The results obtained a significant number or probability value (0,000) which is much lower than the standard significance of 0.05 or ($p < \alpha$) from the

results of the Wilcoxon statistical test, for that reason It can be stated that the H_0 data is rejected and H_1 is accepted, which means that there is an influence of counseling on healthy living behavior on increasing knowledge.

With the dynamic interaction process, the knowledge gained by a person can become something that will be integrated with that person and more or less can influence the attitudes of students. This is because when students understand the importance of clean and healthy living behavior for themselves, their thoughts will indirectly respond to carry out behaviors that are appropriate to what they already know. Providing sufficient insight into health will be very important because they at least know what actions will be carried out in the future. They can quickly solve health problems with their own actions according to their insight if they encounter conditions where they already know about health knowledge. Changes in cognitive component knowledge experience changes, therefore it can be concluded that knowledge and attitudes have a consistent relationship (Nototmodjo, 2018).

This research is also in line with Nurma's (2020) research results stated that the implementation of the 6-step handwashing practice by students increased after being given health education, this was proven by the difference in the average value obtained which increased by 4,28.

This research aligns with the results of research conducted by Fitri in 2021. The results showed that before receiving health education, respondents' knowledge levels in certain categories were higher than those observed before receiving health

education, with low scores. After receiving health education, knowledge increased. And observation respond with good score results.

This research aligns with Yetty's 2018 study, which found that schools play a crucial role in health education efforts. The results showed an increase in knowledge, attitudes, and behaviors toward PHBS before and after health education was provided to respondents.

Health education significantly influences children's knowledge of clean and healthy living behaviors. Therefore, teaching children to understand personal hygiene is crucial. If education is provided regularly, it will significantly contribute to understanding and habituating to clean and healthy living behaviors.

CONCLUSION

Before the provision of health education, most students demonstrated a sufficient level of knowledge and attitudes toward clean and healthy living behaviors, with 34 respondents (85.0%). After receiving health education, the majority of students showed good knowledge and attitudes toward clean and healthy living behaviors, totaling 37 respondents (92.5%). The Wilcoxon statistical test results indicated a probability value of 0.000, which is significantly lower than the standard significance level of 0.05 ($p < \alpha$). Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted, indicating that health education had a significant effect on increasing knowledge of clean and healthy living behaviors. The results of this community service activity can be used as a reference for providing education related to knowledge, attitudes, and behaviors of

clean and healthy living among children, enabling elementary school students to better understand and apply proper clean and healthy living behaviors (PHBS).

REFERENCES

- Arikunto, S. (2018). *Research Procedures: A Practical Approach*. Rineka Cipta.
- Aspiah, A., & Mulyono, S. (2020). The Role of School Nurses in Providing Health Education Related to Clean and Healthy Living Behaviors in School-Age Children: A Literature Review. *Journal of Health Research "SUARA FORIKES"*, 11(a), 26 <https://doi.org/10.33846/sf11nk204>
- Cahyadi. (2022). The Influence of Product Quality and Price on Light Steel Purchasing Decisions at PT Arthanindo Cemerlang. *Economics and Business Management*, 1(1), 60–73.
- Chrisnawati, Y., & Suryani, D. (2020). The Relationship between Attitudes, Parenting Patterns, the Role of Parents, Teachers, and Facilities with Clean and Healthy Living Behaviors. Introduction. *Sandi Husada Health Scientific Journal*, 9(1), 1101–1110. <https://doi.org/10.35816/jiskh.v10i2.484>
- Fitri, R. (2021). The Influence of Health Education on Knowledge About Clean and Healthy Living Behavior (PHBS) in fifth grade students of MIN 1 Central Lombok. *Scientific Journal of STIKES Yarsi Mataram*, 11(2), 86–90. <https://doi.org/10.57267/jisym.v11i2.113>
- Garancang2, Nur F., Kamaludin As. (2023). General Concept Of Population And Sample In Research

- Nur. *Quantitative Approach Research Methods*, 14 (1), 103–116.
- Arthanindo Cemerlang. *Economics and Business Management*, 1, 60–73.
- Heni, LK., AAS. (2020). Overview of Knowledge, Attitudes, and Skills of Clean and Healthy Living Behavior (PHBS) in School-Age Children. *Indonesian Journal of Nursing Science*, 10(2), 31–38. <https://doi.org/10.33221/jiiki.v10i02.514>
- Chrisnawati, Y., & Suryani, D. (2020). The Relationship between Attitudes, Parenting Patterns, the Role of Parents, Teachers, and Facilities with Clean and Healthy Living Behaviors. Introduction. *Sandi Husada Health Scientific Journal*, 9, 1101–1110. <https://doi.org/10.35816/jiskh.v10i2.484>
- Indriani, AN. (2020). Overview of Health Education Provision through Pocket Books on Knowledge and Attitudes for Conducting Routine Health Checks . 4 (1), 1–23.
- Creswell, JW (2016). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Student Library.
- Kelia, DR, Sukaesih, NS, Lindayani, E., Studi, P., Keperawatan, D., & Pendidikan Indonesia, U. (2023). The Effect of Health Education with Flip-Flip Media on Improving PHBS Attitudes in Elementary School Students. *Tambusai Health Journal*, 4 (2), 793–800.
- Fitri Romadonika. (2021). The influence of health education on knowledge about Clean and Healthy Living Behavior (PHBS) in fifth grade students of MIN 1 Central Lombok. *Scientific Journal of STIKES Yarsi Mataram*, 11 (2), 86–90. <https://doi.org/10.57267/jisym.v11i2.113>
- Kurniawan, A., Putri, RM, & Widiani, E. (2019). *The Effect of Health Promotion on Knowledge and Attitudes About Clean and Healthy Living Behavior in Grades IV and V of Arikunto, S. (2018). Research Procedures: A Practical Approach*. Rineka Cipta.
- Garancang., Nur F., kamaludin AS (2023). General Concept Of Population And Sample In Research Nur. *Quantitative Approach Research Methods* , 14 (1), 103–116.
- Aspiah, A., & Mulyono, S. (2020). The Role of School Nurses in Providing Health Education Related to Clean and Healthy Living Behaviors in School-Age Children: A Literature Review. *Journal of Health Research "SUARA FORIKES"*, 11 (a), 26. <https://doi.org/10.33846/sf11nk204>
- Heni Lita Kusumawardani, AAS (2020). Overview of Knowledge, Attitudes, and Skills of Clean and Healthy Living Behavior (PHBS) in School-Age Children. *Indonesian Journal of Nursing Science*, 10 (02), 31–38. <https://doi.org/10.33221/jiiki.v10i02.514>
- Cahyadi, Buddhi Dharma University. (2022). The Influence of Product Quality and Price on Light Steel Purchasing Decisions at PT
- Indriani, AN (2020). Overview of Health Education Provision through Pocket Books on Knowledge and Attitudes for Conducting Routine Health Checks, 4 (1), 1–23.
- Kelia, DR., Sukaesih, NS., Lindayani. (2023). The Effect of Health

- Education with Flip-Flip Media on Improving PHBS Attitudes in Elementary School Students. *Tampusai Health Journal*, 4(2), 793–800
- Kurniawan, A., Putri, RM, & Widiani, E. (2019). The Effect of Health Promotion on Knowledge and Attitudes About Clean and Healthy Living Behavior in Grades IV and V of Elementary School. *Journal Nursing News*, 4(1), 100–111. <https://doi.org/10.1021/BC049898Y>
- Linda, S. (2019). Factors Influencing Clean and Healthy Living Behavior (PHBS) of Students at State Elementary School 37, Tampan District, Pekanbaru City. *Abdurrah Nursing Journal*, 1(2), 17–28.
- Notoadmojo. (2018). *Health Research Methodology*. Jakarta : PT Rineka Cipta
- Nova M., Christin A., Dhiny, AR., Echa R., Fadhilah A., Ghina G., Renna R., (2022). Counseling on The Implementation of Clean and Healthy Living Behavior (PHBS) in School Settings in 01 Langkapura. *Journal of Community Services in Humanities and Social Sciences*, 4(1), 27–38.
- Nurhajati, N. (2016). Clean and Healthy Living Behavior (PHBS) of Samir Village Community in Improving Health, 2 (11).
- Nurma Ika Zuliyanti, FRA. (2021). *Journal of Health Communication*, 12(1) 1,1-8.
- Nursalam. (2015). *Research Methodology* (4th ed). Salemba.
- Proverawati, A. (2016). *Clean and Healthy Living Behavior (PHBS)*. Nuha Medika
- Rahmawati, S., & Mutholib, A. (2019). Counseling on Clean and Healthy Living Behavior (PHBS) with 7 Steps on How to Wash Hands Effectively at Mawar Preschool, Sawah Baru Village, Ciputat, South Tangerang. *UMJ LPPM Journal*, 1(9), 1–6.
- Riduwan. (2015). *Methods and Techniques for Compiling Research Proposals*. Alfabeta.
- Sutrisno, S., & Sinanto, RA (2022). Effectiveness of Using Flip Charts as a Health Promotion Media: A Systematic Review. *Integrated Health Journal*, 13 (1), 1–11. <https://doi.org/10.32695/jkt.v13i1.129>
- Yetty, S. (2018). Health Education: Clean and Healthy Living Behavior (PHBS) in Elementary Schools . 66 (2), 89–95.



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EMPOWERMENT OF EARLY CHILDHOOD EDUCATORS IN PASURUAN REGENCY IN FORMING AN ATTITUDE OF TOLERANCE IN EARLY CHILDHOOD

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ABSTRACT

One of the major social issues currently faced in Indonesia, particularly in Pasuruan Regency, is intolerance. Educational institutions play a strategic role in instilling values of tolerance to reduce intolerant attitudes, especially from early childhood education. However, early childhood education institutions in Pasuruan Regency face challenges related to educators' limited understanding of how to foster tolerant attitudes among young children. This community service activity aimed to enhance the knowledge and understanding of early childhood educators regarding the formation of tolerant attitudes in early childhood learners. The program was conducted over four months and involved early childhood educators in Pasuruan Regency, totalling 50 participants. The method employed was educational counseling delivered through lectures and question-and-answer sessions. Participants' knowledge levels were measured using a *pre-test* questionnaire prior to the counseling session and a *post-test* afterward to assess knowledge improvement. The results indicated that only 10 participants (20%) demonstrated adequate knowledge in the *pre-test*, while *post-test* results showed a significant increase, with 40 participants (80%) demonstrating improved understanding. In conclusion, educational counseling activities for early childhood educators in Pasuruan Regency effectively increased their knowledge in fostering tolerant attitudes among early childhood learners.

Keywords: Early Childhood, Educators, Tolerance

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INTRODUCTION

One of the pressing issues in Indonesian society, particularly in Pasuruan Regency, is intolerance. Indonesia is highly vulnerable to intolerance arising from differences in religion, ethnicity, and culture, as Indonesian society is inherently multicultural. Therefore, tolerance should be instilled from an early age. Teaching tolerance at an early stage is beneficial for children's psychological and social development. As children begin to interact with their peers, egocentric tendencies may emerge. Without early tolerance education, conflicts may arise due to individual differences (Setiabudi, 2022).

Children under the age of four tend to exhibit egocentric behavior. From as early as one year old, children's subconscious minds are capable of absorbing behaviors demonstrated by parents and people in their surroundings. This highlights the crucial role of early childhood educators in instilling values of tolerance and mutual assistance, particularly in stimulating children's readiness to accept the presence of others who are different from themselves (Syaikhon, 2015).

Many families live in diverse communities with neighbors of different backgrounds, religions, cultures, ethnicities, and languages. Both the home environment and educational institutions play significant roles in developing tolerant attitudes. When children are exposed to heterogeneous environments, they are more likely to understand and respect differences and social practices, as children tend to learn from what they see and hear from people around them (Japar, 2020).

As educators and future generation builders, teachers have a responsibility to instill tolerance and mutual cooperation from an early age. Educators who

consistently demonstrate tolerant behavior in their daily interactions significantly influence early childhood learners, encouraging them to respect diversity within their environment (Syaikhon, 2022).

Most early childhood educators in Pasuruan Regency are high school graduates, resulting in limited academic knowledge related to early childhood education, particularly regarding the formation of tolerant attitudes. Therefore, additional academic enrichment is necessary to enable educators to effectively instill tolerance values in their learners.

Through this community service program, the authors provided educational counseling for early childhood educators in Pasuruan Regency on fostering tolerant attitudes in young children. This initiative is expected to contribute to the development of a generation that embodies *rahmatan lil alamin*, characterized by mutual respect and appreciation.

OBJECTIVES

General Purpose

To enhance the knowledge and understanding of early childhood educators regarding the cultivation of character values in early childhood learners.

Special Purpose

To improve the knowledge and understanding of early childhood educators regarding the formation of tolerant attitudes among early childhood learners.

PLAN OF ACTION

Strategy Plan

The strategy employed in this community service program was educational counseling for early childhood educators. The program was conducted from January to September, beginning with proposal preparation, team coordination,

partner communication and formal permission, program implementation, and final reporting.

Implementation

The community service implementation process consists of three stages:

1. **Pre-activity**, consisting of a strategy meeting, site survey, and preparation of facilities and infrastructure.

The strategy meeting for this activity is led by the head of the implementation committee to discuss the strategy and planning of the community service program to be implemented. The survey aims to organize the equipment layout and format of the activity. Meanwhile, the preparation of facilities and infrastructure discusses the location and venue for the activity.

2. **Implementation, consisting of counseling, a pre-test, and a post-test**

Counseling on developing tolerance in early childhood was delivered by the head of the community service program using a lecture and question-and-answer method. A pre-test was administered before the presentation using a questionnaire given to respondents to determine their level of knowledge about developing tolerance in early childhood. The post-test aimed to determine the increase in respondents' knowledge from before the counseling session to after the counseling session.

3. **Post-Activity, consisting of report preparation and evaluation**

This is the final stage of the community service program, consisting of evaluation and activity report preparation. Evaluations are conducted before and after the outreach program.

The pre-outreach evaluation aims to determine educators' initial knowledge regarding the development of tolerance in early childhood. The post-outreach evaluation aims to identify changes in their understanding of the development of tolerance in early childhood. The evaluation instrument used is a questionnaire, with assessment indicators including:

- a. Knowledge about the value of tolerance
- b. Knowledge about instilling tolerance in early childhood
- c. Knowledge about instilling tolerance in early childhood.

Setting

This community service program was held at KB Anggrek, Randupitu village, Gempol sub-district, Pasuruan regency, and lasted for nine months.

Target

The target participants in this community service activity were early childhood educators in the Pasuruan district, totaling 50 participants.

RESULTS AND DISCUSSION

The results achieved from the community service program, "Empowering Early Childhood Educators in Pasuruan Regency to Foster Tolerance in Early Childhood," are as follows:

This community service activity was implemented in the form of counseling on fostering tolerance in early childhood. The following is a general description of the participants in the community service counseling.

Table 1. Distribution of Respondents by Age

No	Age Group	Total	Percentage
1.	20-30 yearsold	5	10
2.	31-40 yearsold	35	70
3.	41-50 yearsold	15	20
Total		50	100

Based on the table above, it was found that the majority of participants were aged 31-40 (35 people) (70%), 10 (41-50) (20%), and 5 (20-30) were aged 20-30.

In this community service activity, participants received counseling on fostering tolerance in early childhood. The hope is that this counseling will improve their knowledge and understanding of fostering tolerance in early childhood. Participants' knowledge was assessed using a pre-test and post-test.

The results of the pre-test and post-test for the counseling on Empowering Early Childhood Educators in Pasuruan Regency to Foster Tolerance in Early Childhood are as follows:

Table 2. Pre-Test and Post-Test Results of Respondents Based on Tolerance Attitudes for Early Childhood

<i>Pre-Test</i>				<i>Post-Test</i>			
Knowledge able		Not Knowledge able		Knowledge able		Not Knowledge able	
N	%	N	%	N	%	N	%
10	20	40	80	45	90	5	10

Based on the table above, it can be stated that the pre-test results of participants who knew about the Empowerment of Early Childhood Educators in Pasuruan Regency in the Formation of Tolerance in Early Childhood Children amounted to 10 people (20%), while based on the post-test results, 45 people (90%) knew about the Empowerment of Early Childhood Educators in Pasuruan Regency in the

Formation of Tolerance in Early Childhood Children.

Judging from the pre-test results, most early childhood educators did not know about the formation of tolerance in early childhood children. However, after the counseling, the post-test results almost all early childhood educators understood the formation of tolerance in early childhood children. It can be concluded that there has been an increase in knowledge among early childhood educators in Pasuruan Regency, as the post-test scores were higher than the pre-test scores.

CONCLUSION

Community Service Activity entitled "Empowerment of Early Childhood Educators in Pasuruan Regency in Forming Tolerance for Early Childhood" aims to increase knowledge and understanding of early childhood educators in Pasuruan Regency about forming tolerance for early childhood. The conclusion in the implementation of this community service activity is that the outreach activities for early childhood educators in Pasuruan Regency can increase their knowledge in forming tolerance for early childhood.

REFERENCES

- Eva, M. (2024). *Peran guru Pendidikan Agama Islam dalam menanamkan nilai-nilai toleransi peserta didik pada era Revolusi Industri 4.0 di SMAN 1 Baradatu* (Unpublished doctoral dissertation). UIN Raden Intan Lampung, Indonesia.
- Hamdi, A. Z., Mukaffa, Z., & Masrifah, L. H. (2019). Gerakan radikalisme di kampus-kampus dan pusat kajian keagamaan di perkotaan di Jawa Timur.

Japar, M., Syarifa, S., & Fadhillah, D. N. (2020). *Pendidikan Toleransi Berbasis Kearifan Lokal*. Jakarta, Indonesia: Jakad Media Publishing.

Multikultural, G. D. B. P. I., & Nasruddin, S. P. (n.d.). *Pendidikan Islam multikultural dalam keluarga multiagama (Studi konstruksi sikap toleransi pada anak di Balun Turi Lamongan)*.

Setiabudi, W., Paskarina, C., & Wibowo, H. (2022). Intoleransi di tengah toleransi kehidupan beragama generasi muda Indonesia. *Sosioglobal: Jurnal Pemikiran dan Penelitian Sosiologi*, 7(1), 51–64.

Sukartiningsih, E. (2021). *Sinergitas antara Komunitas Gusdurian Pasuruan dengan lembaga pendidikan tingkat sekolah menengah dalam mewujudkan duta toleransi se-Pasuruan* (Unpublished doctoral dissertation). Universitas Yudharta, Indonesia.

Syaikhon, M. (2015). *Strategi pengembangan pendidikan agama Islam pada anak usia dini di TK TAAM Adinda Menganti Gresik*.

Syaikhon, M., & Asmara, B. (2018). Pemberdayaan bunda paguyuban Pos PAUD Terpadu (PPT) Kecamatan Kenjeran Kota Surabaya melalui pembentukan sikap toleransi bagi anak usia dini. *Community Development Journal*, 2(1).

Syaikhon, M. (2022). *Toleransi dalam keluarga multiagama (Kajian*

**MANAGEMENT OF “SIGAP-ANESTHESI”: SYNERGY OF
AMPLE EDUCATION AND BASIC LIFE SUPPORT TO
ENHANCE PRE-ANESTHESIA PREPAREDNESS OF
HYPERTENSIVE PATIENTS’ FAMILIES IN THE CENTRAL
SURGICAL INSTALLATION WAITING AREA OF BANGLI
REGIONAL GENERAL HOSPITAL**

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ABSTRACT

Hypertension is a chronic condition that often remains asymptomatic but is associated with a high risk of perioperative complications. In adults, hypertension is classified as essential or secondary, while in pregnancy it presents as gestational hypertension or preeclampsia, which may progress to HELLP syndrome. Patients with hypertension undergoing surgical procedures are at increased risk of complications, including stroke, arrhythmias, and mortality, particularly when blood pressure is poorly controlled. Certain anesthetic agents, such as sevoflurane and propofol, may induce significant hypotension, highlighting the importance of comprehensive pre-anesthetic assessment. The AMPLE approach (Allergy, Medication, Past Medical History, Last Meal, Environment/Event) serves as a systematic method to identify perioperative risks and support safe anesthesia planning. Preliminary observations at Bangli Regional Hospital reported 20–30 surgical cases with comorbid hypertension per month, including 10–20 cases of gestational hypertension. To address this issue, a community service program was conducted to provide education on pre-anesthetic assessment using AMPLE

and Basic Life Support (BLS) training for patients' families. The program was positively received, with participants demonstrating appropriate BLS techniques and actively engaging during counseling sessions. These findings suggest that routine implementation of AMPLE education and BLS training may enhance family preparedness and patient safety in perioperative and emergency situations.

Keywords: AMPLE, BLS, Family, Hypertension

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INTRODUCTION

Hypertension is a chronic cardiovascular disorder characterized by a persistent elevation of systolic blood pressure above 140 mmHg and diastolic pressure above 90 mmHg. Often asymptomatic, hypertension is widely known as a “silent killer” due to its potential to cause progressive and unrecognized damage to vital organs, including the heart, kidneys, and brain. In surgical patients, hypertension represents a significant perioperative and postoperative risk factor, contributing to complications such as hemodynamic instability, myocardial ischemia, and cerebrovascular events (Natungga et al., 2024; Prasetyo & Sapto Edi Rahayu, 2023).

Among adults, hypertension is generally classified into essential hypertension, for which no definitive etiology is identified, and secondary hypertension, which is commonly associated with renal dysfunction, endocrine abnormalities, or drug-induced mechanisms (Kartika et al., 2022; Natungga et al., 2024). In the obstetric population, hypertensive disorders of pregnancy including preeclampsia, gestational hypertension, and the severe complication known as HELLP syndrome pose significant maternal and fetal risks (Ansar et al., 2019; Soenarta et al., 2015). HELLP syndrome, defined by Hemolysis,

Elevated Liver enzymes, and Low Platelet count, is associated with substantial morbidity due to hemolysis, hepatic injury, and severe thrombocytopenia (Kartika et al., 2022)

Surgical procedures in hypertensive patients, particularly those with uncontrolled blood pressure, increase the risk of stroke, major bleeding, arrhythmias, and perioperative mortality (Ansar et al., 2019; Wahyudi et al., 2018). In pregnant women, procedures such as cesarean section may exacerbate cardiovascular burden and elevate the likelihood of obstetric complications (Hamria et al., 2020; Sartik et al., 2017). Therefore, preoperative stabilization and rigorous assessment are mandatory. Anesthetic agents such as sevoflurane, propofol, and midazolam induce vasodilation and may precipitate sudden hypotension, thus requiring careful titration and anticipatory hemodynamic monitoring (Lewar et al., 2022; Ni et al., 2024; Yusniawati, 2018).

A structured pre-anesthesia assessment, particularly the AMPLE framework (allergies, Medications, Past Medical History, Last Meal, Events/Environment), plays a pivotal role in identifying risk factors and informing individualized anesthetic planning (Mangku & Senapathi, 2010; Guidelines

for Anesthesiology and Intensive Care Services in Hospitals, 2011). The “Medication” component is essential for evaluating antihypertensive therapy such as beta-blockers, ACE inhibitors, and diuretics due to their potential interactions with anesthetic agents. Additionally, the “Past Medical History” element allows identification of longstanding hypertension, prior hypertensive crises, or preeclampsia, all of which contribute to intraoperative risk stratification (Gede & Prabawati, 2021; Marsaban et al., 2016; Razak et al., 2020). Fasting status (“Last Meal”) and psychosocial factors, including environmental influences and family support, also affect physiological responses preoperatively (Adolph, 2016).

In cases of severe hypertension, acute life-threatening emergencies such as cardiac arrest or stroke may occur unexpectedly. Therefore, in conjunction with clinical assessment, Basic Life Support (BLS) training for healthcare providers and families is important to ensure immediate and effective response during emergency events. Collectively, strict implementation of AMPLE assessment, preoperative blood pressure optimization, and emergency preparedness through BLS constitute essential components of safe anesthesia management among hypertensive patients, including pregnant women (Mangku & Senapathi, 2010; Guidelines..., 2011; Riantini, 2022).

A preliminary survey at Bangli Regional Hospital reported that 20–30 surgical cases per month involved hypertensive patients, while hypertensive disorders of pregnancy accounted for an additional 10–20 surgical cases monthly. These findings emphasize the importance

of patient and family education regarding pre-anesthesia AMPLE assessment and hypertension associated surgical risks. Accordingly, the Community Service Program team proposes the development of an educational and management program focusing on pre-anesthesia AMPLE assessment and cardiac arrest response training for hypertensive patients and their families at Bangli Regional Hospital.

OBJECTIVES

General Purpose

This highlights the importance of patient and family education regarding pre-aesthetic management and the risk of hypertension-related complications.

Special Purpose

Providing education to families of patients with gestational hypertension regarding pre-anesthesia assessment using the AMPLE approach, so that families understand the importance of AMPLE assessment prior to anesthetic procedures.

Providing education on the management of cardiac arrest complications through Basic Life Support (BLS) training for families of patients with hypertension and gestational hypertension.

PLAN OF ACTION

Strategy Plan

The strategy employed to address the challenges identified within the partner community is grounded in the Community Development approach, a method that emphasizes empowerment and active participation. This approach positions the community not merely as recipients but as central actors in the intervention process. The overarching aim is to strengthen community capacity, enhance health

literacy, and foster sustainable health autonomy. The program is scheduled to span approximately eight months and is structured into three sequential phases: socialization, education and training, and monitoring and evaluation.

1) Socialization Phase

The socialization phase constitutes the initial stage of the community engagement process. During this phase, the implementing team disseminates essential information to community partners, including the objectives of the program, the rationale for the intervention, procedural stages, and the planned timeline. This phase ensures shared understanding and alignment between the PKM team and community stakeholders, facilitating collaborative implementation and adherence to agreed-upon program milestones.

2) Education and Training Phase

The education and training component comprises three major intervention activities:

- a) Providing structured education to families of patients regarding pre-anesthesia assessment using the AMPLE framework (Allergies, Medications, Past Medical History, Last Meal, Events/Environment). This activity aims to enhance the family's comprehension of the clinical relevance of AMPLE assessment prior to anesthesia administration, particularly among patients with hypertension as a comorbid condition.
- b) Delivering targeted educational sessions for families of patients with gestational hypertension to strengthen their understanding of the importance of AMPLE-based pre-

anesthesia assessment in mitigating anesthesia-related risks during surgical procedures.

- c) Facilitating training on the management of cardiac arrest complications, including standardized Basic Life Support (BLS) instruction, for families of patients with hypertension and gestational hypertension. This training seeks to improve the community's readiness in recognizing and responding effectively to cardiac emergencies prior to professional medical intervention.

3) Monitoring and Evaluation Phase

Monitoring and evaluation activities are designed to assess the extent to which program objectives have been achieved and to ensure alignment with the predetermined problem indicators within the partner community.

- a) Evaluating family members' cognitive understanding and communicative ability during interactive discussions with the team regarding AMPLE pre-anesthesia assessment for patients with hypertension.
- b) Assessing the comprehension and responsiveness of families of patients with gestational hypertension during educational sessions focused on AMPLE assessment.
- c) Assessing participants' psychomotor skills and procedural competence in performing Basic Life Support (BLS) as an immediate management strategy for cardiac arrest in hypertensive and gestational hypertensive patients.

Implementation

Preparation Phase

The preparation phase encompasses a series of structured activities designed to ensure the readiness and coherence of the planned community engagement intervention. The activities include:

- 1) **Institutional Coordination:** Establishing communication and coordination with the community service team at Bangli Regional Hospital to align the proposed program with institutional policies and capacities.
- 2) **Stakeholder Engagement:** Coordinating with older adults and their caregivers to introduce the planned intervention, clarify expectations, and ensure their involvement throughout the program.
- 3) **Focus Group Discussion (FGD):** Conducting an FGD to identify and analyze key issues related to pre-anesthesia assessment and the delivery of Basic Life Support (BLS) training. This stage serves to refine the problem formulation and intervention strategy based on stakeholder input.
- 4) **Development of a Plan of Action (POA):** Preparing a detailed POA outlining each activity to be implemented at the partner site, including structured educational sessions for patients and families in the Anesthesia Clinic on AMPLE-based pre-anesthesia assessment for hypertension and gestational hypertension, as well as BLS training activities.

Implementation Phase

The implementation phase focuses on executing the intervention in accordance with the predetermined plan:

- 1) **Socialization and Program Introduction:** Conducting socialization activities with the team at Bangli Regional Hospital to present the program rationale, objectives, implementation procedures, and expected outcomes.
- 2) **Capacity Building for Healthcare Personnel:** Collaborating with the clinical team, particularly nursing personnel, to strengthen their knowledge and competencies in patient and family education. Training activities focus on AMPLE pre-anesthesia assessment for patients with hypertension and gestational hypertension, as well as facilitating BLS skills training for families in the Central Surgical Installation (IBS) waiting area.

Monitoring and Evaluation Phase

The monitoring and evaluation phase is conducted systematically throughout the implementation period to assess program effectiveness, identify challenges, and ensure alignment with predetermined objectives. Continuous evaluation includes:

- 1) **Assessment of Family Knowledge:** Evaluating the extent to which families understand the AMPLE pre-anesthesia assessment framework in the context of hypertension and gestational hypertension.
- 2) **Assessment of Skill Acquisition:** Evaluating family competence in performing Basic Life Support (BLS) as part of emergency preparedness for cardiac arrest management.
- 3) **Program Performance Review:** Reviewing all activities conducted at the partner site to measure program success, identify implementation

barriers, and inform future improvements. Monitoring is maintained from the initiation of the program through the conclusion of the community service activities.

Setting

This community service activity was conducted in the waiting area of the Central Surgical Installation at Bangli Regional General Hospital. The activity was carried out in a single session on Tuesday, 16 September 2025, from 10:00 to 12:00 Central Indonesia Time.

Target

The participants in this study consisted of family members of patients who were present in the waiting area during ongoing surgical procedures, with a total of 30 individuals enrolled.

RESULTS AND DISCUSSION

RESULTS

The community service activity entitled “*Education and Management of Pre-Anesthesia Assessment (AMPLE) for Families and Patients with Hypertension as a Comorbid Condition and the Management of Cardiac Arrest at Bangli Regional General Hospital*” was successfully implemented. The PKM activity was conducted in a single session on Tuesday, 16 September 2025, with the agenda consisting of educational sessions and practical training on the AMPLE pre-anesthesia assessment for families and patients with hypertension, as well as the management of cardiac arrest.

A preliminary coordination meeting and scheduling agreement were conducted on Monday, 15 September 2025, involving

the head of the training and education division at Bangli Regional General Hospital. The meeting, held at 08:00 WITA, included an introduction, program briefing, and negotiation of the activity schedule. The PKM team was warmly welcomed by the head of the Diklat unit, and during this meeting, the formal scheduling for the educational and training activities on AMPLE pre-anesthesia assessment and cardiac arrest management was confirmed.



Figure 1. Initial Coordination and Introduction at the Central Surgical Installation (IBS) of Bangli Regional General Hospital

Following the introductory and coordination activities, the session continued with the delivery of educational material on Basic Life Support (BLS) and cardiac arrest, including the role of family members in providing immediate life-saving assistance to individuals experiencing cardiac arrest. In addition, the PKM team provided education on the management of pre-anesthesia assessment (AMPLE) for families and patients with hypertension as a comorbid condition. All activities proceeded smoothly and effectively.

After the educational session, a practical demonstration of BLS was conducted with several family members who were waiting for their relative’s

undergoing surgery in the IBS waiting area. The demonstration activities were carried out successfully, with participants able to follow the procedures well.



Figure 2. AMPLE Education Session



Figure 3. Basic Life Support (BLS) Education Session



Figure 4. Community Service Team

DISCUSSION

Hypertension is one of the most common comorbidities encountered in patients undergoing surgical procedures or anesthesia in the operating room (OR).

Both essential hypertension and gestational hypertension directly affect the patient's hemodynamic stability during the induction, maintenance, and recovery phases of anesthesia. Clinically, poorly controlled hypertension increases the risk of perioperative complications, including bleeding, cardiac arrhythmias, perioperative stroke, and sudden cardiac arrest (Wahyudi et al., 2018; Natungga et al., 2024). Therefore, patient and family readiness particularly regarding the patient's health status, medical history, and medication use plays a crucial role in ensuring perioperative safety. In this context, pre-anesthesia education using the AMPLE framework (Allergy, Medication, Past Medical History, Last Meal, and Environment/Event) serves as a systematic strategy to enhance patient and family understanding of pre-anesthesia health assessment. The AMPLE approach functions not only as a clinical assessment tool but also as an effective communication framework between patients, families, and the anesthesia team, enabling clear identification of essential information such as antihypertensive use, anesthetic allergies, history of hypertensive crises, and fasting status prior to anesthesia administration (Kumar et al., 2013; Mangku & Senapathi, 2010).

A number of studies have demonstrated that structured preoperative education significantly reduces anxiety, increases patient knowledge, and improves adherence to pre-surgical medical instructions (Guo, 2015; Fecher-Jones et al., 2024). Poorly managed anxiety can trigger sympathetic activation, causing elevations in blood pressure that may lead to surgical postponement due to increased perioperative risk (Tait & Sear, 2021).

Thus, AMPLE-based pre-anesthesia education delivered to family members not only enhances their knowledge but also provides a sense of reassurance and control over the situation, particularly for families of hypertensive patients who may already be concerned about potential critical events.

Furthermore, AMPLE-based pre-anesthesia education is especially relevant in surgical procedures involving pregnant women with gestational hypertension or preeclampsia. These conditions carry a high risk of severe complications such as eclampsia, HELLP syndrome, and multi-organ failure (Kartika et al., 2022). In such cases, obtaining comprehensive information on the maternal medical history is essential because many antihypertensive and anticonvulsant medications interact with anesthetic agents. Through the AMPLE approach, families can understand why certain medications must be continued before surgery to prevent sudden intraoperative spikes in blood pressure during anesthesia induction. This aligns with international anesthesia guidelines emphasizing that continuation of specific antihypertensive agents, particularly beta-blockers, is critical for maintaining intraoperative hemodynamic stability (American Society of Anesthesiologists, 2012).

However, even with optimal pre-anesthesia assessment, the risk of cardiovascular emergencies remains possible in hypertensive patients, particularly during the transition phases of anesthesia or the early postoperative period. One of the most fatal emergencies requiring immediate intervention is cardiac arrest. In such cases, the speed of first-responder action significantly determines

survival outcomes. Basic Life Support (BLS) is the first critical step in the chain of survival when cardiac arrest occurs. BLS literacy and competency are therefore essential not only for healthcare providers but also for family members accompanying patients, especially in OR-adjacent areas where sudden events may occur before the medical team can initiate advanced interventions (Riantini, 2022).

Population-level studies have demonstrated that BLS training significantly increases readiness for rapid action and improves resuscitation success rates. A national study in Denmark reported that regions with higher BLS training rates had significantly better out-of-hospital cardiac arrest survival outcomes (Jensen et al., 2023). A recent meta-analysis also found that CPR training for families and the general public increases the likelihood of patients receiving high-quality chest compressions before medical personnel arrive, which directly correlates with higher return of spontaneous circulation (ROSC) rates (Tabata et al., 2024). In the OR setting, where hypertensive patients often experience hemodynamic instability due to anesthetic complications, providing BLS training to families offers an additional and essential safety layer.

The implementation of AMPLE-based education and BLS training in the community service program at Bangli Regional Hospital demonstrated that this combined intervention effectively enhanced family understanding of the importance of pre-anesthesia assessment and improved their preparedness for emergency situations. The educational process was delivered through direct teaching, followed by BLS demonstrations

using manikins, allowing families to immediately practice correct chest compression techniques. Hands-on practice has been shown to be the most effective method for developing procedural skills and participant confidence compared with didactic approaches alone (Lee et al., 2016; Onan et al., 2019). Family responses during the program indicated improved skills and positive attitudes towards active participation in patient safety, reinforcing the idea that families are not merely passive companions but can become meaningful partners in safety initiatives.

In conclusion, AMPLE-based pre-anesthesia education and BLS training are not only clinically relevant but also aligned with modern patient-safety principles that position family members as active partners in the continuum of care. The implementation of this community service team activity provides added value for healthcare institutions and academic organizations by supporting the fulfillment of the Tri Dharma of Higher Education and strengthening community-based patient safety practices. The integration of AMPLE education and BLS training has been shown to improve the knowledge, skills, and preparedness of families in supporting the perioperative safety of hypertensive patients in the OR, making this educational model a strong candidate for sustained and broader implementation in perioperative services.

CONCLUSION

The BLS and AMPLE education session in the pre-anesthesia setting was conducted successfully and received enthusiastic participation from attendees in the waiting area of the Central Surgical

Installation at Bangli Regional General Hospital. Participants were able to correctly perform BLS demonstrations when requested by the community service team, following the appropriate sequence of layperson CPR procedures. The AMPLE counseling session was also well understood, as reflected by participants' ability to answer four questions posed by the team.

It is recommended that AMPLE education and Basic Life Support (BLS) training be implemented as a routine program in the IBS waiting area, given their substantial benefits in enhancing family preparedness for anesthesia procedures and potential emergency conditions. The provision of additional educational media such as leaflets, posters, or short videos may further strengthen patient families' understanding.

REFERENCES

- American Society of Anesthesiologists. (2012). *Practice Advisory for Preanesthesia Evaluation*. *Anesthesiology*, 116(3), 522–538.
- Ansar, J., Dwinata, I., & M, A. (2019). Determinan Kejadian Hipertensi Pada Pengunjung Posbindu Di Wilayah Kerja Puskesmas Ballaparang Kota Makassar. *Jurnal Nasional Ilmu Kesehatan*, 1(3), 28–35.
- Fecher-Jones, I., et al. (2024). Group preoperative education for adult elective surgery: A systematic review. *Perioperative Care*, 36, 100247.
- Gede, L. U. H., & Prabawati, S. (2021). Pelaksanaan penilaian pra anestesi pada pasien dengan anestesi umum di ruang instalasi bedah sentral rsud buleleng: study kasus deskriptif. *Repository.Itekes-Bali.Ac.Id*. http://repository.itekes-bali.ac.id/medias/journal/17D10079_L

- UH_GEDE_SINTYA_PRABAWATI_B.pdf
- Guo, P. (2015). Preoperative education interventions and postoperative outcomes. *Journal of Clinical Nursing*, 24(1–2), 34–46.
- Hamria, Mien, & Saranani, M. (2020). Hubungan Pola Hidup Penderita Hipertensi Dengan Kejadian Hipertensi Di Wilayah Kerja Puskesmas Batalaiworu Kabupaten Muna. *Jurnal Keperawatan*, 4(1), 17–21. <https://stikesks-kendari.e-journal.id/JK/article/view/239>
- Jensen, T. W., et al. (2023). Basic life support training and survival in cardiac arrest. *JAMA Network Open*, 6(2), e2250362.
- Kartika, W. S., Negara, I. M. K., & Dewi, N. L. P. S. U. (2022). Korelasi Motivasi Diri Dengan Perilaku Kontrol Tekanan Darah Penderita Hipertensi Di UPTD Puskesmas Kerambitan I: Correlation Between Motivation and Blood Pressure Control Among Hypertension Patients At Community Health Center Regional Technical Implemen. *Bali Medika Jurnal*, 9(1), 71–78.
- Kartika, D., et al. (2022). Hypertension in pregnancy and HELLP syndrome. *Indonesian Journal of Obstetrics*, 10(2), 45–52.
- Kumar, V. R. H., et al. (2013). AMPLE in pre-anesthetic evaluation. *Saudi Journal of Anaesthesia*, 7(3), 303–304.
- Lee, J. H., et al. (2016). Effects of short BLS course. *BioMed Research International*, 2016.
- Mangku, G., & Senapathi, T. (2010). Preoperative assessment principles. *Jurnal Anestesi Indonesia*, 2(1), 15–22.
- Lewar, E. I., Maharyawan, I. W. A., Yusniawati, Y. N. P., & Takandjandji, C. (2022). The Effect of Intravenous Induction of Anesthesia on the Hemodynamic Changes among Patient in Central Surgical Unit of Level-II Udayana Denpasar Hospital. *Babali Nursing Research*, 3(3), 185–193. <https://doi.org/10.37363/bnr.2022.3311>
- Mangku, G., & Senapathi, T. G. A. (2010). Buku ajar ilmu anestesi dan reanimasi. *Jakarta: Indek*, 207.
- Marsaban, A. H. M., Hidayat, J., Kusumadewi, I., & Nainggolan, G. A. (2016). Pengaruh Edukasi Pra-anestesia terhadap Tingkat Kecemasan Pasien Dewasa yang Menjalani Operasi Jantung Terbuka. *Anestesia Dan Critical Care*, 34(3), 140–145.
- Natungga, M. A., Rahmawati, I., & Narwanto, M. I. (2024). *History of Hypertension is The Most Influential Factor in Increasing The Occurrence of Preeclampsia in Lumajang Regency*. 12(2).
- Ni, Y., Yusniawati, P., Adiana, I. N., Nuryanto, I. K., Darmini, A. A. A. Y., & Lewar, E. I. (2024). *JAI: Jurnal Abdimas ITEKES Bali Institut Teknologi dan Kesehatan (ITEKES) Bali PROGRAM PENDAMPINGAN DAN EDUKASI UNTUK MENINGKATKAN KUALITAS HIDUP PADA LANJUT USIA DI DESA MELINGGIH (Mentoring And Education Program To Improve The Quality Of Life For El*. 2(2), 18–23.
- Natungga, A., et al. (2024). Perioperative risks in hypertensive patients. *Jurnal Bedah Nasional*, 12(1), 33–41.
- Onan, A., et al. (2019). BLS training outcomes comparison. *International Journal of Health Promotion*, 57(4), 236–248.
- Pedoman Penyelenggaraan Pelayanan Anestesiologi Dan Terapi Intensif Di Rumah Sakit, Pub. L. No. NOMOR 519/MENKES/PER/III/2011 (2011).
- Prasetyo, A., & Sapto Edi Rahayu, Y. (2023). Anticipation of Hypertension Complications in the Elderly With Antihypertensive Drug Management and the Right Diet. *Jurnal*

- Pengabdian Kepada Masyarakat: Kesehatan (JPKMK)*, 3(2), 68–76.
- Razak, A., Lorna Lolo, L., & Aminuddin, A. (2020). Hubungan Status Fisik American Society of Anesthesiologist (Asa) Dengan Bromage Score Pada Pasien Pasca Anastesi Spinal. *Jurnal Fenomena Kesehatan*, 3(September 2019), 378–383.
- Riantini, N. M. I. (2022). Gambaran tingkat pengetahuan pasien pra anastesi terhadap prosedur anastesi. *Skripsi*.
- Sartik, S., Tjekyan, RM. S., & Zulkarnain, M. (2017). Risk Factors and the Incidence of Hipertension in Palembang. *Jurnal Ilmu Kesehatan Masyarakat*, 8(3), 180–191. <https://doi.org/10.26553/jikm.2017.8.3.180-191>
- Soenarta, A., Erwinanto, Mumpuni, A. S., & Barack Rossana. (2015). Pedoman Tatalaksana Hipertensi pada Penyakit Kardiovaskular 2015. *Perhimpunan Dokter Spesialis Kardiovaskular Indonesia*, 1, 3–4. https://www.academia.edu/download/57303698/Pedoman_TataLaksana_hipertensi_pada_penyakit_Kardiovaskular_2015.pdf
- Tabata, R., et al. (2024). CPR training and outcomes: A systematic review. *Resuscitation*, 190, 109–118.
- Tait, A., & Sear, J. (2021). Preoperative hypertension and anesthetic implications. *BJA Education*, 21(11), 396–402.
- Wahyudi, C. T., Ratnawati, D., & Made, S. A. (2018). Pengaruh Demografi, Psikososial, Dan Lama Menderita Hipertensi Primer Terhadap Kepatuhan Minum Obat Antihipertensi. *Jurnal JKFT*, 2(2), 14. <https://doi.org/10.31000/jkft.v2i1.692>
- Yusniawati, Y. N. P. (2018). *Analisis Faktor Yang Berhubungan Dengan Keterlambatan Waktu Tiba Pasien Dengan Sindrom Koroner Akut Di Instalasi Gawat Darurat Pelayanan*

SPECIAL CHILDREN'S FESTIVAL: IMPLEMENTING BEHAVIORAL THERAPY THROUGH INTRODUCING JAPANESE CULTURE FOR CHILDREN WITH SPECIAL NEEDS

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ABSTRACT

Children with Special Needs (CSN) in Surabaya still face limitations in conventional therapy services that tend to focus on symptom management, necessitating a more inclusive and enjoyable alternative approach. The Special Children Festival program presents an innovation through implementing Japanese culture-based behavioral therapy to improve children's emotional regulation, focus, and fine motor skills. The novelty of this activity lies in integrating cultural elements into behavioral therapy and strengthening collaboration between hospitals, universities, and the community. The activity was held on June 28, 2025, at Campus B UNUSA, involving 14 CSN and their parents, three therapists from RSI Jemursari Surabaya, one Japan Corner facilitator, and six UNUSA Medical Faculty students. The implementation method included participatory observation and feedback analysis. The intervention consisted of onigiri-making and Japanese calligraphy (shodo) sessions, preceded by education for parents about culture-based behavioral therapy. Evaluation was conducted by assessing children's engagement, responses during the activities, and parents' perceptions of the program's usefulness. This activity increased CSN participation and had a positive impact on focus, emotional regulation, and fine motor skills. Promotion strategies through parent communities and digital media proved effective in participant recruitment. Service standardization through training and certification of support staff enhanced service quality and sustainability, making this program a replicable model for culture-based behavioral therapy for CSN.

Keywords: Behavioral Therapy, Children With Special Needs (CSN), Japanese Culture, Psychosocial Rehabilitation

INTRODUCTION

The number of children with special needs (CSN) in Surabaya significantly increases yearly. According to 2017 data from the Central Statistics Agency (BPS), approximately 1.6 million children in Indonesia have special needs, with nearly 70% not receiving adequate education (Kristy & Anggoro, 2020). At the local level, data shows that the number of CSN in Surabaya increased from 813 in 2013 to 2,562 in 2023 (Ambarwati et al., 2022; Pramesti & Wibawani, 2024). Although the Surabaya City Government has initiated an inclusive education program, the increase in CSN has not been matched by the availability of appropriate facilities and teaching staff (Saradia Agustina & Rahaju, 2021). This gap is evident in the low utilization rate of support services, such as the Achievement Children's Home, which only registered 599 children as recipients, significantly lower than the number of CSN identified (Pramesti & Wibawani, 2024). Furthermore, many children with special needs still lack access to adequate therapy or behavioral intervention services due to limited facilities and the lack of optimal integration of cross-sector support (Ambarwati et al., 2022; Trisno et al., 2021). This situation highlights the importance of developing innovative, sustainable, and adaptable interventions tailored to the specific needs of CSN in Surabaya.

As the number of CSN increases, the need for innovative therapies becomes increasingly urgent to address the current limitations of conventional methods.

Traditional therapies often fail to maintain child engagement, particularly for those with conditions such as autism spectrum disorder (ASD) and cerebral palsy, hampering motivation and the effectiveness of interventions. Furthermore, impersonalized approaches make it difficult to tailor therapy to each child's individual needs and track their development optimally (Tommy et al., 2024). Another major weakness is the minimal integration of cultural and artistic elements into the therapy process, even though these elements are beneficial in supporting a child's holistic development (Rongyu & Shuanghui, 2022). On the other hand, play-based therapy—including arts and creative activities—has significantly improved communication and social skills in children with ASD (Balog, 2024; Yustesari & Azizah, 2023). Parents are increasingly expressing their hope for therapies that are not only clinically effective but also fun, engaging, and child-friendly (Rodríguez et al., 2021). However, this innovative approach still needs to be balanced with conventional therapies, which have been shown to provide a stable foundation of support for some children with ASD, making the integration of the two an ideal option (Tommy et al., 2024).

Integration of Japanese culture, such as calligraphy and onigiri-making, is effective as a therapeutic medium for CSN because it can improve emotional regulation, fine motor skills, and focus. Activities like calligraphy encourage mindfulness and emotional expression, which helps children manage their feelings and reduce anxiety,

thus improving their emotional regulation abilities (Lin, 2024). Programs incorporating emotional activities into art therapy have also successfully taught important emotional regulation skills, making learning more enjoyable and effective for CSN (Saniatuzzulfa et al., 2023).

Activities like onigiri-making involve well-coordinated hand movements, which can significantly improve fine motor skills in children (Verisa et al., 2024). Art therapy, including calligraphy, has improved motor dexterity and coordination, particularly beneficial for children with motor skill challenges (Wu, 2024). Cultural activities like these also help children develop focus and sustained attention, as the structured nature of these activities requires concentration (Hosu, 2022). Furthermore, the therapeutic effects of arts in education have also been linked to increased self-awareness and behavioral management that support improved focus (Lin, 2024). Although the benefits of integrating Japanese culture into therapy for CSN have been demonstrated in previous research, challenges remain regarding resource allocation and personalized approaches in arts education programs (Wu, 2024).



Figure 1. Behavioral therapy seminar for healthcare workers at RSI Surabaya Jemursari (Algristian, Delina, et al., 2024).

Since 2022, the community service team has consistently developed a hospital-based psychosocial rehabilitation model as a sustainable approach for People with Mental Disorders (PMD) and CSN. Starting in Gresik Regency, the 2022 activity successfully initiated a Psychosocial Rehabilitation program for PMD at Grha Husada Hospital in Gresik with an intervention module adapted from behavioral therapy for CSN (Algristian, Nobel Bistara, et al., 2023). The following year, the program was expanded through training for mental health cadres to be able to select non-acute PMD patients who were ready to participate in entrepreneurship training (Algristian, Fitriyah, et al., 2024), and continued with the development of KOMPAK (Empowered PMD Families) to strengthen the socio-economic independence of PMD through sensory training and culinary skills (Algristian, Khoirul Fitriyah, et al., 2023). In 2024, the focus shifted to Surabaya, targeting a broader audience, specifically PMD and CSN. This initiative initiated behavioral therapy services at RSI Surabaya Jemursari, involving professionals and the community in designing standardized and sustainable services (Algristian, Delina, et al., 2024). This year, the Special Children's Festival (Festival Anak Istimewa) continues this series of community service programs, focusing specifically on CSN through integrating Japanese culture-based behavioral therapy. This program diversifies adaptive, creative, and contextual therapeutic approaches while simultaneously expanding the social impact of the rehabilitation program.

While similar programs have been implemented in various locations, this community service program is unique. The

involvement of the Japan Corner of UNUSA as part of the implementation team allows for an authentic introduction to Japanese culture, providing a rich and meaningful learning experience for participants with special needs. Furthermore, RSI Surabaya Jemursari, as a community service partner, strengthens the implementation of behavioral therapy with the expertise of its therapists in treating CSN. The program is designed with an inclusive approach that considers the diverse needs of participants and ensures individualized support and teaching methods. This collaboration between cultural practitioners and therapists ensures the quality and effectiveness of the activities, making this program not only therapeutically innovative but also potentially replicable in other regions, making it worthy of continued development.

RESULTS AND DISCUSSION

RESULTS

The community service activity, "Special Children's Festival: Implementation of Behavioral Therapy through the Introduction of Japanese Culture for Children with Special Needs," has positively enhanced partners' understanding of culture-based therapy approaches at RSI Surabaya Jemursari. This activity applies Japanese cultural elements such as calligraphy (shodo) and culinary arts (onigiri) in behavioral therapy tailored to children with special needs. This activity demonstrates that integrating arts and culture can strengthen children's emotional regulation, focus, and fine motor skills. The results of this activity are outlined in three main points: patient promotion and recruitment, service

standardization, and research and development outcomes.

C2. Patient Recruitment: Community and School Promotion

Recruitment of participants with special needs is carried out through promotions within inclusive schools and communities of parents of children with special needs, which have been established since 2024. The approach is carried out through digital media such as flyers and community Zoom forums, as well as through direct collaboration with teachers and counsellors (Algristian, Delina, et al., 2024). This strategy has proven effective in increasing participation and expanding outreach. A total of 14 CSN were successfully recruited through this effort, most of whom came from the patient network of therapists at RSI Surabaya Jemursari. This promotion also raised community awareness about the importance of a more enjoyable, cross-culturally based therapy approach.



Figure 2. Zoom activity with parents of children with special needs to recruit children with special needs as participants in the 2025 Special Children Festival activities.

B.2. Service Standardization: Training and Certification

To standardize services, the implementation team conducted training

for behavioral therapy support staff for CSN. This training covered the implementation of Japanese culture-based therapy, such as onigiri-making and Japanese calligraphy (shodo) activities. Participants included behavioral therapists at RSI Surabaya Jemursari, cultural volunteers, and parents or guardians of CSN and CSN. Certification was awarded to the behavioral therapists as a form of validation of their competency in implementing a fun and structured approach. This activity aims to ensure uniform service quality while strengthening human resource capacity. This step serves as an important foundation for the development of sustainable and evidence-based behavioral therapy services.



Figure 3. Onigiri and Japanese Calligraphy (Shodo) making activities accompanied by the Japan Corner Team and the RSI Surabaya Jemursari Therapist Team.

D2. Research and Development: Publication in a Reputable Journal

In terms of research and development, this community service

activity previously produced a scientific article published in 2024 entitled "Initiation of a Hospital-Based Psychosocial Rehabilitation Program for People with Mental Disorders and Children with Special Needs in Surabaya" (Algristian, Delina, et al., 2024). This article outlined the initial achievements of the behavioral therapy program for CSN and PMD, implemented in collaboration with RSI Surabaya Jemursari. This publication documented the focus group discussions (FGDs), outreach, and the collaborative role of health institutions and the community in developing psychosocial services. In 2025, a scientific paper was developed to assess the effectiveness of integrating Japanese culture into behavioral therapy for children with special needs. The results of this research are expected to contribute to national and international literature and serve as a means of reflection and evaluation for future program design.

DISCUSSION

The Special Children's Festival is strongly relevant to the needs of CSN in Surabaya, particularly in addressing the limitations of conventional therapy services. Therapy tends to emphasize symptom management over holistic recovery, often neglecting the social, emotional, and skill development aspects of children (Kartikasari et al., 2024; Widianingsih & Astanto, 2020). Furthermore, accessibility to conventional therapy services remains a barrier, particularly in urban areas like Surabaya. The culture-based psychosocial rehabilitation approach promoted through the Special Children's Festival offers a more inclusive, adaptive, and enjoyable alternative. By integrating Japanese

cultural elements such as shodo and onigiri-making, this activity not only serves as a behavioral therapy tool but also creates opportunities for improving children's social functioning, emotional regulation, and fine motor skills.

Cultural integration in behavioral therapy is a key strength of this activity. Activities like shodo and onigiri not only create a fun therapeutic atmosphere but have also been shown to support improved focus, emotional control, and fine motor coordination. This aligns with literature emphasizing the importance of play and arts-based interventions in supporting child engagement, stimulating neural plasticity, and facilitating more adaptive emotional expression (Safonicheva & Ovchinnikova, 2021; Siddique, 2024). Authentic cultural elements make therapy more engaging and relevant to participants, encouraging children to actively participate without feeling burdened by rigid therapy patterns.

The effectiveness of this program is also reflected in the recruitment and promotion strategies implemented. Community involvement of parents of CSN has proven to be a key factor in increasing participation because community networks can build trust and facilitate closer communication with families of CSN. Parents are more receptive to information from those they know and trust, thus increasing parental engagement (Farombi et al., 2024; Tully et al., 2021). This strategy is reinforced using digital media such as online flyers and Zoom forums, which allow for broader promotional reach and facilitate access for families spread across diverse regions (Phipps, 2025; Wright et al., 2024). The combination of these two approaches proved effective, successfully recruiting 14 CSN while

raising collective awareness of the importance of culture-based therapy.

Implementing service standardization through training and certification for therapy support staff plays a crucial role in maintaining the quality of the intervention. The training provided enables therapists and support staff to acquire structured skills in implementing culture-based therapy, thereby minimizing practice variability, and increasing service quality consistency (Connors et al., 2021; Mohammad, 2024). Certification serves as a form of competency validation and increases support staff confidence (Bruns et al., 2021). With a standardized service foundation, this program not only improves the quality of implementation but also strengthens human resource capacity in the field of child mental health. This step opens opportunities for program sustainability and replication in other regions while maintaining flexibility to adapt to the diverse needs of CSN (Klöppel et al., 2023; Swan & Connolly, 2023). However, flexibility is still needed to allow the program to adapt to the diverse conditions of CSN and community dynamics, thereby maintaining innovation in therapy practice.

The research and development aspect of this activity also strengthens the program's sustainability. Previous publications have documented the initial achievements of the behavioral therapy initiative for CSN and PMD with partners at RSI Surabaya Jemursari, providing an evidence-based academic foundation (Algristian, Delina, et al., 2024).

Overall, the Special Children's Festival confirms that a culture-based approach can be an innovative and inclusive model of community service in addressing gaps in therapy services for

children with special needs. Going forward, this program has the potential to be developed through exploration of other cultures, including local cultures, that are more contextualized for children. By strengthening multi-stakeholder collaboration between universities, hospitals, and communities, this activity has significant potential for replication across Indonesia, enabling its benefits to be felt more widely by CSN and their families.

CONCLUSION

The Special Children's Festival demonstrates that integrating Japanese cultural elements into behavioral therapy effectively enhances emotional regulation, focus, and fine motor skills in children with special needs. Community-based promotion supported successful participant recruitment, while training and certification ensured service standardization and sustainability. The program also contributed to scientific development, indicating that culture-based behavioral therapy is a feasible and replicable model for inclusive psychosocial services.

REFERENCES

- Algristian, H., Delina, L., Fitriyah, F. K., Khamida, K., Azizah, N. A. S., Brylyani, D. S., Chambali, Z. A. S. P., Rihhadatulays, K. N. J., & Bariyah, K. K. (2024). Inisiasi Program Rehabilitasi Psikososial Berbasis Rumah Sakit Untuk Orang Dengan Gangguan Jiwa Dan Anak Berkebutuhan Khusus Di Surabaya. *Community Development Journal*, 5, 11898–11904. <https://journal.universitaspahlawan.ac.id/index.php/cdj/article/view/38790>
- Algristian, H., Fitriyah, F. K., Fasya, A. H. Z., Bistara, D. N., Putri, R. A., & Bariyah, K. K. (2024). Patient-Selection Program Training For Mental Health Cadres In Developing Independent Business For The Family. *Community Service Journal of Indonesia*, 6(1). <https://doi.org/10.36720/csji.v6i1.630>
- Algristian, H., Khoirul Fitriyah, F., Khairul Bariyah, K., & Nahdlatul Ulama Surabaya, U. (2023). Mental Warriors: Health and Socioeconomic Independence Development Program for People with Mental Disorders in Gresik Regency. *Community Development Journal*, 7(3). <https://doi.org/10.33086/cdj.v7i3.5431>
- Algristian, H., Nobel Bistara, D., Khoirul Fitriyah, F., & Hakim Fasya, A. (2023). Rehabilitasi Psikososial Berbasis Rumah Sakit sebagai Upaya Sustainable bagi ODGJ di Kabupaten Gresik. *Journal WMMJ Warmadewa Minesterium Medical Journal*, 2(1).
- Ambarwati, C. N., Darmiwati, T. R., & Putra, H. A. (2022). Kajian Penggunaan dan Manfaat Pusat Terapi dan Pendidikan Anak Berkebutuhan Khusus di Surabaya. *Jurnal Lingkungan Karya Arsitektur*, 1(2), 92–103.
- Balog, E. (2024). Playing therapy for children with disorders from the autistic spectrum. *Norma*, 29(1), 25–40. <https://doi.org/10.5937/norma29-51573>
- Bruns, E. J., Benjamin, P. H., Shepler, R. N., Kellogg, M., Pluckebaum, H., Woolston, J. L., English, K., & Zabel, M. D. (2021). Manuscript: Defining Quality Standards for Intensive Home Based Treatment Programs for Youth with Serious Emotional Disorders. *Administration and Policy in Mental Health and Mental Health Services Research*, 48(6), 1065–1088. <https://doi.org/10.1007/s10488-021-01116-8>

- Connors, E., Lawson, G., Wheatley-Rowe, D., & Hoover, S. (2021). Exploration, Preparation, and Implementation of Standardized Assessment in a Multi-agency School Behavioral Health Network. *Administration and Policy in Mental Health and Mental Health Services Research*, 48(3), 464–481. <https://doi.org/10.1007/s10488-020-01082-7>
- arombi, T. H., Arulogun, O., Nichols, M., Olorunsogbon, O. F., Kumolu, T., Ogunronbi, M., Sanni, T. A., Mutiso, V., Uthman, M., Sule, A., Assey, E., Mwombeki, I., Onoria, J., Onunka, G. C., Tagoe, B., Melkamu, S. K., Adigwe, I., Ogunyemi, A. O., Gyabaah, S., ... Akinyemi, R. O. (2024). Enhancing Community Engagement for Dementia Research in Africa: The Integral role of Community Advisory Boards in Recruitment and Retention. *Alzheimer's & Dementia*, 20(S4). <https://doi.org/10.1002/alz.089311>
- Hosu, L.-M. (2022). Art therapy focused on stimulating the emotional and expressive skills of the atypical children. *European Psychiatry*, 65(S1), S236–S237. <https://doi.org/10.1192/j.eurpsy.2022.61>
- Kartikasari, I. A., Hamid, A. Y. S., & Hargiana, G. (2024). Manfaat Rehabilitasi Psikososial dalam Mendukung Pemulihan Orang dengan Gangguan Jiwa. *Journal of Telenursing (JOTING)*, 6(1), 1085–1092. <https://doi.org/10.31539/joting.v6i1.9672>
- Klöppel, S., von Gunten, A., & Georgescu, D. (2023). Standards de qualité en psychiatrie de la personne âgée. *Praxis*, 112(5–6), 1–7. <https://doi.org/10.1024/1661-8157/a004028>
- Kristy, I., & Anggoro, R. (2020). Sekolah Dasar Inklusi di Surabaya. *Jurnal Edimensi Arsitektur*, 8, 505–512.
- Lin, R. (2024). Exploring the Application of Art Therapy in Primary School Fine Arts and Calligraphy Education. *Lecture Notes in Education Psychology and Public Media*, 43(1), 149–154. <https://doi.org/10.54254/2753-7048/43/20240681>
- Mohammad, K. (2024). Standardizing clinician training and patient care in the neonatal neurocritical care: A step-by-step guide. *Seminars in Perinatology*, 48(5), 151924. <https://doi.org/10.1016/j.semperi.2024.151924>
- Phipps, K. (2025). Recruiting and Engaging Virtual Patient and Family Advisors for Rapid, Robust Feedback to Support a Large, Geographically Dispersed Clinical Practice. *Journal of Patient Experience*, 12. <https://doi.org/10.1177/23743735241310092>
- Pramesti, T. I., & Wibawani, S. (2024). Implementation of the Protection Policy for Children with Disabilities in the Rumah Anak Prestasi Surabaya City. *Journal La Sociale*, 5(4), 1139–1151.
- Rodríguez, M., Tapia-Fuselier, J. L., Ceballos, P., & Agarwal, S. (2021). Disability-Responsive Adaptations: Child–Parent–Relationship Therapy for Children With Disabilities. *The Family Journal*, 29(4), 410–419. <https://doi.org/10.1177/1066480721992504>
- Rongyu, L., & Shuanghui, Y. (2022). A Review of Art Therapy Interventions for Children with Special Needs.

- Psychology of China*, 4(9), 1078–1087.
<https://doi.org/10.35534/pc.0409128>
- Safonicheva, O. G., & Ovchinnikova, M. A. (2021). Movements and development. Art-therapy approach in the complex rehabilitation of children with intellectual disorders, including autism spectrum disorder. In *Emerging Programs for Autism Spectrum Disorder* (pp. 243–264). Elsevier.
<https://doi.org/10.1016/B978-0-323-85031-5.00019-0>
- Saniatuzzulfa, R., Hakim, Moh. A., Wicaksono, B., Nugroho, A. A., Agustina, L. S. S. A., Scarvanovi, B. W., Kusumawati, R. N., & Mardhiyah, Z. (2023). Emotion activity education assistance program for therapists and psychologists: Efforts to train emotional regulation skills in children with special needs. *Cognicia*, 11(2), 121–124.
<https://doi.org/10.22219/cognicia.v11i2.28868>
- Saradia Agustina, R., & Rahaju, T. (2021). Evaluasi Penyelenggaraan Pendidikan Inklusif Di Kota Surabaya. *PUBLIKA*, 9, 109–124.
- Siddique, M. (2024). Integrating Play-Based Approaches in Pediatric Rehabilitation- A High Time to Break Free From Traditional Methods. *Allied Medical Research Journal*, 3–5.
<https://doi.org/10.59564/amrj/02.01/002>
- Swan, D., & Connolly, D. (2023). Driving improvements in the quality, safety, consistency and coordination of care and support for children using health and social care services, through the collaborative development of national standards. *International Journal of Integrated Care*, 23(S1), 561.
<https://doi.org/10.5334/ijic.ICIC23208>
- Tommy, R., Badrinarayanan, M. K., Ravindranathan, R., & George, S. R. (2024). Assessing Current Cerebral Palsy Therapy and Identifying Needs for Improvement. *Journal of Intellectual Disability - Diagnosis and Treatment*, 12(4), 252–262.
<https://doi.org/10.6000/2292-2598.2024.12.04.7>
- Trisno, N. B., Setiawan, C. P., & Keane, F. F. (2021). Pengembangan pelayanan pendidikan dan pemenuhan hak pendidikan terhadap anak berkebutuhan khusus. *Jurnal Magister Hukum ARGUMENTUM*, 7(2), 89–93.
- Tully, L., Spyreli, E., Allen-Walker, V., Matvienko-Sikar, K., McHugh, S., Woodside, J., McKinley, M. C., Kearney, P. M., Dean, M., Hayes, C., Heary, C., & Kelly, C. (2021). Recruiting ‘hard to reach’ parents for health promotion research: experiences from a qualitative study. *BMC Research Notes*, 14(1), 276.
<https://doi.org/10.1186/s13104-021-05653-1>
- Verisa, G. S., Mutmainah, N., Fidyastuti, N., & Minsih, M. (2024). Improving the Creativity of Children with Disabilities Based on Local Culture: An Exploration of the “Karya.Ku” Program. *IAS Journal of Localities*, 2(2), 172–183.
<https://doi.org/10.62033/iasjol.v2i2.75>
- Widianingsih, N., & Astanto, S. (2020). Psychosocial Rehabilitation As An Effort To Achieve Independence For The Patients Of Scizofrenial (Study At The Hospital Of Marzuki Mahdi Bogor). *Jurnal ISIP: Jurnal Ilmu Sosial Dan Ilmu Politik*, 17(1), 31.
<https://doi.org/10.36451/j.isip.v17i1.44>
- Wright, A. L., Willett, Y. J., Ferron, E. M., Kumarasamy, V., Lem, S. M., & Ahmed, O. (2024). Using Social Media

to Recruit Participants in Health Care Research: Case Study. *Journal of Medical Internet Research*, 26, e51751. <https://doi.org/10.2196/51751>

Wu, C. (2024). The Psychotherapeutic Role and Challenges of Special Education Art Curriculum. *Journal of Education, Humanities and Social Sciences*, 45, 177–182. <https://doi.org/10.54097/98315595>

Yustesari, K. G., & Azizah, N. (2023). Play Therapy for Improving Interaction and Communication in Autism: Systematic Review. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(5), 5427–5438. <https://doi.org/10.31004/obsesi.v7i5.4932>

SUPPORTING COGNITIVE FUNCTION IN THE ELDERLY WITH BRAIN GYM EXERCISES

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ABSTRACT

WHO (World Health Organization) classifies the elderly as individuals aged 60 years and over in many developing countries. At this time, humans begin to experience a decline in body organ function because cells experience aging. Although cells become larger and older, they lose the ability to divide and reproduce normally. Not only a decline in physical and cellular function, a decline in cognitive function also occurs in the elderly. Maintaining cognitive function in the elderly (parents) is very important for their well-being. Cognitive activities carried out routinely are thought to be able to maintain excellent cognitive function in the elderly. Community Service with the theme of supporting the cognitive function of the elderly with brain gym exercises has been carried out in Ringinsari Village, Kandat District, Kediri Regency. On August 7, 2024, at 08.00 WIB. Located at the Elderly Posyandu, Ringinsari Village, Kandat District, Kediri Regency. The purpose of this community service activity is to improve cognitive function in the elderly, especially in Ringinsari Village, by practicing Brain Gym. The cognitive function in question is to maintain the balance of brain activity, prevent dementia, and improve memory in the elderly. Brain Gym involves dynamic body movements, which stimulate all parts of the brain to work together. This movement helps optimize blood and oxygen flow to the brain. Brain gym movements can help improve memory function and recall abilities. Brain gym helps improve focus and concentration in the elderly. The implementation of this activity goes through several stages, first submitting a request to the PPK, Bangkesbangpol to the village. In the process of implementing Brain Gym exercises, 41 elderly people attended.

Keywords: Brain Gym, Cognitive Function, Daily Activities, Elderly, Elderly Posyandu

INTRODUCTION

According to the Big Indonesian Dictionary, "old age" is defined as the time in a person's life after their function as a member of society has completed its development (KBBI, 2016). Old age, or senior citizen, is a phase of life that begins when a person reaches 60 years of age and above, during which the aging process causes a decline in organ function (WHO, 2020; Indonesian Ministry of Health, 2022). During this phase, body cells enlarge, age, and lose their ability to divide and regenerate normally (Guyton & Hall, 2016).

According to the Indonesian Central Bureau of Statistics, the number of elderly people (people aged 60 and over) in Indonesia in 2021 reached 29.3 million, or approximately 10.8% of the total population (Central Bureau of Statistics, 2021). Projections also indicate that the proportion of elderly people will continue to increase to 19.9% by 2045 (Babel Antara News, 2022). In 2023, the number of elderly people is estimated to reach around 27.1 million people or almost 10% of the total population, and it is reported that the proportion of elderly people in Indonesia in 2023 will reach 11.75% (Detik.com, 2023).

Not only does physical and cellular function decline, cognitive function also occurs in the elderly (Guyton & Hall, 2016). Maintaining cognitive function in the elderly is crucial for their well-being, as the aging process can affect memory, attention, language, and thinking skills (WHO, 2020). Regular cognitive activity is thought to maintain optimal cognitive function in the elderly (Yahya, Purwaningsih, & Makhfudli, 2020). Therefore, it is important to examine

differences in cognitive function between groups of elderly who engage in cognitive activity regularly and those who do not, as cognitive stimulation has been shown to improve cognitive function (Septiarini, 2024). Cognitive decline can make daily tasks more challenging and increase the risk of developing conditions such as dementia and Alzheimer's disease (Ministry of Health of the Republic of Indonesia, 2023). Research also shows significant differences in cognitive function in aspects of attention, language, and memory between elderly who engage in cognitive activity regularly and those who do not (Kartika, Kumboyono, & Kristianingrum, 2024). Cognitive decline in the elderly can lead to dependence on others for daily activities (Directorate of Health, Ministry of Health, 2023).

There are various ways to apply cognitive therapy to the elderly, but in this application, the presenter chose Brain Gym. Brain Gym involves dynamic body movements that stimulate all parts of the brain to work together and help optimize blood and oxygen flow to the brain (Dennison & Dennison, 2002). Brain Gym movements can help improve memory function and recall (Hasanah, 2021). Furthermore, brain gym has been shown to help improve focus and concentration in the elderly (Silvana & Ilham, 2025).

This community service is supported by research conducted by Ramayanti (2020), which showed that of 20 elderly people, 14 (70%) experienced frequent forgetfulness, and the rest experienced mild cognitive impairment. This research was conducted in the Pojok sub-district of Kediri City. Some of the brain gym movements involve hand-foot coordination, changes in body position,

and visual and auditory activities. This also underlies researchers to carry out community service by providing brain gym cognitive therapy to the elderly.

OBJECTIVES

General Purpose

To improve cognitive function in the elderly, especially in Ringinsari Village, Kandat District, Kediri Regency.

Special Purpose

Brain gymnastics aims to maintain balanced brain activity, prevent dementia, and improve memory in the elderly.

PLAN OF ACTION

Strategy Plan

Before conducting community service, the author searched for journal references related to the topic. Afterward, the researcher compiled a community service proposal and submitted it to the Community Empowerment and Development Institute (LPPM). After the proposal was approved, the author requested permission from the Family Welfare Movement (PKK) to conduct brain gym exercises for the elderly. After the PKK's approval, the author obtained permission from the Sidoarjo Bangkesbangpol (Health and Community Empowerment Agency), followed by the provincial Bangkesbangpol. Once the Bangkesbangpol letter was issued, the author officially obtained permission from the PKK through the Ringinsari Village, Kandat District, Kediri Regency.

Implementation

The implementation will be divided into several responsibilities: leaders, co-leaders, observers, facilitators,

and documenters. The brain gym exercise for the elderly in Ringinsari Village, Kandat District, and Kediri Regency took place on August 7, 2024, at the Ringinsari Village Integrated Health Post (Posyandu), Kandat District, Kediri Regency. The activity was opened by the village representative/ representative. The event was attended by village officials, senior community health post (Posyandu) cadres, and senior citizens in Ringinsari Village. The event was followed by an opening ceremony and explanation from the facilitator on duty. Once the senior citizens were present and ready to participate in the Brain Gym exercises, the facilitator demonstrated the Brain Gym exercises for the elderly. The Brain Gym exercises lasted for 15 minutes. The senior citizens in Ringinsari Village were very enthusiastic about participating in the movements demonstrated by the facilitator.

Setting

The Brain Gym exercise activity was held at the Elderly Posyandu (Posyandu for the Elderly) in Ringinsari Village, Kandar District, Kediri Regency.

Target

The target for this community service program was all senior citizens in Ringinsari Village.

RESULTS AND DISCUSSION

The community service program proceeded smoothly, and the elderly participants were very enthusiastic. The venue for the Brain Gym exercises was very adequate, with sound systems available to play the music used for the exercises. Furthermore, throughout the

entire process, from the permitting process to the actual implementation, the Ringinsari Village administration was very helpful and open to our scheduled activities.

However, the Brain Gym exercise was slightly delayed due to the absence of several elderly individuals. Consequently, the activity could only begin at 8:30 a.m., instead of the scheduled 8:00 a.m. The elderly participants were very enthusiastic, as evidenced by the fact that they all followed every movement demonstrated by the facilitator. Furthermore, all of the elderly participated in the Brain Gym exercise from start to finish.

The elderly understood the benefits of the Brain Gym exercise, as evidenced by the enthusiastic questions they asked the facilitator and their ability to perform the Brain Gym movements independently when asked to repeat the movements.

CONCLUSION

The community service program in Ringinsari Village went smoothly. The participants were elderly people in Ringinsari Village. The elderly practiced the Brain Gym exercises well. Furthermore, the facilitators also left posters of the Brain Gym exercises for the elderly Posyandu cadres and leaflets of the Brain Gym exercises for the elderly who attended, hoping that they would practice the exercises independently at home. Considering the benefits of brain gym exercises are to maintain cognitive function in the elderly.

REFERENCES

Badan Pusat Statistik. (2021). *Statistik penduduk lanjut usia 2021*. Jakarta: BPS-RI.

Babel Antara News. (2022). *BKKBN: Jumlah lansia di Indonesia capai 19,9 persen pada 2045*. Retrieved from <https://babel.antaranews.com/berita/308569/bkkbn-jumlah-lansia-di-indonesia-capai-199-persen-pada-2045>

Dennison, P. E., & Dennison, G. E. (2002). *Brain Gym: Simple activities for whole-brain learning*. Edu-K International.

Detik.com. (2023). *Pakar UI: Nasib Indonesia Emas 2045 juga bergantung pada lansia*. Retrieved from <https://www.detik.com/edu/detikpedia/d-7232613/pakar-ui-nasib-indonesia-emas-2045-juga-bergantung-pada-lansia>

Direktorat Kesehatan Lanjut Usia. (2023). *Mampukah latihan otak meningkatkan fungsi kognitif pada lansia?* Kementerian Kesehatan RI.

Guyton, A. C., & Hall, J. E. (2016). *Textbook of medical physiology* (13th ed.). Philadelphia: Elsevier.

Hasanah, U. (2021). *Pengaruh senam otak terhadap fungsi kognitif pada lanjut usia* (Skripsi). Universitas Islam Negeri Alauddin Makassar.

Kementerian Kesehatan Republik Indonesia. (2022). *Profil kesehatan Indonesia 2022*. Jakarta: Kemenkes RI.

Kartika, A. W., Kumboyono, Y. S. H., & Kristianingrum, N. D. (2024). Implementasi modifikasi cognitive stimulation therapy untuk meningkatkan kemampuan kognitif

lansia risiko demensia. *Jurnal Masyarakat Mandiri*. Vol. 8, No. 5, halaman 4646–4655

Kementerian Kesehatan Republik Indonesia. (2023). *Profil kesehatan Indonesia 2023*. Jakarta: Kemenkes RI.

Septiarini, N. L. A. (2024). Pengaruh Cognitive Stimulation Therapy Puzzle Terhadap Peningkatan Fungsi Kognitif Pada Lanjut Usia. *Jurnal Aliansi Keperawatan Indonesia*, 1(1), 30–37.

Silvana Yakub & Rosmin Ilham. (2025). Efektifitas Senam Otak Terhadap Peningkatan Fungsi Kognitif Pada Lansia Yang Menderita Dimensia Di Griya Lansia Jannati Provinsi Gorontalo. *Jurnal Keperawatan Muhammadiyah*, 10(1).

World Health Organization. (2020). *Ageing and health*. Retrieved from <https://www.who.int>

Yahya, Q. N. Q., Purwaningsih, P., & Makhfudli, M. (2020). Influence of cognitive stimulation group activity memory game therapy on elderly cognitive function: Quasi-experimental. *Jurnal Ners*, 15(2), 1–7.

POSITIVE DISTRACTION AS A MEDIUM FOR MENTAL HEALTH REFRESHMENT FOR HOUSEWIVES IN SIDOARJO

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ABSTRACT

Mental health has become a prominent concern, particularly in the post-pandemic era. The aftermath of last year's lockdowns and the widespread adoption of work-from-home practices have led to increased feelings of monotony during indoor activities. This phenomenon is also evident among housewives, particularly within the Merpati Kehutanan Sidoarjo Housing Complex, where the repetitive nature of household chores can significantly impact quality of life. In response, community service initiatives introduced positive distraction activities aimed at revitalizing the mental well-being of housewives. These activities were based on the therapeutic benefits of art, specifically the collage technique. The program was strategically aligned with the routine activities of the housing complex, particularly the reuse of discarded cardboard. A total of 17 female participants actively engaged in the activity, ensuring its smooth implementation. The evaluation results indicated that artistic engagement serves as an effective form of mental therapy, contributing to psychological well-being and providing a refreshing experience for the participants.

Keywords: Art Activity, Housewife, Kolase, Mental Health

INTRODUCTION

Over the past three years, mental health has emerged as a critical global concern, influenced by the lingering effects of the COVID-19 pandemic, economic uncertainties, and rapid societal changes. The prolonged social isolation, disruptions in daily routines, and increased reliance on digital interactions have contributed to heightened levels of stress, anxiety, and depression across various demographics. Studies have highlighted a significant rise in mental health disorders, particularly among young adults and working professionals, as they navigate the challenges of post-pandemic recovery, job instability, and work-life balance (Kaplan, 2023). Furthermore, the growing awareness of mental well-being has led to an increased demand for psychological support services, emphasizing the need for accessible and sustainable mental health interventions. Governments, healthcare institutions, and organizations have begun to implement comprehensive mental health strategies, including workplace mental wellness programs, digital therapy platforms, and community-based initiatives, to address the evolving psychological needs of the population.

In the post-pandemic era, housewives have experienced a significant increase in psychological distress due to prolonged domestic responsibilities and social isolation, leading to elevated levels of monotony and a decline in overall quality of life (Fahriani et al., 2024). The repetitive nature of household chores, coupled with limited social engagement and reduced opportunities for self-actualization, has contributed to cognitive fatigue and emotional exhaustion (Zare et al., n.d.). Studies indicate that the lack of

external stimulation and structured activities outside the home has exacerbated feelings of stagnation, negatively impacting psychological resilience and life satisfaction. Furthermore, the blurring boundaries between personal and domestic obligations, particularly during extended periods of remote work and homeschooling, have intensified role strain and diminished perceived well-being (Kaplan, 2023). Without adequate coping mechanisms or access to mental health support, these conditions may lead to chronic stress, increased susceptibility to mood disorders, and a diminished sense of purpose, ultimately impairing the overall psychological and emotional well-being of housewives in the post-pandemic landscape.

The housewives in the Perhutani residential area are actively engaged in cardboard waste recycling, which has become a routine practice in their daily lives. Awareness of the importance of waste management and environmental sustainability has encouraged them to repurpose used cardboard into various functional products, such as storage containers, handicrafts, and decorative materials. With continuously evolving creativity, this activity not only helps reduce household waste but also provides opportunities for the community to enhance their skills and generate economic value from previously discarded materials.

Beyond being an environmentally friendly initiative, the habit of recycling cardboard waste in the Perhutani residential area also demonstrates the community's strong awareness of waste management strategies. They recognize that by reprocessing used cardboard, a more sustainable and economically viable

solution can be achieved compared to simply disposing of it. Moreover, some housewives have successfully transformed this recycling activity into promising small-scale businesses. This initiative not only benefits the environment but also fosters a culture of collaboration and social responsibility among residents, creating a cleaner, healthier, and economically empowered living environment.

The recycling activities carried out by housewives in the Perhutani residential area demonstrate a strong potential for the development of a creative village that upholds the principles of circular economy. By repurposing used cardboard into valuable products, the community not only minimizes household waste but also creates a sustainable economic cycle. The concept of a creative village can be further strengthened by integrating design innovation, skill-building workshops, and market-oriented strategies that empower housewives to turn their creations into profitable ventures (Suharnanik & Yulairini, 2022). This approach aligns with circular economy principles, where waste is continuously reused, redesigned, and reintegrated into the production cycle, ensuring long-term sustainability.

Beyond its economic and environmental benefits, the creative recycling initiative also serves as a therapeutic activity for housewives (Department of Mental Health and Psychiatric Nursing, Karadeniz Technical University, Faculty of Health Sciences, Trabzon, Turkey et al., 2021), helping them manage stress and improve mental well-being. Engaging in hands-on creative work provides an emotional outlet and a sense of accomplishment, reducing daily pressures associated with household

responsibilities. By fostering a collaborative and supportive environment, these activities encourage social interaction, strengthen community bonds, and contribute to the overall well-being of the participants. Thus, the recycling movement not only preserves the progress and identity of the village but also enhances the quality of life for its residents, positioning the Merpati Kehutanan residential area as a model for sustainable and socially inclusive development.

OBJECTIVES

General Purpose

The purpose of this community service activity is to provide training to housewives on processing cardboard waste into aesthetic interior elements using the collage technique. This technique not only aims to enhance participants' skills and creativity in utilizing inorganic waste but also provides a therapeutic effect that can help reduce stress through artistic activities (Nizaora et al., 2024). This approach aligns with research indicating that collage art can function as an effective form of art therapy (Purwanti et al., 2022), particularly in improving individuals' psychological well-being.

Special Purpose

A specific objective of this community service activity is to empower housewives by providing opportunities to develop small and medium-sized enterprises (SMEs) focused on processing cardboard waste. By mastering the collage technique, participants can transform recyclable materials into valuable interior decorative elements that have market potential. This initiative not only supports

environmental sustainability by promoting the creative reuse of waste but also enhances economic resilience by fostering entrepreneurial skills among housewives, enabling them to establish businesses that contribute to their household income.

PLAN OF ACTION

Strategy Plan

The strategy plan for the community service team begins with a thorough literature review on the use of collage techniques in creating aesthetic elements for interior design. This stage involves analyzing previous research, journal articles, and case studies that explore the application of collage art in transforming waste materials into decorative interior components. By understanding the theoretical and practical aspects of this technique, the team aims to design a training program that is both comprehensive and accessible to housewives, ensuring that the objectives of skill development, creativity enhancement, and environmental sustainability are effectively met.

Implementation

The next step involves conducting field observations and interviews with the leader of the Family Welfare Movement (PKK) in the Perumahan Perhutani housing complex in Sidoarjo. The purpose of these activities is to gather insights into the community's needs and interests, particularly concerning activities that can serve as stress-relief outlets for housewives. During these discussions, the community service team explores the feasibility of implementing collage art training as a form of art therapy. This collaborative dialogue ensures that the

program aligns with the specific requirements and expectations of the target participants while fostering community engagement and support.

Based on the findings from the literature review and the outcomes of the observations and interviews, the team reaches a mutual agreement with the PKK leader to organize the collage training sessions. This initiative is formalized as an art therapy activity aimed at reducing stress among housewives while providing them with practical skills that have potential economic value. The detailed strategy plan ensures that the training program is well-prepared, community-centric, and capable of achieving its dual objectives of psychological well-being and skill-building for sustainable waste management.

Setting

The collage technique training activity, designed as a positive intervention for housewives, will be conducted in the shared communal area of Perumahan Merpati Kehutanan. The community service team has carefully prepared the necessary tools and materials for the training session to ensure each participant has the resources needed for effective practice. These include one set of dried flowers, one set of recycled cardboard, scissors, and adhesive for every participant. Each participant will receive an individual kit to facilitate hands-on practice during the collage-making activity, enhancing their learning experience while maintaining a structured and organized approach to the training.

Target

The training participants consist of 15 housewives residing in this residential sector, with an age range of 25 to 52 years. The sessions will be carried out in a semi-formal setting to create a relaxed and comfortable atmosphere for the participants, aiming to provide not only skill enhancement but also a therapeutic and refreshing experience that supports their well-being.

RESULTS AND DISCUSSION

The implementation of the collage-making training is divided into four structured stages to ensure the participants can gain comprehensive understanding and practical skills. The first stage involves introductions and an overview of collage art presented to the participants.



Figure 1. sorting of household waste types by residents of Merpati Forestry Housing



Figure 2. Documentation of the training intent delivery stage

This session covers the history, principles, and applications of the collage technique, emphasizing its potential as a form of art therapy and as a sustainable approach to interior design. The aim of this stage is to provide participants with a clear conceptual foundation and stimulate their interest in the creative possibilities of collage-making.

In the second stage, the focus shifts to explaining the tools and materials required for the activity. The facilitators will demonstrate the use of the materials provided, including dried flowers, recycled cardboard, scissors, and adhesive, as well as elaborate on the significance of each item in the process. This session is designed to familiarize the participants with the resources, ensuring that they are well-prepared and confident to proceed with the hands-on portion of the training.



Figure 3. Documentation of the process of introducing tools and materials

The explanation of tools and materials during the second stage of the training received a highly positive response from the participants. Many of the housewives expressed enthusiasm and curiosity about the creative possibilities offered by the collage technique. This enthusiasm aligns with studies highlighting women's natural

inclination toward activities involving decoration and aesthetic enhancement, which often serve as a medium for self-expression and emotional satisfaction. Such activities not only provide a sense of accomplishment but also foster a therapeutic effect, as supported by research emphasizing the psychological benefits of engaging in creative and decorative tasks.

Moreover, the participants' eagerness to explore the tools and materials reflects their intrinsic motivation to learn and apply new skills in their daily lives. According to a study published in the *International Journal of Scientific & Technology Research*, women often exhibit innovative behavior and creativity when engaging in artistic or entrepreneurial activities, particularly those that involve crafting and design (Laily et al., 2020). This positive reception underscores the importance of tailoring training programs to align with participants' interests and tendencies, ensuring both engagement and effectiveness in achieving the program's objectives.

The third stage is the practical session in which participants are guided to create the core elements of the collage using dried flowers. The facilitators will demonstrate techniques for arranging and layering the flowers to achieve aesthetically pleasing compositions. Participants will then independently practice under the guidance of the facilitators, allowing them to explore their creativity and develop their skills in assembling the collage components. Collage art has been recognized as an effective form of art therapy, offering participants a creative outlet to express

emotions and alleviate stress. Through the process of arranging and layering dried flowers, participants engage in a mindful and immersive activity that promotes relaxation and emotional well-being. This aligns with findings from recent studies, such as those published in the *International Journal of Scientific Research and Management*, which highlight the psychological benefits of art therapy in reducing anxiety and improving mental health, particularly among women managing household responsibilities (Soewito et al., 2024).



Figure 4. the process of making a collage with the help of the community service team

Moreover, the act of creating collages fosters a sense of accomplishment and self-efficacy, which are crucial for enhancing psychological resilience. By focusing on the aesthetic arrangement of materials, participants can shift their attention away from daily stressors and immerse themselves in a constructive and rewarding process. Research has shown that such creative activities can significantly improve mood and provide a sense of purpose, making them particularly beneficial for housewives seeking therapeutic and recreational outlets. This stage of the training not only equips participants with artistic skills but also contributes to their overall mental health and emotional balance (Asyifa et al., 2022).

The final stage focuses on assembling the frame for the collage using recycled cardboard. In this phase, participants will be shown how to cut, shape, and construct the frame in a way that complements the collage artwork.



Figure 5. Stages of making a frame using used cardboard

This step not only emphasizes the aesthetic aspects but also underscores the importance of utilizing waste materials effectively. By completing the final product, participants gain a sense of accomplishment and practical understanding of how to transform waste into valuable artistic creations.



Figure 6. Documentation of activities and work results

Based on interviews conducted with the participants, many expressed that the hands-on, creative nature of the task

helped them escape the monotony of household responsibilities and provided a refreshing break from their routines. This aligns with research emphasizing the therapeutic benefits of engaging in art-making, as outlined in a study published in the *Arts in Psychotherapy Journal* (2021), which states that art activities can significantly reduce stress levels and improve mood. Thus, this final stage not only equips participants with practical skills but also delivers psychological benefits, enhancing their overall well-being.

CONCLUSION

In conclusion, the collage-making training successfully introduced housewives in the Perumahan Merpati Kehutanan, Sedati-Sidoarjo, to an innovative approach that combines art therapy and environmental sustainability. The program not only enhanced participants' skills in transforming cardboard waste and dried flowers into aesthetically valuable interior elements but also provided a therapeutic outlet to reduce stress and monotony. The participants' active involvement and enthusiasm throughout the stages of training reflected the effectiveness of the program in fostering creativity, relaxation, and psychological well-being. By gaining practical knowledge, the participants have been empowered to explore their creative potential, contributing to both their personal growth and the broader community.

Furthermore, through this training, the community members have been equipped with transferable skills that can be applied to other forms of household waste, thereby

supporting the ongoing environmental awareness initiatives within the housing complex. The potential expansion of collage techniques to other recyclable materials serves as a pathway to encourage sustainable waste management practices, further integrating creativity into daily life. This initiative underscores the significant role of art in addressing psychological and environmental challenges, paving the way for more community-based efforts that align personal well-being with environmental care.

REFERENCES

- Asyifa, I. N., Surur, N., & Susilo, A. T. (2022). Studi Kepustakaan Penerapan Art Therapy dalam Bimbingan dan Konseling. *Jurnal Psikoedukasi dan Konseling*, 5(2), 54. <https://doi.org/10.20961/jpk.v5i2.52091>
- Department of Mental Health and Psychiatric Nursing, Karadeniz Technical University, Faculty of Health Sciences, Trabzon, Turkey, Aydin, M., Kutlu, F. Y., & Department of Mental Health and Psychiatric Nursing, Istanbul University-Cerrahpasa, Florence Nightingale Faculty of Nursing, Istanbul, Turkey. (2021). The Effect of Group Art Therapy on Loneliness and Hopelessness Levels of Older Adults Living Alone: A Randomized Controlled Study. *Florence Nightingale Journal of Nursing*, 29(3), 271–284. <https://doi.org/10.5152/FNJJN.2021.20224>
- Fahriani, N., Fazraningtyas, W. A., & Iswandari, N. D. (2024). Tingkat Depresi pada Ibu Rumah Tangga selama Masa Pandemi Covid-19. *Jurnal Keperawatan Jiwa*, 12(2), 273. <https://doi.org/10.26714/jkj.12.2.2024.273-280>
- Kaplan, V. (2023). Mental Health States of Housewives: An Evaluation in Terms of Self-perception and Codependency. *International Journal of Mental Health and Addiction*, 21(1), 666–683. <https://doi.org/10.1007/s11469-022-00910-1>
- Laily, N., Asyik, N. F., & Sukaris, S. (2020). *Innovative Behavior To The Success Of Women Entrepreneurs Of Indonesian Batik*. 9(06).
- Nizaora, D., Rinda, R. S. P., & Kurnyawaty, N. (2024). Implementasi Konsep Reuse Kardus Bekas Menjadi Aksesoris Interior pada Ibu Rumah Tangga Kelurahan Sungai Siring, Samarinda. *Wikrama Parahita : Jurnal Pengabdian Masyarakat*, 8(2). <https://doi.org/10.30656/jpmwp.v8i2.7494>
- Purwanti, I., Umar Yeni Suyanto, Elliv Hidayatul Lailiyah, Nadia Islamiyah, Nuvia Nishrina, & Yulian Prasetyo. (2022). Pemanfaatan Kardus Bekas Menjadi Kerajinan Tangan Guna Meningkatkan Kreativitas. *Ahmad Dahlan Mengabdi*, 2(2), 35–38. <https://doi.org/10.58906/abadi.v2i2.76>
- Soewito, B., Susmini, S., Warastuti, W., & Yusuf, B. (2024). Effectiveness of Collage-Based Art Therapy in Reducing Anxiety Among Children with Thalassemia. *Indonesian*

Journal of Global Health Research,
6(S5), 717–724.
<https://doi.org/10.37287/ijghr.v6iS5.4914>

Suharnanik, S., & Yulairini, S. (2022). Family Welfare Empowerment (PKK) Role in Set Woman Cooperation to Support Economy Creative Empowerment Based on Community. *Revista de Cercetare Si Interventie Sociala*, 77, 162–173. <https://doi.org/10.33788/rcis.77.10>

Zare, M., Eshaghi, H., Soleimani, M., Zare, M. R., Khademian, M., Zomordi, S., & Behjati Ardakani, M. (2022). Health anxiety and factors affecting it in housewives during the COVID-19 pandemic. *Journal of Preventive Medicine*, 9(1), 18–27. <https://jpm.hums.ac.ir/article-1-605-en.html>