

## Integrated Community Health Promotion through Education, Screening, and Preventive Interventions in Rejomulyo Village, Kediri

Reni Nurhidayah<sup>1\*</sup>, Yuly Peristiowati<sup>2</sup>, Sutrisno<sup>3</sup>, Atik Setiawan<sup>4</sup>, Joko Sutrisno<sup>5</sup>,  
Agusta Dian Elina<sup>6</sup>, Muhamad As'ad Efendi<sup>7</sup>, Kurniawan Edi Priyanto<sup>8</sup>, Dedi  
Saifulah<sup>9</sup>, Fajar Rinawati<sup>10</sup>

<sup>1,3,5,7,8,9,10</sup> Nursing Departemen, STRADA Indonesia University, Indonesia

<sup>2,4,6</sup> Postgraduate Program, STRADA Indonesia University, Indonesia

\*Corresponding author: [reni.nurhidayah@strada.ac.id](mailto:reni.nurhidayah@strada.ac.id)

### ABSTRACT

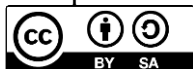
Community health problems in Indonesia are increasingly complex, including the rising burden of non-communicable diseases, communicable diseases, nutritional issues, and psychosocial problems, particularly among vulnerable populations such as the elderly. This community service aimed to implement an integrated community health promotion program through education, screening, and preventive interventions in Rejomulyo Village, Kediri. This study used a community-based participatory approach with a descriptive evaluative design. The program involved approximately 65 participants and included health education sessions, health screenings (vital signs, anthropometry, biochemical tests, and physical function assessment), and preventive interventions such as local food-based supplementary feeding and smoke-free household promotion. Data were collected through observation, screening records, and participant responses, and analyzed descriptively. The results showed that a significant proportion of participants were at risk of non-communicable diseases, including hypertension, elevated blood glucose, and abnormal nutritional status. Health education activities improved participants' knowledge and awareness of disease prevention, clean and healthy living behaviors, and environmental health risks. Preventive interventions were well accepted, with increased community commitment to adopting healthier lifestyles, including routine health monitoring and smoke-free home practices. In conclusion, the integrated approach combining education, screening, and preventive interventions proved effective in improving community awareness, enabling early detection of health risks, and promoting sustainable health behaviors. This model has the potential to be replicated in other communities to enhance public health outcomes.

**Keywords** : Community Health Promotion, Health Education, Non-Communicable Diseases, Preventive Intervention, Screening

Received : March 20, 2026

Revised : March 26, 2026

Accepted : March 31, 2026



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## INTRODUCTION

Community health problems in Indonesia remain complex and multidimensional, particularly in semi-urban and rural settings where disparities in access to healthcare services, health literacy, and preventive behaviors persist. The epidemiological transition characterized by the coexistence of communicable diseases, non-communicable diseases (NCDs), nutritional problems, and psychosocial disorders requires a comprehensive and integrated community-based approach. Health promotion strategies that emphasize preventive and promotive interventions are essential to improve community awareness and reduce disease burden through early detection and behavior modification (World Health Organization (Kementrian Kesehatan RI, 2023; Kickbusch, 2021; WHO, 2022a).

Non-communicable diseases such as hypertension, diabetes mellitus, and hyperuricemia remain the leading causes of morbidity and mortality globally and nationally. Recent reports indicate that NCDs account for more than 70% of deaths worldwide, with a growing impact in low- and middle-income countries (GDB, 2020; WHO, 2023). In Indonesia, the increasing prevalence of NCDs is strongly associated with unhealthy lifestyles, low physical activity, and limited routine health screening practices (Bloom, 2020; Kementrian Kesehatan RI, 2023). Community-based screening interventions, including biochemical examinations and vital sign assessments, have been widely recommended as effective strategies for early detection and risk reduction (Allen, 2020; CDC, 2022; Jeet, 2021). This is consistent with community service findings showing that screening activities, such as blood pressure measurement, anthropometry, and simple laboratory tests, can identify early risk factors and improve public awareness of health status (Allen, 2020; Jeet, 2021).

In addition to NCDs, communicable diseases such as Acute Respiratory Infections (ARI) and influenza continue to pose significant public health challenges, especially in communities with limited knowledge regarding disease transmission and prevention. Respiratory infections remain among the top causes of morbidity in developing countries (OECD, 2022; WHO, 2021). Studies have shown that low health literacy contributes to inadequate adoption of preventive behaviors such as hand hygiene, mask use, and environmental sanitation (Glanz, 2021; Nutbeam, 2021; UNICEF, 2022). Community-based health education programs have proven effective in improving knowledge and encouraging the adoption of clean and healthy living behaviors, thereby reducing the risk of disease transmission (Laverack, 2021; Rosenstock, 2021).

Nutritional problems also remain a priority issue, particularly among vulnerable populations such as children, pregnant women, and low-income families. Malnutrition is closely linked to poor dietary intake, inadequate sanitation, and increased susceptibility to infectious diseases (Black, 2021; Marmot, 2020). Sustainable nutrition interventions using local food resources have been recommended to improve dietary intake while supporting community food security (Bank, 2021; FAO, 2021). Community empowerment programs, such as supplementary feeding (PMT) based on local food, have demonstrated effectiveness in improving nutritional status and community participation (Nurhidayah, Sari, & Kusumawati, 2024; Sarjiyah & Istiyanti, 2022).

Furthermore, psychosocial health problems among the elderly, including loneliness, depression, and cognitive decline, are increasingly recognized as major public health concerns. Population aging and social changes contribute to increased vulnerability among older adults (Park & Kim, 2021; WHO, 2022a). Evidence suggests that health education and community-based psychosocial support interventions can significantly improve mental well-being and quality of life in elderly populations (Laverack, 2021; Park & Kim, 2021). This aligns with

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community service activities focusing on mental health education, which aim to enhance coping mechanisms and family support systems among older adults .

Behavioral and environmental risk factors, such as exposure to secondhand smoke, also contribute significantly to the burden of disease in communities. Secondhand smoke exposure is associated with increased risks of respiratory infections, cardiovascular diseases, and adverse health outcomes in vulnerable populations (Bigna, 2020; Reitsma, 2021; WHO, 2022a). Community-based interventions promoting smoke-free households have been shown to effectively reduce exposure and increase awareness of health risks (CDC, 2022; Mills, 2020). Programs such as family-based smoke-free initiatives demonstrate the importance of integrating behavioral change strategies into community health promotion efforts .

Given the complexity of these health challenges, an integrated approach that combines health education, screening, and preventive interventions is essential to achieve sustainable improvements in community health outcomes. Previous studies have emphasized that integrated community-based programs are more effective in improving knowledge, attitudes, and preventive behaviors compared to single-intervention approaches (Allen, 2020; Green & Kreuter, 2021; Jeet, 2021). Rejomulyo Village, Kediri, represents a strategic setting for implementing such an approach due to its active community engagement and potential for sustainable health empowerment programs.

These issues indicate a persistent gap between health policies and their implementation at the community level, particularly in semi-urban and rural areas such as Rejomulyo Village. Limited access to health information, low health literacy, and suboptimal preventive behaviors contribute to the increasing burden of disease. This study offers a novel integrated approach by combining health education, community-based screening, and preventive interventions within a single community engagement model, addressing physical, behavioral, and psychosocial health aspects simultaneously.

Therefore, this community engagement program aimed to implement an integrated community health promotion model through education, screening, and preventive interventions in Rejomulyo Village. This approach is expected to enhance community knowledge, promote healthy lifestyles, facilitate early detection of health risks, and ultimately improve the overall health status and quality of life of the community.

## **METHOD**

### **Study Design**

This study employed a community-based participatory design using an integrated service-learning approach. The design focused on implementing a multi-component community engagement program that combined health education, screening, and preventive interventions. This approach is commonly used in community service studies to address complex public health problems through direct community involvement and empowerment. The study used a descriptive evaluative design, where program outcomes were assessed based on participant engagement, screening findings, and observed changes in knowledge and awareness following the intervention.

### **Time and Setting**

The program was conducted on January 2026 at Sumber Jiput tourism area, Rejomulyo Village, Kediri, East Java, Indonesia. This location was selected due to its accessibility, high community activity, and potential as a community-based health promotion center.

### **Variables**

Since this study was based on a community service approach, the variables were categorized into independent variables, dependent variables, and observed indicators. The

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independent variable was the integrated community health promotion program, which included education, screening, and preventive interventions. The dependent variables consisted of community knowledge regarding health issues, preventive health behaviors, and early detection of health risks, including non-communicable diseases, infectious diseases, nutritional status, and psychosocial conditions. The observed indicators included the level of participation in program activities, screening results such as blood pressure, body mass index, and blood glucose levels, as well as community responses during education sessions.

### **Population and Sample**

The population in this study included all community members in Rejomulyo Village, Kediri. The sample consisted of community members who attended and participated in the program activities, including elderly individuals, adults, families, and community groups. A total of 65 participants were involved in the screening and education activities. A non-probability sampling technique was used, specifically convenience sampling, where participants were selected based on their availability and willingness to participate in the program and met the inclusion criteria.

### **Instruments**

The instruments used in this program were adapted from standard community health tools and consisted of: Health Education Instruments; Educational modules (SAP – Satuan Acara Penyuluhan); Leaflets and posters; Demonstration tools; Screening Instruments; Sphygmomanometer (blood pressure measurement); Thermometer (body temperature); Weighing scale and height measurement (BMI calculation); Measuring tape (waist circumference); Glucometer (random blood glucose); Uric acid test kit; Functional assessment tools for elderly (e.g., Timed Up and Go Test); Documentation Tools; Health control card (Kartu Kendali Kesehatan); Observation sheets; Activity documentation;

### **Data Collection**

Data were collected through: Direct observation during program implementation; Recording of screening results; Participant responses during discussions and education sessions.

### **Data Analysis**

Data analysis was conducted using descriptive analysis, including: Frequency and percentage distribution of participant characteristics; Categorization of screening results (e.g., normal, pre-hypertension, hypertension); Narrative analysis of participant responses and engagement. The results were presented in tables and descriptive narratives to illustrate the outcomes of the community intervention.

### **Ethical Considerations**

This community service program adhered to ethical principles in health research and community engagement: 1) Permission and Approval (the activity was conducted with approval from local authorities, including village officials and community leaders); 2) Informed Consent (participants were informed about the purpose, procedures, and benefits of the program, participation was voluntary, and verbal consent was obtained prior to involvement).

## **RESULTS**

### **Participant Characteristics**

A total of 65 participants were involved in the integrated community health program conducted in Rejomulyo Village. Participants consisted of elderly individuals, adults, and community members actively involved in local activities.

**Table 1. Characteristics of Participants**

Characteristics	Frequency (n)	Percentage (%)
Age 50–59 years	25	38.5
Age 60–70 years	30	46.2
Age >70 years	10	15.3
Male	28	43.1
Female	37	56.9

The majority of participants were elderly aged 60–70 years, indicating that the program successfully reached the high-risk population group.

### Health Screening Results

Health screening activities included measurement of vital signs, anthropometry, and biochemical examinations. The results showed variations in health status among participants.

**Table 2. Vital Signs and Anthropometric Results (N: 65)**

Indicator	Normal (%)	At Risk (%)	High Risk (%)
Blood Pressure	40.0	35.0	25.0
Body Mass Index	45.0	30.0	25.0
Waist Circumference	38.0	32.0	30.0

The results indicate that a considerable proportion of participants were at risk or already experiencing health problems, particularly hypertension and overweight conditions, which increased with age.

### Biochemical Screening Results

Simple biochemical examinations were conducted to detect early signs of non-communicable diseases.

**Table 3. Biochemical Screening Results (N: 65)**

Indicator	Normal (%)	At Risk (%)	High Risk (%)
Blood Glucose	50.0	30.0	20.0
Uric Acid	48.0	28.0	24.0

The findings revealed that a significant proportion of participants had elevated blood glucose and uric acid levels, indicating potential risks of diabetes mellitus and hyperuricemia.

### Physical Function Screening in Elderly

Physical function assessments showed that some elderly participants were at risk of falling.

**Table 4. Fall Risk Assessment**

Category	Frequency (n)	Percentage (%)
Low Risk	30	46.2
Moderate Risk	20	30.8
High Risk	15	23.0

This finding highlights the importance of early detection and preventive interventions to maintain elderly independence.

### Health Education Outcomes

Health education sessions were conducted on multiple topics, including non-communicable disease (NCD) prevention, acute respiratory infection (ARI) prevention, mental health, and smoke-free living. The outcomes of these sessions showed measurable improvements in participant engagement and understanding. Participants actively participated in discussions and question-and-answer sessions, indicating increased involvement in the learning process.

In addition, participants demonstrated improved comprehension of disease prevention strategies, as reflected in their ability to explain key concepts related to clean and healthy living behaviors (PHBS), prevention of respiratory infections, and the risks associated with secondhand smoke exposure. This improvement is consistent with the overall increase in

knowledge observed across indicators in Table 2, indicating that the educational intervention contributed to enhanced understanding and awareness.

These findings indicate that the educational intervention contributed to enhanced knowledge and awareness, which are essential components for promoting preventive health behaviors at the community level.

### **Preventive and Empowerment Outcomes**

Preventive interventions in this program included local food-based supplementary feeding (PMT) and smoke-free household initiatives. The outcomes of these interventions indicated an improvement in participants' awareness and understanding of health-promoting behaviors. Participants demonstrated increased awareness of the utilization of local food resources and improved understanding of balanced nutrition concepts. In addition, participants showed a positive commitment to implementing smoke-free home practices as part of efforts to reduce exposure to secondhand smoke. The acceptance of local food-based interventions was high among the community, indicating their feasibility and potential sustainability for long-term implementation. These findings suggest that preventive and empowerment strategies can effectively support behavioral change and strengthen community participation in maintaining health.

### **Program Implementation Documentation**

The implementation of the program was documented through photographic records capturing key activities, including health education sessions, health screening procedures, and preventive interventions such as supplementary feeding and smoke-free household promotion. These documentations demonstrated active community participation and supported the validity of the program implementation.

Figure 1. Integrated Community Health Promotion Activities in Rejomulyo Village



Figure 1. Documentation of community health promotion activities, including health education sessions, screening of vital signs and anthropometry, biochemical examinations, and preventive interventions conducted in Rejomulyo Village, Kediri.

### **Participant Engagement and Response**

Participant engagement and response were evaluated as part of the observed indicators of the program. The results showed that participants actively participated in all stages of the intervention, including education sessions, screening activities, and preventive programs. High levels of engagement were observed through participants' involvement in discussions, responsiveness during question-and-answer sessions, and willingness to participate in health screening procedures.

In addition, community responses indicated increased awareness and interest in health-related topics. Participants were able to express their understanding of disease prevention strategies and demonstrated positive attitudes toward adopting healthy behaviors. These findings suggest that the program successfully facilitated active community involvement and improved responsiveness toward health promotion activities.

### **Overall Program Outcomes**

The integrated program demonstrated several important outcomes related to community health improvement. The program successfully increased community participation in health promotion activities, as reflected in active involvement during education, screening, and preventive interventions. In addition, the implementation of screening activities enabled early detection of various health risks among participants, particularly non-communicable diseases and functional health problems. The program also contributed to improved knowledge and awareness of preventive health behaviors, including healthy lifestyles and disease prevention strategies. Furthermore, the integration of educational and empowerment approaches strengthened community capacity in maintaining health, indicating the potential for sustainable health promotion at the community level.

## **DISCUSSION**

The implementation of an integrated community health promotion program in Rejomulyo Village demonstrated that combining health education, screening, and preventive interventions is an effective strategy to address complex and multidimensional public health problems. The findings of this study indicate that the majority of participants, particularly the elderly, were identified as having potential health risks, including hypertension, overweight, and elevated biochemical indicators. These results are consistent with global and national trends showing an increasing burden of non-communicable diseases (NCDs), especially among aging populations (GDB, 2020; Kementerian Kesehatan RI, 2023; WHO, 2023)).

The screening results revealed that a significant proportion of participants were categorized as at risk or high risk for hypertension and metabolic disorders. This finding supports previous studies indicating that community-based screening programs are effective in identifying undiagnosed cases and promoting early intervention (Allen, 2020; CDC, 2022; Jeet, 2021). Early detection through simple, accessible methods such as blood pressure measurement, anthropometry, and biochemical testing plays a crucial role in preventing complications and improving long-term health outcomes (CDC, 2022). In line with this, the use of a health control card (Kartu Kendali Kesehatan) in this program provided an additional benefit by facilitating continuous monitoring and encouraging participants to be more aware of their health status.

In terms of communicable disease prevention, the health education component significantly contributed to increasing participants' awareness of ARI and influenza transmission and prevention. The active participation observed during educational sessions indicates that interactive and community-based approaches are effective in improving health literacy. This is supported by Nutbeam (2021), who emphasized that health literacy is a key determinant of behavior change in public health interventions. Improved understanding of preventive measures such as hand hygiene, respiratory etiquette, and environmental cleanliness is essential in reducing the spread of infectious diseases, particularly in densely populated community settings (UNICEF, 2022; WHO, 2021).

The nutritional intervention through supplementary feeding (PMT) based on local food also showed positive acceptance among participants. This approach not only addresses nutritional deficiencies but also promotes sustainable food practices by utilizing locally available resources. Similar findings have been reported by FAO (2021), which highlighted

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that local food-based interventions are effective in improving dietary diversity and community food security. The integration of nutrition education with practical demonstrations further enhances community engagement and long-term adoption of healthy eating behaviors (Nurhidayah et al., 2024).

Psychosocial health, particularly among the elderly, is another important aspect highlighted in this program. The findings indicate that education on mental health, including recognition of loneliness and cognitive decline, can improve awareness and coping mechanisms among older adults. This aligns with previous research showing that community-based mental health education can significantly enhance the psychological well-being and quality of life of elderly populations (Park & Kim, 2021; WHO, 2022b). Addressing psychosocial issues is essential, as mental health is closely linked to physical health and overall well-being.

Furthermore, the smoke-free household intervention (GERBANG ASRI) demonstrated the importance of addressing behavioral and environmental risk factors in community health. Increased awareness of the dangers of secondhand smoke and the commitment to implementing smoke-free homes indicate that community empowerment strategies can effectively influence behavior change. This is consistent with studies showing that family-based interventions are effective in reducing exposure to secondhand smoke and improving health (Mills, 2020; Reitsma, 2021).

Community participation and responsiveness also played a crucial role in the success of this program. The findings showed that participants were actively involved in educational sessions, screening activities, and preventive interventions, reflecting a high level of engagement. This active participation indicates that community-based approaches are effective in encouraging individuals to take part in health promotion activities. In addition, positive community responses, such as the ability to express understanding of health information and willingness to adopt healthier behaviors, suggest that the intervention successfully increased community receptiveness to health messages. Previous studies have highlighted that community engagement and participation are key determinants of successful and sustainable health promotion programs (Green & Kreuter, 2021; Laverack, 2021). In the context of Rejomulyo Village, strong social cohesion and community involvement further supported the effectiveness of the intervention.

The strength of this program lies in its integrated approach, which addresses multiple health issues simultaneously. Previous studies have shown that integrated community-based interventions are more effective than single-component programs because they address various determinants of health in a holistic manner (Allen, 2020; Jeet, 2021). The combination of education, screening, and empowerment not only increases knowledge but also facilitates behavior change and early detection, leading to more sustainable health outcomes.

However, this study has several limitations. First, the program used a descriptive approach without a control group, which limits the ability to measure causal relationships. Second, the evaluation was primarily based on short-term observations and did not assess long-term behavioral changes. Third, the sample size was relatively small and limited to one community, which may affect the generalizability of the findings.

Despite these limitations, the results highlight the potential of integrated community engagement programs in improving public health. Future programs are recommended to include longitudinal evaluation, larger sample sizes, and stronger collaboration with local health systems to ensure sustainability and scalability.

## CONCLUSION

The implementation of an integrated community health promotion program in Rejomulyo Village demonstrated that combining health education, screening, and preventive interventions is effective in improving community awareness and identifying early health risks. The program successfully engaged community members, particularly the elderly, and revealed a considerable proportion of participants at risk of non-communicable diseases and other health problems.

Health education activities contributed to increased knowledge and awareness regarding disease prevention, healthy lifestyles, and environmental health risks. Meanwhile, screening activities enabled early detection of health conditions, and preventive interventions, including local food-based nutrition programs and smoke-free household initiatives, supported community empowerment and sustainable health practices.

Overall, this integrated approach proved to be a practical and effective strategy for addressing multiple community health issues simultaneously. Future programs are recommended to strengthen long-term monitoring, expand community coverage, and enhance collaboration with local health services to ensure sustainability and broader impact.

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