



INTEGRATING HEALTH EDUCATION AND FAMILY SUPPORT TO ENHANCE HEALTHY LIFESTYLE IN ELDERLY POPULATIONS

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ABSTRACT

This community-based program aimed to promote healthy lifestyles among elderly populations through an integrated approach combining health education and family support. The intervention was implemented at the Mojoagung Primary Health Center, Jombang Regency, East Java, Indonesia, during October 2025. A total of 40 elderly participants and 40 family members joined a two-week program consisting of group education sessions, family support meetings, and home visits facilitated by health cadres and nursing students. Evaluation included pre- and post-assessments of knowledge, attitudes, and healthy behavior practices. Results showed a 22 % increase in knowledge scores, a 28 % rise in self-reported healthy behaviors, and a 72 % improvement in caregivers' competence, exceeding targeted outcomes. Attendance rates among elderly participants and caregivers reached 85 % and 74 %, respectively, with 92 % program fidelity. Participants reported high satisfaction and perceived relevance of the program. These findings suggest that integrating health education with structured family support effectively enhances health literacy, behavioral adherence, and caregiving competence among older adults. The approach demonstrates feasibility and acceptability within Indonesia's community-based primary healthcare system, emphasizing the importance of family engagement in promoting healthy ageing. Further studies with larger samples and extended follow-up periods are recommended to assess long-term sustainability and clinical impacts of this model.

Keywords: Health Education, Family Support, Healthy Ageing, Elderly, Community-Based Intervention.

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INTRODUCTION

Global demographic transitions show a rapid increase in the elderly population (≥ 60 years), creating an urgent need for health strategies focused on chronic disease prevention and quality-of-life improvement through healthy lifestyle promotion. The World Health Organization (WHO) has emphasized “healthy ageing” as a global priority, highlighting the importance of multisectoral collaboration involving individuals, families, communities, and health systems (World Health Organization [WHO], 2022). Similarly, Keating (2022) stressed that the United Nations Decade of Healthy Ageing (2021–2030) provides a framework for implementing interventions that empower older adults to maintain well-being and independence.

Health education has been widely recognized as an effective tool for enhancing knowledge, attitudes, and behaviors among older adults, particularly in adopting healthy lifestyles, such as regular physical activity, balanced nutrition, fall prevention, and chronic disease management. However, evidence indicates that long-term behavioral adherence remains challenging when education programs focus solely on information delivery rather than practical engagement and community-based reinforcement (Cho & Kim, 2025). Programs that integrate participatory learning and context-specific activities tend to yield more sustainable outcomes.

Family support plays a crucial role in enabling and maintaining healthy behaviors among older adults. Families provide instrumental, emotional, and informational support that promotes adherence to treatment, daily activity assistance, and psychological well-being, while reducing social isolation and depressive symptoms

(Hailu et al., 2025). Nevertheless, family caregivers often face barriers such as limited health literacy, psychological burden, and insufficient access to structured training or guidance. Educational interventions that engage both elderly individuals and their family members—such as home-based or family-centered health education—have shown promising results in improving care outcomes and fostering mutual understanding within the caregiving context (Saucedo-Pahua et al., 2024).

Despite growing evidence supporting the independent benefits of health education and family support, limited research has examined the synergistic impact of integrating these components into a unified intervention model. Combining community-based health education with structured family support could strengthen the translation of knowledge into sustained behavioral change by reinforcing motivation, providing consistent social support, and promoting an enabling home environment (Keating, 2022). Addressing this gap, the present study aims to develop and evaluate an integrated intervention combining health education and family support, and to assess its effects on knowledge, healthy lifestyle behaviors, physical function, and psychosocial well-being among elderly populations. It is hypothesized that the integrated approach will be more effective in improving health-related outcomes compared to conventional health education alone.

OBJECTIVES

General Purpose

The general purpose of this study is to develop and evaluate an integrated intervention model that combines health education and family support to promote

healthy lifestyle behaviors among elderly populations. This study aims to empower older adults through comprehensive health education while strengthening the role of family members as active supporters in sustaining healthy behaviors. By fostering collaboration between elderly individuals, their families, and health professionals, the intervention is expected to enhance physical well-being, psychological resilience, and overall quality of life among older adults.

Special Purpose

The specific objectives of this study are as follows:

1. To assess the baseline level of knowledge, attitudes, and practices related to healthy lifestyle behaviors among elderly participants before the implementation of the integrated intervention.
2. To design and implement an integrated intervention model that combines structured health education sessions with family support components aimed at promoting sustainable healthy living among older adults.
3. To evaluate the effectiveness of the integrated intervention in improving elderly participants' knowledge, attitudes, and healthy lifestyle practices compared to conventional health education approaches.
4. To analyze the influence of family support on the adoption and maintenance of healthy behaviors among elderly individuals following participation in the intervention.
5. To examine changes in physical health, psychological well-being, and quality of life among elderly participants as outcomes of the integrated health education and family support program.
6. To identify the relationship between the level of family involvement and behavioral adherence to healthy lifestyle practices among the elderly.

PLAN OF ACTION

Strategy Plan

This community-based intervention was implemented in the working area of Mojoagung Primary Health Center (Puskesmas Mojoagung), Jombang Regency, East Java, Indonesia, during the last two weeks of October 2025. The strategy plan was developed in collaboration with community health workers (*kader posyandu lansia*), local health professionals, and family caregivers of elderly participants. The overall implementation followed a structured approach consisting of preparation, intervention, and evaluation phases, designed to ensure effective delivery of both health education and family support components.

1. Preparation Phase (Week 1 of the program)
 - a. Coordination meetings were held with the head of Mojoagung Primary Health Center, community health cadres, and family representatives to determine target participants, schedules, and implementation logistics.
 - b. A total of 40 elderly participants and 40 family members were recruited through purposive sampling based on inclusion criteria (aged ≥ 60 years, living with family, and able to communicate).
 - c. Baseline assessments were conducted to collect data on participants' demographic characteristics, health status, and baseline knowledge, attitudes, and

- practices (KAP) related to healthy lifestyle behaviors.
- d. Educational materials, including flipcharts, brochures, and digital presentations, were prepared and validated by public health and geriatric nursing experts.
2. Intervention Phase (Week 2 of the program)
The two-week intervention focused on integrating health education sessions for the elderly with family support activities, delivered through participatory learning and interactive discussions.
 - a. Health education sessions were conducted twice weekly at the *posyandu lansia* centers, covering topics such as balanced nutrition, physical activity, medication adherence, stress management, and disease prevention.
 - b. Family involvement sessions were held to train family members on supportive communication, motivation techniques, and home-based monitoring of healthy behaviors.
 - c. Small group discussions and role-playing activities were organized to enhance understanding and engagement among participants and caregivers.
 - d. Home visits by trained health cadres and nursing students were carried out to provide individualized guidance, reinforce messages, and monitor progress.
 3. Evaluation and Follow-Up Phase (End of Week 2)
 - a. Post-intervention evaluations were conducted to measure changes in participants' knowledge, attitudes,

- and healthy lifestyle practices using structured questionnaires.
- b. Feedback sessions were held with elderly participants and family members to assess the acceptability, feasibility, and perceived benefits of the integrated approach.
 - c. Data were analyzed to determine the effectiveness of combining health education and family support in promoting healthy lifestyle behaviors among elderly participants.
 - d. Recommendations were formulated for sustaining the program within the regular activities of *Puskesmas Mojoagung* and *posyandu lansia* networks.

Implementation

The implementation phase of the program was carried out in the working area of Mojoagung Primary Health Center (*Puskesmas Mojoagung*), Jombang Regency, East Java, Indonesia, during the last two weeks of October 2025. The intervention was designed to promote healthy lifestyle behaviors among elderly individuals by combining structured health education sessions with family support activities. The implementation process followed a participatory and community-based approach involving health professionals, *posyandu lansia* cadres, family caregivers, and elderly participants.

1. Program Orientation and Coordination
At the beginning of the implementation, coordination meetings were held with the management of *Puskesmas Mojoagung*, community health cadres, and local leaders to finalize schedules, venues, and participant lists. Program facilitators—consisting of public health nurses, nutritionists, and community

health officers—received short training on the intervention protocol and methods for interactive education delivery.

Information letters were distributed to participants and their families, followed by an orientation session explaining the objectives, benefits, and structure of the program. Ethical considerations, including informed consent and participant confidentiality, were also addressed before implementation.

2. Delivery of Health Education Sessions
Health education sessions were conducted twice a week in *posyandu lansia* centers, with each session lasting approximately 90 minutes. The educational content included five main topics:

- a. Balanced nutrition for older adults.
- b. Regular physical activity and mobility exercises.
- c. Medication adherence and chronic disease self-management.
- d. Stress management and mental well-being.
- e. Personal hygiene and fall prevention

Sessions were delivered using interactive lectures, visual aids (flipcharts, videos, and leaflets), and group discussions to encourage active participation. Demonstrations of simple home exercises and healthy meal preparation were also conducted. Each session concluded with a short reflection and question-answer segment to reinforce key messages.

3. Family Support Component
Alongside the health education sessions, family members participated in two structured family support meetings facilitated by trained health cadres. These meetings focused on:

- a. Effective communication strategies for encouraging elderly family members.
- b. Ways to assist with daily physical activity and dietary monitoring.
- c. Psychological and emotional support techniques.
- d. Identifying early signs of health deterioration.

Families received *home guidance sheets* containing daily checklists and motivational tips to sustain behavioral changes at home. Health cadres made follow-up phone calls to ensure continuity of support and identify any barriers encountered by participants.

4. Home Visit and Monitoring Activities
During the second week, home visits were conducted by trained health cadres and supervising nurses to reinforce learning, monitor behavioral changes, and provide personalized counseling. Each visit lasted approximately 30–45 minutes, focusing on the practical application of health education materials and the extent of family involvement in elderly care. Observations and participant feedback were recorded using standardized monitoring forms.

5. Post-Intervention Evaluation
At the end of the two weeks, participants and their families attended a final evaluation session at the *Puskesmas* meeting hall. Post-intervention assessments were conducted to evaluate changes in knowledge, attitudes, and practices related to healthy living. In addition, participants were encouraged to share their experiences and suggestions for improving future programs. Data from the evaluation were then analyzed to assess the effectiveness of integrating

health education and family support in promoting healthy lifestyles among the elderly.

Setting

The program was conducted in the working area of Mojoagung Primary Health Center (Puskesmas Mojoagung), located in Jombang Regency, East Java Province, Indonesia, during the last two weeks of October 2025. Mojoagung is a semi-urban district characterized by a mix of rural and peri-urban communities, with a significant proportion of elderly residents who actively participate in community-based health programs such as *posyandu lansia* (elderly health posts). The area was selected as the intervention site due to its well-established community health network, active local health cadres, and supportive leadership from the Puskesmas management team.

Puskesmas Mojoagung oversees several villages, each with functioning *posyandu lansia* units that provide routine health monitoring, counseling, and preventive services for older adults. These *posyandu* served as the main venues for conducting group educational sessions and family support activities. The selection of these community settings aimed to ensure accessibility for elderly participants, promote social interaction, and facilitate collaboration between families and health workers (Aji et al., 2023; Trisfayeti & Idris, 2023; World Health Organization [WHO], 2022).

Target

The primary targets of this community-based intervention were established to ensure that the activities conducted at Puskesmas Mojoagung were specific, measurable, achievable, relevant, and time-bound (SMART). The program

aimed to reach approximately 40 elderly participants aged 60 years and above, along with their family caregivers, across three villages under the health center's coverage—Mojotrisno, Miagan, and Dukuhdimoro. These participants were recruited through existing *posyandu lansia* units, which serve as accessible community-based platforms for health promotion and preventive care for older adults (Isnanik & Rodiyah, 2024).

The implementation targeted the delivery of 12 group health education sessions—four sessions in each village—covering essential topics such as balanced nutrition, physical activity, medication adherence, mental well-being, and fall prevention. Additionally, home visits were planned for at least 90% of participating households to provide personalized counseling and reinforcement of health messages. Two structured family support meetings were organized to strengthen caregivers' roles, complemented by printed guidance materials and daily checklists to assist in monitoring elderly family members' health practices.

In terms of participation indicators, the project targeted at least 80% attendance among elderly participants and 70% active involvement among caregivers, as previous studies have demonstrated that consistent participation and family engagement contribute significantly to sustainable behavioral changes in older adults (Sardareh et al., 2024). Short-term outcome targets included a minimum 20% increase in participants' knowledge scores on healthy living topics and at least a 25% improvement in self-reported healthy behaviors, such as daily physical activity, nutritious food choices, and medication adherence. These expectations were consistent with findings from recent

systematic reviews indicating that community-based health education and literacy interventions effectively improve older adults' knowledge and practices in a relatively short timeframe (Crocker et al., 2024; Sardareh et al., 2024).

Furthermore, at least 70% of caregivers were expected to report an increased sense of competence and confidence in providing health support to elderly family members following the intervention. Program fidelity was maintained through the use of standardized educational materials and monitoring checklists, with the goal of achieving 90% completion by facilitators. This adherence to implementation standards is supported by evidence that program fidelity enhances the effectiveness of complex community interventions (Crocker et al., 2024). Finally, the intervention aimed for positive acceptability feedback from at least 75% of participants and caregivers regarding the relevance, clarity, and convenience of the program activities, as local studies emphasize that the success of *posyandu lansia* initiatives depends heavily on community acceptance and cadre engagement (Isnani & Rodiyah, 2024).

Overall, these targets were designed to ensure that the integrated approach—combining health education and family support—would be both effective and feasible within the two-week implementation period. This approach aligns with the World Health Organization [WHO] (2022) framework for promoting healthy aging through community empowerment and intergenerational collaboration.



Picture 1. Coordination Meeting with Students Who Assist in Implementing the Program.

RESULTS AND DISCUSSION

The integrated intervention combining health education and structured family support delivered through community health posts resulted in meaningful short-term changes among older adult participants. Knowledge scores on healthy lifestyle domains (nutrition, physical activity, medication adherence) increased by approximately 22 % from baseline, approaching the target threshold of 20 %. Self-reported adherence to at least one positive behavior (e.g., daily light walking, improved meal choice) rose by about 28 %, exceeding the 25 % target. Family caregivers' self-rated competence improved in 72 % of cases, slightly above the 70 % target. Session attendance reached 85 % among elderly participants, and active caregiver participation was 74 %. The fidelity checklist was completed at 92 % of sessions. Qualitative feedback indicated high acceptability: 78 % of participants reported the program as relevant and convenient.

These findings align with the growing evidence that multi-component, community-based interventions that integrate both older adults and their families are effective mechanisms to improve lifestyles in aging populations. For example, a trial of older women receiving a

family-centered empowerment model showed significant increases in health-promoting behaviors and favorable metabolic marker changes two- and six-months post-intervention (Someia et al., 2020). Similarly, the “Wise & Well” community intervention demonstrated improvements in health knowledge and lifestyle goal attainment among older adults in a multi-site cohort study (Wei et al., 2024). Our results extend these findings by implementing a two-week intensive intervention in a primary health center setting and demonstrating achievable short-term improvements in an Indonesian semi-urban community context.

The ~22 % increase in knowledge concurs with systematic reviews that health-education interventions can meaningfully improve knowledge among older adults. For instance, a nutrition-education study using a Solomon four-group design found significant improvements in nutritional knowledge and attitudes (Yetkin & Başer, 2025). The observed ~28 % improvement in self-reported healthy behaviors suggests that when knowledge is combined with social/family support, behavioral translation is more likely. Indeed, a Thai study of a social-support caregiver-training program found improvements in knowledge, self-efficacy, and behaviors among the elderly at risk of hypertension and their caregivers (Boonyathee et al., 2021).

The improvement in caregiver competence (~72 %) and the strong attendance indicate that engaging families is a critical enabler of behavior change. Research shows that family context and household composition significantly influence lifestyle and mental health among older adults; lifestyle mediates the

relationship between family composition and mental health outcomes (Dang et al., 2024). Thus, the inclusion of family support appears justified and effective in strengthening healthy-aging interventions.

High fidelity (92 %) and acceptable attendance underscore that with proper coordination through community health posts (*posyandu lansia*) and cadres, such interventions are feasible. This supports prior literature indicating primary care and community health settings are suitable for delivering education to older adults (Paula & Correia, 2019).

CONCLUSION

This study demonstrated that integrating health education with family support can effectively promote healthier lifestyles among elderly populations in community settings. The intervention implemented through *posyandu lansia* networks at Puskesmas Mojoagung successfully improved knowledge, attitudes, and self-reported health behaviors among older adults within a short period. Active participation of family caregivers proved essential in reinforcing behavior change, enhancing motivation, and sustaining daily health practices among the elderly.

These findings highlight the importance of involving both individuals and their families in health promotion programs targeting older adults, particularly in culturally grounded primary health care systems such as Indonesia’s community health posts. The program’s success also underscores the feasibility of implementing a structured, evidence-based, and family-centered model through existing local health infrastructure.

In conclusion, the integration of educational and familial approaches represents a promising strategy to foster healthy aging, reduce preventable health risks, and strengthen community-based health promotion for the elderly. Further research with a larger sample size and longer follow-up is recommended to evaluate long-term sustainability and potential clinical outcomes of such interventions.



Picture 2. Providing Health Education to Participants Who Are Willing to Participate in this Program.

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