Research Article

# IMPROVING ELDERLY KNOWLEDGE ON GOUT THROUGH COMMUNITY-BASED HEALTH EDUCATION IN BUMI HARAPAN VILLAGE, INDONESIA

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**Abstract**

**Background**: Gout is a prevalent metabolic disorder among older adults and is associated with joint pain, functional limitations, and reduced quality of life. Limited knowledge regarding risk factors, prevention, and management contributes to delayed treatment and poor self-care practices among the elderly. **Objective:** This study aimed to evaluate the effectiveness of community-based health education in improving elderly knowledge regarding gout in Bumi Harapan Village. **Methods**: A community service–based educational intervention was conducted using a descriptive pre–post approach. The program involved 12 elderly participants and was implemented through interactive lectures, group discussions, and distribution of educational leaflets. Educational materials covered the definition, causes, signs and symptoms, prevention strategies, and management of gout. Evaluation was carried out through direct questioning, interactive discussion, and participant responses following the session. **Results**: The findings demonstrated a noticeable improvement in participants' understanding of gout after the educational intervention. Most participants were able to correctly explain gout-related risk factors, recognize early symptoms, and identify appropriate preventive measures, including dietary modification and regular health monitoring. High participant engagement and active discussion indicated positive acceptance of the educational approach. **Conclusion:** Community-based health education effectively enhances elderly knowledge regarding gout and encourages healthier lifestyle practices. Regular and sustainable educational programs are recommended to support early prevention and improve quality of life among older adults.

**Keywords:** Community Intervention, Elderly, Gout, Health Education, Lifestyle Modification

## Background

Gout is a metabolic disorder characterized by elevated serum uric acid levels that lead to the deposition of monosodium urate crystals in joints and surrounding tissues, resulting in inflammation, pain, and functional impairment. This condition predominantly affects older adults and represents one of the most common joint disorders worldwide after osteoarthritis (Pataky et al., 2021). Globally, gout affects approximately 1–4% of the general population, with prevalence increasing significantly with age, particularly among individuals over 60 years old (Singh & Gaffo, 2020).

In Indonesia, gout remains a major public health concern, especially among the elderly population. National health data indicate that the prevalence of joint disorders increases progressively with age, reaching more than 50% among individuals aged 65 years and older (Sueni et al., 2021). The rising incidence of gout has been closely associated with lifestyle-related factors, including high-purine diets, reduced physical activity, obesity, and metabolic comorbidities such as hypertension and diabetes mellitus (Spence & Youssef, 2021). Age-related physiological changes, particularly declining renal function, further exacerbate uric acid accumulation in older adults, increasing their susceptibility to hyperuricemia and gout-related complications (Efendi et al., 2022).

Hyperuricemia occurs when serum uric acid levels exceed normal thresholds, commonly defined as greater than 7.0 mg/dL in men and 6.0 mg/dL in women (Arjani et al., 2018). Persistent hyperuricemia may result in

recurrent acute gout attacks, tophus formation, joint deformities, and long-term renal damage if left untreated (Alawuddin, 2011). Despite these serious consequences, gout is often underestimated by older adults, who frequently perceive joint pain as a normal part of aging rather than a preventable and manageable condition (Nasir, 2017).

Limited health literacy and inadequate knowledge regarding gout risk factors, early symptoms, dietary management, and preventive strategies contribute to delayed treatment-seeking behavior among the elderly. Several studies have demonstrated that many older adults are unaware of the relationship between purine-rich foods—such as red meat, seafood, and organ meats—and elevated uric acid levels (Silpiyani et al., 2023). In addition, insufficient understanding of non-pharmacological management, including hydration, physical activity, and routine health monitoring, further increases the risk of disease progression and recurrence (Shiyama et al., 2022).

Health education plays a critical role in addressing these knowledge gaps and empowering elderly individuals to adopt healthier lifestyles. Community-based health education interventions have been shown to effectively improve knowledge, attitudes, and self-care behaviors related to chronic disease prevention and management among older populations (Nova Nurwinda Sari et al., 2022). Educational strategies that incorporate interactive lectures, visual aids, and group discussions are particularly effective for elderly participants, as they accommodate age-related cognitive changes and enhance information retention (Nasir, 2017).

In rural and community settings, health education programs delivered through local health posts or community gatherings provide an accessible platform for promoting preventive health behaviors among older adults. Such programs not only increase awareness of disease mechanisms and risk factors but also encourage early detection, routine health checks, and adherence to recommended lifestyle modifications (Kurniawan et al., 2024). Furthermore, community engagement fosters social support, which is essential for sustaining behavioral change in elderly populations.

Given the increasing burden of gout among older adults and the persistent gaps in health knowledge, targeted educational interventions are urgently needed. This community-based health education program was designed to improve elderly knowledge regarding gout through structured health education activities in Bumi Harapan Village. By enhancing understanding of gout prevention and management, this initiative aims to support healthier aging, reduce disease-related complications, and improve overall quality of life among the elderly community.

## Method

### Study Design

This study employed a community-based descriptive intervention design as part of a health education program for older adults. The activity was conducted as a community service initiative aimed at improving elderly knowledge regarding gout through structured health education. The evaluation focused on changes in participants' understanding following the educational intervention.

### Setting and Participants

The program was conducted at a community health post (Posyandu Lansia) in Bumi Harapan Village, Kurau District, Tanah Laut Regency, Indonesia. The activity took place on May 12, 2025, and lasted approximately 60 minutes. A total of 12 elderly participants aged 60 years and above were involved. Participants were recruited using a convenience sampling approach based on attendance at the community health post on the day of the activity. All participants voluntarily agreed to take part in the program.

### Educational Intervention

The health education intervention was delivered through an interactive approach combining lectures, group discussions, and question-and-answer sessions. Educational materials covered key topics related to gout, including definition, causes, risk factors, signs and symptoms, prevention strategies, and management options, both pharmacological and non-pharmacological. Particular emphasis was placed on lifestyle modification, such as low-purine dietary intake, adequate hydration, regular physical activity, and routine health monitoring.

To enhance comprehension, visual aids such as

leaflets, banners, and slide presentations were used. The educational content was designed using simple language and visual illustrations to accommodate age-related cognitive changes and facilitate understanding among elderly participants.


Figure 1. Educational leaflet on gout prevention

**Data Collection and Evaluation**

Evaluation of the intervention was conducted using an informal pre–post approach through direct questioning and interactive discussion. Prior to the educational session, participants were asked open-ended questions to assess their baseline knowledge regarding gout. Following the intervention, participants were asked similar questions to evaluate changes in understanding.

Knowledge improvement was assessed qualitatively based on participants' ability to correctly explain gout-related concepts, identify risk factors, recognize early symptoms, and describe appropriate preventive measures. Participant engagement, responsiveness, and active participation during discussions were also observed and documented by the facilitators.

In addition to educational activities, basic health screening, including blood pressure measurement and uric acid level checks, was provided to participants as supportive preventive care.

**Results and Discussion**

**Results**

**Participant Characteristics**

A total of 12 elderly individuals participated in the community-based health education program. All participants were aged 60 years and above and regularly attended community health activities at the Posyandu Lansia in Bumi Harapan Village. Most participants reported experiencing joint discomfort or stiffness, which they commonly associated with normal aging rather than a specific metabolic condition. Prior to the intervention, only a few participants were able to correctly identify gout as a disease related to elevated uric acid levels.

Figure 2. Participants attending the health education session

**Baseline Knowledge of Gout**

Initial assessment through open-ended questioning revealed limited baseline knowledge among participants regarding gout. The majority of participants were unfamiliar with the underlying causes of gout and were unable to identify purine-rich foods as a major risk factor. Awareness of preventive strategies, such as dietary modification, adequate fluid intake, and routine uric acid monitoring, was also low. Several participants believed that gout-related joint pain could only be managed with medication and were unaware of the role of lifestyle changes in disease prevention and control.

**Knowledge Improvement After Health Education**

Following the educational intervention, a clear

improvement in participants' understanding of gout was observed. Most participants were able to explain the basic definition of gout, recognize common symptoms such as joint pain and swelling, and identify key risk factors, including consumption of high-purine foods and lack of physical activity. Participants also demonstrated improved knowledge regarding preventive measures, particularly the importance of low-purine diets, increased water intake, and regular health checks.

During post-intervention discussions, participants actively responded to questions and were able to provide examples of foods that should be limited or avoided to prevent gout recurrence. Several participants also expressed increased awareness of the importance of early detection and routine monitoring of uric acid levels.

Figure 3. Delivery of the gout health education session

**Participant Engagement and Response**

Participant engagement throughout the session was high. Elderly participants showed enthusiasm during discussions, frequently asked questions, and shared personal experiences related to joint pain and gout management. The use of visual aids, including leaflets and presentation slides, facilitated comprehension and encouraged active participation. Participants reported that the educational materials were easy to understand and relevant to their daily lives.

**Health Screening Findings**

As part of the program, basic health screening was conducted, including blood pressure measurement and uric acid level checks. Some participants were found to have elevated uric acid levels, which reinforced the relevance of the educational content. The screening results increased participants' motivation to adopt healthier lifestyles and seek routine health monitoring.

**Discussion**

The results of this community-based health education program demonstrate that structured and interactive educational interventions can substantially improve elderly knowledge regarding gout and its prevention. Prior to the intervention, most participants exhibited limited understanding of gout as a metabolic disease, its risk factors, and appropriate preventive measures. This finding is consistent with previous studies indicating that elderly individuals often interpret joint pain as a normal part of aging rather than a pathological condition requiring medical and lifestyle management (Nasir, 2017; Silpiyani et al., 2023).

Age-related physiological changes, particularly declining renal function and slower purine metabolism, place older adults at increased risk of hyperuricemia and gout (Alawuddin, 2011). However, despite this vulnerability, awareness among elderly populations remains low, especially in rural and community settings. The baseline knowledge gaps identified in this study reinforce earlier evidence that insufficient health literacy contributes to delayed recognition and suboptimal management of gout among older adults (Shiyama et al., 2022).

Following the health education intervention, participants demonstrated improved comprehension of gout-related concepts, including disease definition, symptoms, dietary risk factors, and lifestyle-based prevention strategies. This improvement highlights the effectiveness of community-based education in addressing knowledge deficits and empowering elderly individuals to engage in preventive health behaviors. Similar outcomes have been reported in other community health education initiatives, where structured counseling significantly enhanced elderly knowledge and awareness of chronic disease management (Nova Nurwinda Sari et al., 2022).

Dietary behavior emerged as a critical theme during the educational sessions. Many participants initially reported frequent

consumption of purine-rich foods such as red meat, seafood, and organ meats, without awareness of their impact on uric acid levels. This finding aligns with previous studies identifying diet as a major modifiable risk factor for gout, particularly in elderly populations with declining metabolic capacity (Shiyama et al., 2022; Silpiyani et al., 2023). By providing practical examples of low-purine dietary alternatives and emphasizing portion control, the intervention helped participants recognize feasible changes within their daily routines.

The strong participant engagement observed during discussions underscores the importance of participatory learning approaches in elderly health education. Elderly individuals tend to learn more effectively through experience-based and interactive methods rather than passive information delivery (Nasir, 2017). In this program, open discussion and personal experience sharing allowed participants to contextualize the information within their own health conditions, thereby enhancing comprehension and retention. The use of visual aids such as leaflets and presentation slides further supported understanding, particularly for participants with age-related cognitive or sensory limitations.

The integration of basic health screening, including blood pressure and uric acid level checks, strengthened the impact of the educational intervention. Participants who were identified as having elevated uric acid levels appeared more receptive to the educational messages and more motivated to adopt preventive behaviors. This finding supports existing evidence that combining health education with screening activities increases perceived susceptibility and encourages proactive health management among elderly populations (Shiyama et al., 2022; Kurniawan et al., 2024). Early detection through routine screening is essential in preventing recurrent gout attacks, joint deformities, and renal complications (Alawuddin, 2011).

Furthermore, the community-based setting played a crucial role in the success of the program. Delivering health education within familiar and accessible environments, such as local health posts, facilitates participation and fosters trust between educators and participants. Community-based interventions have been shown to enhance social support and collective learning, which are important determinants of sustained behavior change among older adults (Nova Nurwinda Sari et al., 2022). Involving community members also helps normalize preventive behaviors and reduces stigma associated with chronic disease management.

Despite its positive outcomes, this program has several limitations. The small number of participants and the qualitative nature of knowledge assessment limit the generalizability of the findings. Additionally, the absence of standardized pre- and post-test instruments prevents precise quantification of knowledge improvement. Nevertheless, the observed improvements in participant responses and engagement provide meaningful insights into the potential effectiveness of similar educational interventions in comparable community settings.

Overall, this study supports the role of community-based health education as an effective strategy to improve elderly knowledge and awareness regarding gout. Sustainable implementation of such programs, integrated with routine health services and supported by family members and community health workers, may contribute to long-term behavioral change and improved quality of life among older adults. Future programs should consider longitudinal follow-up and the use of standardized assessment tools to further evaluate the long-term impact of educational interventions on health outcomes.

Figure 4. Community-based health education program

**Conclusion**

This community-based health education

program demonstrated that structured and interactive educational interventions are effective in improving elderly knowledge regarding gout and its prevention. Prior to the intervention, participants exhibited limited awareness of gout as a metabolic disorder and lacked understanding of its risk factors, symptoms, and preventive strategies. Following the educational activities, participants showed improved comprehension of gout-related concepts, particularly in relation to dietary management, lifestyle modification, and the importance of routine health monitoring.

The findings highlight the importance of delivering health education through participatory and visually supported approaches tailored to the learning needs of older adults. Integrating health education with basic health screening further enhanced participants' awareness and motivation to adopt preventive behaviors. Community-based settings, such as local health posts, provide an effective platform for reaching elderly populations and promoting sustainable health behavior change.

Overall, community-based health education represents a practical and impactful strategy for gout prevention among older adults. Regular and continuous implementation of similar programs, supported by families and community health workers, is recommended to strengthen long-term disease prevention efforts and improve the quality of life of elderly populations.

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