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### SOCIALIZATION OF RED GUAVA TO REDUCE URIC ACID IN THE YASINAN GROUP

#### SOSIALISASI PEMANFAATAN JAMBU BIJI MERAH DALAM UPAYA MENURUNKAN ASAM URAT PADA KELOMPOK YASINAN

Scope:  
Health

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### ABSTRACT

**Background:** Many individuals in the Yasinan group report experiencing pain in their knees and back, and they also have a history of elevated uric acid levels. Uric acid is a waste product generated from the metabolism of purines, primarily filtered by the kidneys and excreted through urine. Excess uric acid accumulation in the body, known as hyperuricemia, can lead to the formation of sharp uric acid crystals in the joints, tissues, and other organs, causing inflammation and discomfort. **Objective:** This community service initiative aimed to enhance the understanding of the Yasinan group in Tlogo Village, Blitar Regency, East Java, regarding the use of red guava as a non-pharmacological intervention to help reduce uric acid levels. **Method:** The socialization activity was carried out with thirty-three participants from the Yasinan mothers' collective. Educational materials were delivered through informational brochures and red guava samples. An evaluative assessment was conducted via post-intervention uric acid analysis to monitor changes in uric acid levels following a seven-day intervention period. **Results:** The findings indicated that after seven days of red guava consumption, there was an average decrease in uric acid levels of 1.128 mg/dL among participants. **Conclusion:** The socialization program demonstrated that the consumption of red guava fruit for seven consecutive days may contribute to a reduction in uric acid concentrations, with an average decline of 1.128 mg/dL observed.

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### ABSTRAK

**Latar belakang:** Sebagian besar anggota kelompok yasinan memiliki keluhan nyeri punggung dan lutut dan juga memiliki riwayat kadar asam urat yang tinggi. Sisa metabolisme purin, asam urat, sebagian besar disaring oleh ginjal dan dikeluarkan melalui urine. Kondisi ini disebut hiperurisemia yang dapat menyebabkan terbentuknya kristal asam urat tajam di sendi, jaringan, dan organ lainnya, serta menyebabkan peradangan dan nyeri. **Tujuan:** Kegiatan pengabdian masyarakat ini bertujuan untuk meningkatkan pemahaman kelompok yasinan di Desa Tlogo Kabupaten Blitar Jawa Timur tentang pemanfaatan jambu biji merah sebagai terapi non farmakologi dalam menurunkan kadar asam urat. **Metode:** Dengan menggunakan media brosur dan sampel jambu biji merah, sosialisasi dilakukan kepada 33 peserta kelompok yasinan ibu-ibu. Evaluasi dilakukan dengan melakukan post-test pengecekan asam urat untuk melihat pengaruh setelah 7 hari. **Hasil:** Hasil dari sosialisasi menunjukkan bahwa setelah mengonsumsi jambu biji merah selama 7 hari didapatkan bahwa penurunan kadar asam urat rata-rata 1,128 mg/dL. **Kesimpulan:** Setelah sosialisasi ditemukan adanya pengaruh bahwa mengonsumsi buah jambu biji merah selama 7 hari dapat menurunkan kadar asam urat dengan penurunan rata-rata 1,128 mg/dL.

### Kata kunci:

Asam Urat; Jambu Biji Merah;  
Pengabdian Masyarakat;  
Pendidikan Kesehatan; Terapi  
Non-farmakologi

## BACKGROUND

Recent studies on the prevalence and incidence of gout show considerable variability depending on demographic factors and methodological approaches, with reported figures ranging from below 1.0% to 6.8% for prevalence and 0.58 to 2.89 cases per 1,000 person-years for incidence (Dehlin et al., 2020). Indonesia is among the countries with the highest number of gout arthritis cases, a condition commonly affecting the elderly. The high number of cases is believed to be associated with prolonged medication use and lifestyle factors. Common symptoms include joint pain, particularly in the extremities, as well as aching and discomfort that interfere with daily activities (Arifuddin et al., 2024).

Based on interviews with the chairman of the Majelis Ta'lim Yasinan Group, most members complained of joint pain, tingling sensations, and a history of gout. The chairman also noted that many members lacked knowledge of gout management. Uric acid is a waste product of purine metabolism, primarily filtered by the kidneys and excreted through urine. When the kidneys cannot efficiently eliminate uric acid or when the body produces it in excess, uric acid levels in the blood increase, leading to a condition known as hyperuricemia. This condition can cause sharp uric acid crystals to form in joints, tissues, and other organs, resulting in inflammation and pain (Kementerian Kesehatan RI, 2025; Mahmudah et al., 2023). Excess uric acid represents a degenerative disorder that significantly reduces the quality of life among members of the Yasinan group at Tlogo Village, Blitar Regency. Most members reported joint aches, pain, and tingling sensations, while many remained unfamiliar with proper gout management practices.

The number of gout patients continues to increase, with most cases occurring among individuals in the productive age group. Dietary factors—particularly the consumption of purine-rich foods—are among the main contributors to gout recurrence (Supenah et al., 2022). According to the World Health Organization (WHO), approximately 335 million people suffer from gout worldwide, with a global prevalence of 34.2%. In Indonesia, the prevalence is reported at 81.0%, with only 24.0% seeking medical care, while 71.0% prefer to self-medicate with over-the-counter drugs. Among the elderly, the prevalence of gout is higher in women (27.5%) than in men (21.8%), primarily due to hormonal changes during menopause that affect metabolic processes. The reduction in estrogen, which functions as a uricosuric agent—a compound that promotes uric acid excretion through the kidneys—contributes to higher uric acid levels in

women (Rusmini et al., 2023; Supenah et al., 2022).

Two main causes of hyperuricemia are (1) reduced uric acid excretion in the renal tubules and (2) increased uric acid production due to excessive synthesis. Regular consumption of purine-rich foods such as organ meats, crab, shellfish, beans, and cheese can elevate uric acid levels (Aulia and Wagustina, 2025). Hyperuricemia is typically defined as serum uric acid levels exceeding 7.0 mg/dL in men and 6.0 mg/dL in women. Frequent consumption of purine-containing foods such as spinach, sardines, water spinach, and offal can also increase uric acid synthesis (Nuranti et al., 2020). Proper management of hyperuricemia is essential to reduce acute attacks, prevent recurrence and complications caused by urate crystal deposits, and avoid disability (Mulianda et al., 2019). In addition to gout, osteoarthritis and rheumatoid arthritis are other common joint conditions in the elderly. Dietary patterns also influence blood sugar, lactic acid, oxalate crystal formation, general health, and immune function (Saragih et al., 2020).

While pharmacological therapies are commonly prescribed, non-pharmacological interventions are increasingly used as complementary treatments to reduce blood uric acid levels, particularly for metabolic and degenerative conditions. These approaches generally have fewer side effects when used appropriately (Aulia and Wagustina, 2025). One such intervention is the consumption of red guava (*Psidium guajava*), which is rich in vitamin C—the active compound known to help lower uric acid levels. Vitamin C acts as a uricosuric agent, inhibiting the reabsorption of uric acid and enhancing its excretion through urine. Additionally, vitamin C reduces inflammation and oxidative stress, thereby limiting uric acid production. It also increases the glomerular filtration rate, aiding in the removal of uric acid from the body (Aulia and Wagustina, 2025).

Findings from a community service project at Karangampel District, Indramayu, indicated that daily red guava consumption for seven days led to a measurable reduction in uric acid levels among older adults (Supenah et al., 2022). Beyond its vitamin C content, red guava also contains natural antioxidants such as quercetin and flavonoid polyphenols, which help reduce uric acid levels by neutralizing free radicals and inhibiting oxidative stress (Aulia and Wagustina, 2025).

Many members of the Yasinan group at Tlogo Village reported symptoms such as tingling, headaches, and body aches, according to interviews with the group leader. Therefore, the purpose of this community service program was to increase participants' awareness and understanding of red guava as a natural means to lower uric acid levels through education and demonstration. Additionally,

free uric acid testing was conducted before and after the intervention to assess its impact. This examination also provided educational value, enabling participants to understand the effects of high-purine foods and the importance of maintaining a healthy lifestyle (Tambunan et al., 2024).

## METHOD

The 33 members of the Yasinan group at Tlogo Village, Kanigoro District, Blitar Regency, meet once a week at one of their homes to read Surah Yasin, recite tahlil, and perform istighosah. They also hold social gatherings. This community service activity, conducted from July 5th to August 9th, 2025, involved 33 participants. To help lower uric acid levels, the program incorporated a health counseling approach focused on uric acid management and red guava consumption. Participants were given 200 grams of red guava and instructed to consume it daily for seven consecutive days. As part of the information dissemination strategy, media materials such as booklets and handouts were used during the counseling sessions. Each presentation included a question-and-answer session to assess participants' understanding and engagement with the material. Evaluation was carried out at both the beginning and the end of the sessions to measure participants' level of knowledge and their improvement after counseling.

Each of the 33 participants received a free uric acid test along with health counseling. Regular uric acid testing assists in the early detection of elevated uric acid levels and promotes preventive actions such as dietary modifications and increased physical activity to maintain normal uric acid levels. This evaluation also provided educational value, helping participants understand the effects of high-purine diets and the importance of maintaining a healthy lifestyle. The free uric acid test was conducted twice within seven days to

determine the effectiveness of the intervention.

This community service activity was implemented using an instructive and interactive approach consisting of four main stages. The first stage was coordination and preparation, which involved establishing partner groups and preparing the venue, facilities, and infrastructure. The second stage was initial health education and counseling, which included registering participants, distributing handouts, providing information related to uric acid, conducting a question-and-answer session, and giving participants samples of red guava. The third stage was the free uric acid examination, which involved preparing the equipment, registering participants, and conducting uric acid testing. The fourth stage was monitoring and evaluation, which focused on assessing participants' ability to recognize changes in uric acid levels before and after the intervention and recording the range of uric acid values obtained.

The equipment used included uric acid meters, attendance records, monitoring forms, and training materials such as pamphlets and booklets. Data were collected through direct observation, uric acid measurements, and pre-and post-tests. The collected data were analyzed using both quantitative and qualitative methods. Quantitative data, including uric acid levels and attendance, were analyzed using descriptive statistics and comparative tests (paired t-test or Wilcoxon test) to compare changes before and after the intervention.

## RESULT AND DISCUSSION

Based on the table below, it can be seen that among the 33 participants of the Yasin recitation group in RT 01 and RT 02, the early elderly group comprised 54.50%, the late elderly group 12.00%, the senior elderly group 9.22%, the late adult group 18.18%, and the early adult group 6.10%.

**Table 1.** Frequency Distribution Based on Age

| No.   | Age                 | Frequency | Percentage |
|-------|---------------------|-----------|------------|
| 1.    | 25-36 early adults  | 2         | 6.10%      |
| 2.    | 37-45 late adults   | 6         | 18.18%     |
| 3.    | 46-55 early elderly | 18        | 54.50%     |
| 4.    | 56-65 late elderly  | 4         | 12.00%     |
| 5.    | 66 > senior elderly | 3         | 9.22%      |
| Total |                     | 33        | 100.00%    |

As shown in the table above, the majority of participants belong to the early elderly group, which represents more than half of the total population. The table below shows the occupational

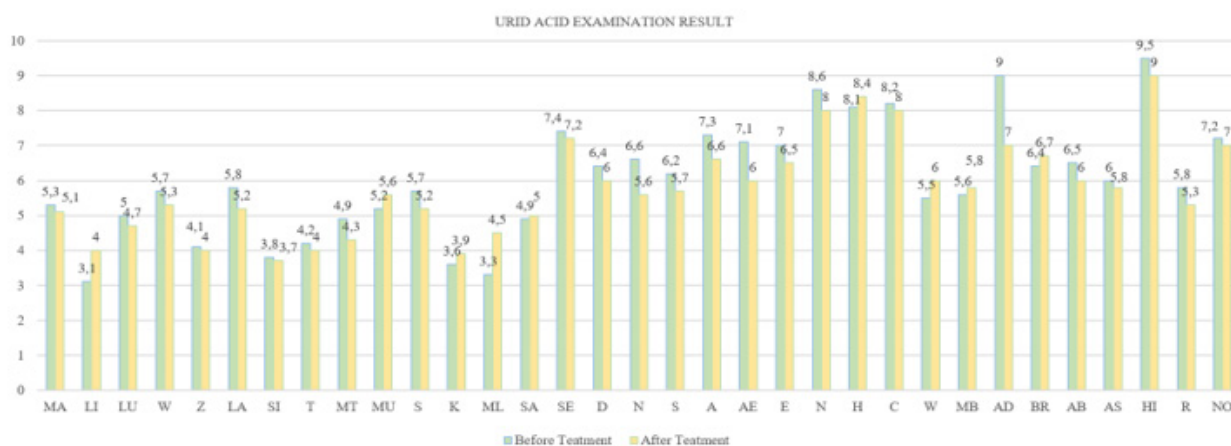
distribution of the participants. The majority were housewives (72.00%), followed by entrepreneurs (15.30%), civil servants (6.10%), and teachers and private sector employees (each 3.30%).

**Table 2.** Frequency Distribution Based on Occupation

| No.   | Occupation     | Frequency | Percentage |
|-------|----------------|-----------|------------|
| 1.    | Housewife      | 24        | 72.00%     |
| 2.    | Private sector | 1         | 3.30%      |
| 3.    | Teacher        | 1         | 3.30%      |
| 4.    | Entrepreneur   | 5         | 15.30%     |
| 5.    | Civil servant  | 2         | 6.10%      |
| Total |                | 33        | 100.00%    |

The findings below present the measurements and analyses of uric acid levels among the 33 members of the partner group, both before and after they received health education on uric acid

management and the consumption of red guava as a non-pharmacological intervention to reduce uric acid levels.



**Figure 1.** Uric Acid Examination Results

The calculated Z value, as determined by the Wilcoxon Signed Rank Test, was -2.437 with a p-value (Asymp. Sig. 2-tailed) of 0.015, which is below the study's critical level of 0.05. Therefore,

the hypothesis decision is to accept H1. The data indicate that the average uric acid level was 6.0303 mg/dL during the pre-examination and 5.7939 mg/dL during the post-examination.

**Table 3.** Uric Acid Levels before and after Administering Red Guava

| Uric Acid levels | Pre-test (mg/dL) | Post-test (mg/dL) | p-value |
|------------------|------------------|-------------------|---------|
| Minimum          | 3.1              | 3.7               | 0.015*  |
| Maximum          | 9.5              | 9.0               |         |
| Mean             | 6.0303           | 5.7939            |         |
| Std Deviation    | 1.61893          | 1.35898           |         |



**Figure 2.** Data Collection in The First Week to Clarify the Issues and Ensure The Feasibility of Community Service Activity



**Figure 4.** Pre-test - First Uric Acid Examination to Detect The Level of Uric Acid Before Treatment is Given



**Figure 3.** Distribution of Handouts and Red Guava to Make It Easier for Participants to Understand the Main Points of The Counselling



**Figure 5.** Post-test – Second Uric Acid Examination to Detect The Level of Uric Acid After Treatment is Given

The results of this community service activity show that after consuming red guava for seven consecutive days, 72.72% of participants experienced a decrease in average uric acid levels of 1.128 mg/dL, while 27.70% experienced an increase. There was a significant difference between the pre-test and post-test groups. Red guava was consumed directly at the recommended dose of 200 grams per day. In some cases, uric

acid levels increased due to eating habits that deviated from the recommended uric acid diet. The intervention also failed to produce consistent results in participants who did not consume the recommended amount of red guava for seven consecutive days.

This finding is consistent with previous research, which indicated that providing red guava juice to individuals with hyperuricemia lowered uric acid levels by 0.31 mg/dL ( $p = 0.021$ ) (Diana et al., 2019). Similarly, Darni et al. (2023) reported that administering red guava juice for seven days produced an average reduction of 1.24 mg/dL, significantly affecting uric acid levels in patients with hyperuricemia at the Sigli City Health Center.

A spike in blood uric acid levels above 7.50 mg/dL is characteristic of gout disease, commonly referred to as gout arthritis. This condition is caused by a disturbance in purine metabolism, which leads to increased uric acid levels in the blood. Uric acid accumulation is a degenerative disorder that affects the joints and is most commonly experienced by the elderly (Sari et al., 2022). Hyperuricemia requires proper management to limit acute attacks, prevent relapses, and avoid complications related to uric acid crystal deposition in tissues, as well as to prevent physical disability. The management of hyperuricemia can be carried out pharmacologically using medications or non-pharmacologically through ergonomic exercises and nutritional management (Mulianda et al., 2019).

The selection of red guava as an alternative non-pharmacological therapy is appropriate because it is rich in vitamin C and contains natural antioxidants such as quercetin and flavonoid polyphenols that help reduce uric acid levels. These compounds function as antioxidants and inhibit the formation of free radicals in the body (Aulia and Wagustina, 2025). Vitamin C increases the glomerular filtration rate, thereby reducing uric acid concentration by promoting the excretion of sodium and calcium and providing an osmotic effect (Darni et al., 2023).

The results of this community service activity confirm that consuming red guava fruit for seven consecutive days can reduce uric acid levels by an average of 1.128 mg/dL. This outcome aligns with previous research conducted in Karangampel District, Indramayu, which found that red guava consumption for seven days effectively reduced uric acid levels in the elderly (Supenah et al., 2022). Other studies have also shown that administering 200 grams of red guava juice for seven days led to

an average reduction of 0.310 mg/dL in uric acid levels before and after intervention.

## CONCLUSION AND SUGGESTION

Thirty-three members of the Yasinan partner group actively participated in the community service activities held at Tlogo Village, and the results demonstrated that consuming red guava fruit for seven days reduced uric acid levels by an average of 1.128 mg/dL.

This community service project emphasizes the importance of public understanding and awareness regarding the health risks associated with uncontrolled uric acid levels. It also promotes routine uric acid level checks among adults. The combination of periodic examinations and educational strategies in this program contributes to reducing the complications associated with high uric acid levels, particularly among adults who are more prone to metabolic disorders.

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