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Family Nursing Care for Gout Arthritis Patients Using Soursop Juice as a Non-Pharmacological Therapy to Reduce Uric Acid Levels

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Abstract: Gout arthritis is a form of joint inflammation caused by the accumulation of urate crystals, resulting in pain, swelling, and limited mobility. Non-pharmacological therapy such as soursop (Annona muricata) juice, which contains antioxidants and xanthine oxidase inhibitors, may help reduce uric acid levels. This case study was conducted on Mr. A, a patient with gout arthritis living in Palasari Hamlet, Sukahurip Village, Ciamis. The intervention consisted of daily soursop juice administration for five consecutive days, with monitoring of uric acid levels and pain symptoms. After treatment, uric acid decreased slightly from 8.7 mg/dL to 8.6 mg/dL, accompanied by reduced pain and swelling. Although the reduction was minimal, soursop juice showed potential as a safe, low-cost complementary therapy for gout arthritis management in family settings.

Keywords: gout arthritis, soursop juice, uric acid, family nursing care

1. Introduction

Gout arthritis is a metabolic disorder that results from the deposition of monosodium urate crystals in synovial joints, leading to episodes of severe pain, redness, swelling, and decreased mobility (Jauhar et al., 2022). It is classified as a chronic inflammatory disease that primarily affects middle-aged and older adults, with men being more susceptible than women due to hormonal differences in uric acid metabolism (Setyaningrum, 2015). If left untreated, gout arthritis can lead to joint deformity, renal complications, and reduced quality of life (Maharani & Utama, 2024). Therefore, effective management strategies are needed not only to control symptoms but also to prevent long-term complications and enhance patient well-being.

The global prevalence of gout arthritis has continued to rise over the past decade. According to the World Health Organization (WHO), there were approximately 55.8 million reported cases of gout arthritis worldwide in 2020 (Rusman, 2021). In Indonesia, the Ministry of Health (2023) recorded that 11.9% of the population has been diagnosed with gout arthritis, and the rate has increased to 24.7% in recent years (Isnaeni & Kartinah, 2024). West Java Province has one of the highest prevalence rates in the country, estimated at 32.1% of the population, representing about 15.7 million individuals (Retnaningsih & Amalia, 2023). In Ciamis Regency, local data revealed that approximately 0.957% of residents are affected by gout arthritis (Supriatna, 2024).

These statistics highlight the need for ongoing public health efforts to manage and prevent gout arthritis, particularly in regions with limited access to healthcare.

Conventional management of gout arthritis generally includes pharmacological therapy using nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroids, and xanthine oxidase inhibitors such as allopurinol (Aktarina, 2019). Although effective in lowering uric acid levels, these medications can produce adverse effects, including gastrointestinal irritation, nephrotoxicity, and hypersensitivity reactions (Hasan, Sholeha, & Kusrini, 2019). Therefore, non-pharmacological approaches and herbal-based therapies are being increasingly explored. Soursop (Annona muricata) contains natural bioactive compounds, including vitamin C, flavonoids, alkaloids, and acetogenins, that act as antioxidants and inhibitors of the xanthine oxidase enzyme (Zahra, 2023). Several studies have demonstrated that soursop juice may help reduce uric acid levels and relieve pain among patients with gout arthritis (Widyaningrum, 2023; Yobel, 2019). Its accessibility and safety make it a suitable complementary therapy that can be implemented within family and community health contexts.

This study aims to evaluate the effect of soursop juice on uric acid levels in a patient with gout arthritis through a family nursing care approach. By focusing on the application of a non-pharmacological intervention in a home setting, this study emphasizes the importance of family participation in promoting treatment adherence and lifestyle modification. It is expected that the findings can contribute to evidence-based nursing practice and support the integration of natural therapies into family-centered care for managing gout arthritis in community health programs.

2. Materials and Methods

This research employed a case study design focusing on a patient with gout arthritis in Palasari Hamlet, Sukahurip Village, Ciamis. The intervention involved the administration of 200 ml of fresh soursop juice once daily for five consecutive days (May 29–June 2, 2025). Data were collected through observation, interviews, and nursing documentation, including uric acid level measurements using a digital uric acid meter. Data were analyzed descriptively by comparing pre- and post-intervention uric acid levels and subjective pain assessments. Ethical considerations included informed consent from the patient and coordination with the local health authority (Puskesmas Sukamulya).

3. Results and Discussion

The intervention was conducted for five consecutive days (from May 29 to June 2, 2025) in the home setting of Mr. A, a 55-year-old male patient diagnosed with gout arthritis. The non-pharmacological intervention involved administering 200 ml of fresh soursop (Annona muricata) juice once daily, accompanied by dietary counseling and joint rest recommendations. Uric acid levels were measured each day before administering the juice.

Table 1. Uric Acid Levels Before and After Soursop Juice Administration

Day	Date	Intervention	Uric Acid Level (mg/dL)	Observation
1	May 29, 2025	Pre-intervention assessment	8.7	Initial complaint: pain and heel swelling
2	May 30, 2025	1st administration	8.7	No visible change
3	May 31, 2025	2nd administration	8.7	Slight reduction in pain
4	June 1, 2025	3rd administration	8.7	Swelling decreased slightly

5	June 2, 2025	4th administration (final day)	8.6	Pain and stiffness improved

The result showed a slight decrease in uric acid levels from 8.7 mg/dL to 8.6 mg/dL after five days. Although the change was not statistically significant, there was a notable subjective improvement in the patient's comfort, pain level, and joint mobility. The patient reported decreased heel pain and improved daily activity tolerance by the fifth day.

Discussion

The results showed a slight decrease in uric acid levels from 8.7 mg/dL to 8.6 mg/dL after five days. Although the change was minimal, the patient reported reduced pain intensity and swelling, suggesting a mild positive physiological response to soursop juice therapy. This finding is consistent with prior studies by Yobel (2019) and Widyaningrum (2023), who observed that regular consumption of soursop juice for one to two weeks can lower serum uric acid levels. The modest change in this study may be attributed to the short intervention duration and variations in the patient's diet. According to Retnaningsih and Amalia (2023), non-pharmacological interventions such as soursop therapy require at least two weeks of continuous administration to produce significant biochemical changes.

From a family nursing care perspective, the active participation of Mr. A's family in preparing and administering the soursop juice contributed to improved treatment adherence and patient motivation. This aligns with Putra et al. (2023), who emphasized that family involvement enhances nursing outcomes by supporting behavioral change and treatment continuity. Thus, even though the biochemical improvement was limited, the intervention had positive psychosocial and educational impacts for the patient and family.

In summary, this study reinforces the potential of soursop juice as a complementary, low-cost, and natural therapy for managing gout arthritis. Future studies should extend the intervention duration, include larger samples, and control dietary intake to better evaluate the clinical efficacy of soursop juice

4. Conclusions

The administration of soursop juice as a non-pharmacological intervention for five days resulted in a minor reduction in uric acid levels and alleviated pain symptoms in a patient with gout arthritis. Although the change was not statistically significant, the findings indicate potential benefits of soursop juice as a complementary therapy. Further research with larger sample sizes, longer intervention periods, and control groups is recommended to validate its effectiveness.

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