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## Family Nursing Care Based On Complementary Therapy Using Syzygium Polyanthum In Families With Gout Arthritis

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### ABSTRACT

Gout arthritis is a non-communicable disease commonly found in the elderly, characterized by joint pain due to monosodium urate crystal deposition. Its high prevalence in Indonesia is associated with a high-purine diet, low physical activity, and limited knowledge of disease management. Complementary therapy using boiled bay leaves offers a safe and affordable method to reduce uric acid levels. This case study was conducted on four families with elderly members aged 60–75 years suffering from gouty arthritis in the Sananwetan Community Health Center, Blitar City. Nursing care was provided through assessment, nursing diagnosis, planning, intervention, implementation, and evaluation. Interventions included health education on a low-purine diet and administration of 10–15 bay leaves boiled in 200–400 ml of water, consumed once daily for six days. Data collection was performed through interviews, observations, and physical examinations, including uric acid level monitoring. The main nursing diagnoses established were ineffective family health management, chronic pain, knowledge deficit, readiness to improve coping, readiness to enhance knowledge, and impaired family processes. Results showed a reduction in uric acid levels (average 6.2 mg/dl), decreased joint pain, and improved family knowledge and involvement in patient care. This study highlights the effectiveness of integrating family-based health education and complementary therapy using bay leaves in managing gouty arthritis. Family support proved to be an essential factor in successful disease control and quality of care for elderly patients.

**Keywords :** Gout arthritis, bay leaves, complementary therapy, elderly, family nursing care

### Background

Gout arthritis is a non-communicable disease (NCD) that is quite often found in the adult to elderly age group. This disease is characterized by sudden, intense and recurring attacks of joint pain, especially in the big toe joint, due to the accumulation of monosodium urate crystals formed due to high levels of uric acid in the blood, which causes severe pain, swelling, and limited movement, especially in the big toe <sup>[1]</sup>. Often elderly people with gout arthritis experience relapses, this is caused by a lack of knowledge and awareness of gout arthritis sufferers to always maintain their own uric acid levels. Gout not only causes physical disorders, but also affects the quality of life of sufferers, including in terms of independence and social roles within the family.

According to the World Health Organization (WHO) <sup>[2]</sup>, the incidence of gout arthritis will increase from 165 million to 355 million in 2022. In some countries, this prevalence can

increase to 10% in men and 6% in women aged 80 years and over. The annual incidence of gout is around 2.68% per 1000 people. The global increase in cases of gout is gradually associated with unhealthy eating patterns, such as improper diet, lack of physical activity, obesity, and metabolic syndrome. According to international journals <sup>[3]</sup>. Data from the United States shows that there are around 5.7 million people suffering from gout <sup>[4]</sup>. In Indonesia, the lowest incidence of gout is around 45% in those aged 55-64 years, then 51.9% in those aged 65-74 years, and the highest is 54.8% in those aged >75 years. According to the Indonesian Ministry of Health (2022) in <sup>[5]</sup> recorded an increase in the number of gout arthritis cases every year. In 2021 there were 72,675 cases until 2022 to 102,995 cases, so there was an increase of 30,320 cases (Indonesian Ministry of Health, 2022). Meanwhile, Data from the Indonesian Ministry of Health shows that the prevalence of gout based on the diagnosis of health workers is highest in East Java Province (29.7%), followed by West Java (27.1%). Riskesdas data in 2023, the prevalence of gout disease based on the diagnosis of health workers in Indonesia is 12.9% and based on diagnosis or symptoms 25.7% when viewed from age characteristics, high prevalence is at age  $\geq 75$  years (54.8%). There are also more female sufferers (8.5%) compared to men (6.2%) <sup>[6]</sup>. Based on the results of a preliminary study conducted by researchers at the Gandusari Community Health Center in Blitar Regency, it was found that the number of gout cases recorded during 2017 reached 326 cases. This figure indicates that gout is one of the diseases that is quite frequently found in the region that year. More specifically, in November 2017 there were 66 cases recorded, <sup>[7]</sup> while in December 2017 there were 32 cases. This data indicates that there is an increase or fluctuation in the number of gout sufferers at certain times, which is likely related to community consumption patterns, lifestyle, or seasonal factors.

The main triggers for gout are high levels of purines in the diet, lack of physical activity, a history of hypertension or diabetes, and low public awareness of maintaining a healthy lifestyle. The elderly are particularly susceptible to gout due to decreased kidney function, which plays a role in uric acid excretion. Furthermore, long-term pharmacological treatments such as allopurinol and colchicine can cause side effects such as digestive disorders and nephrotoxicity, leading many patients to turn to alternative and complementary treatments.

Preventive measures that can be taken to lower uric acid levels include early detection, using complementary therapies based on medicinal plants, which are safe, affordable, and readily accepted by the public. One such solution is the use of bay leaves (*Syzygium polyanthum*), which have been empirically and scientifically proven to contain active compounds such as flavonoids, tannins, eugenol, and methyl chavicol, which act as diuretics and xanthine oxidase inhibitors. These can be used as non-pharmacological therapies to lower high uric acid levels <sup>[2]</sup>.

The benefits of giving boiled bay leaves are proven to reduce uric acid levels in the blood and improve clinical symptoms of gout arthritis. In medicine, bay leaves (*Syzygium polyanthum*) are used to treat high cholesterol, diabetes mellitus, hypertension, gastritis, diarrhea and in their chemical content can be used as a gout medicine. In the context of family nursing, nurses play an important role in educating and empowering families to use complementary therapy safely and in a controlled manner as part of long-term disease control efforts. The working principle of giving boiled bay leaves to reduce uric acid levels is to drink boiled bay leaves boiled as much as 10-15 sheets with 200 to 400 ml of water, drunk every morning or evening for 6 days. This is supported by research conducted by <sup>[2]</sup> which found that the average level of Gout Arthritis before giving boiled bay leaves (*Syzygium polyanthum*) and after giving boiled bay leaves (*Syzygium polyanthum*) for 6 days can reduce uric acid levels. Thus, a complementary therapy-based family nursing care approach using boiled bay leaves (*Syzygium polyanthum*) in clients with gouty arthritis can be an effective strategy in reducing uric acid levels and can increase family involvement and quality of life in gouty arthritis sufferers.

## Methods

This case study involved four families with elderly members suffering from gouty arthritis in the Sananwetan Community Health Center, Blitar City. Nursing care was provided through assessment, diagnosis, planning, intervention, and evaluation. Interventions included health education, pain management, a low-purine diet, administration of boiled bay leaves (10–15 leaves boiled in 200–400 ml of water, drunk once daily for 6–7 days), and red ginger tea compresses. Data were collected through interviews, observation, and physical examinations (blood pressure, uric acid levels).

## Results and Discussion

### Analysis of Family Nursing Assessment in Gout Arthritis Patients

Based on data from the four patients treated, it is known that their ages ranged from 60 to 75 years. The first patient, Mrs. R, was 74 years old; the second patient, Mrs. T, was 62 years old; the third patient, Mrs. S, was 66 years old; and the fourth patient, Mrs. E, was 73 years old. According to the classification, individuals aged 60–74 years are included in the elderly category, while those aged 75–90 years are included in the elderly category. Generally, someone who has entered the age of 60 years and above is classified as elderly, namely the final phase in the life cycle marked by the physiological aging process. As they age, the elderly tend to be more susceptible to various physical disorders, both as a result of natural degenerative processes and due to the presence of comorbidities that often appear at that age<sup>[8]</sup>. Therefore, it is important for health workers to provide a more holistic and continuous nursing approach. Because at that age, patients tend to need support not only physically, but also psychologically and socially. The role of the family and ongoing education is very important in determining the success of treatment in this age group.

Based on data from the four patients suffering from gouty arthritis, all were female. This finding aligns with several studies showing that the prevalence of gouty arthritis tends to be higher in women, particularly in the elderly. Data from Indonesia shows that the incidence of gout reaches 7.3%, with a medical diagnosis of around 24.7%. This is evidenced by the lower incidence rate for men (6.13%) compared to women (8.46%). The high incidence of gouty arthritis in elderly women is thought to be related to several risk factors, including hormonal changes after menopause, a sedentary lifestyle, and metabolic changes that occur with age. Furthermore, a tendency towards less physical activity and an unbalanced diet also increase the risk. Berdasarkan keempat pasien kelolaan terdapat 3 pasien diantaranya Ny. R, Ny. S, dan Ny. E yang berpendidikan SD dan satu pasien Ny.T yang berpendidikan sarjana. Pada lansia Pendidikan yang rendah menjadi salah satu faktor yang berkontribusi terhadap kurangnya pengetahuan tentang pencegahan dan pengelolaan Gout arthritis. This can lead to low awareness of the importance of a healthy diet, regular physical activity, and adherence to treatment, thereby increasing the risk of complications.

In the four managed patients, there are 4 differences related to the history of the disease suffered. In the first patient, Mrs. R has suffered from gout arthritis since 2 years ago, the client complained that both feet felt painful when used to walk, felt tingling sometimes the legs felt weak suddenly, the client did not consume but the client regularly checked his health at the ILP or at the community health center. Mrs. T and Mr. B said the cause of high uric acid was due to unrestricted dietary factors, Mrs. T has suffered from gout arthritis since 1 year ago. complained that both knees felt painful when used for activities, felt tingling, the client took allopurinol medication and had regular check-ups at the hospital. In the third patient, Mrs. S has suffered from gout arthritis for 4 years, the client complained that the soles of the feet often felt tingling, the client regularly checked his health at the ILP or at the community health center. In

the fourth patient, Mrs. E has suffered from gout arthritis for 3 years, the client complained that both knees spread to the soles of the feet feeling pain and heat, the client did not take medication, but the client regularly checked at the health service at the hospital where her husband worked. (PT. KAI). All four patients had a common complaint: pain in both knees. This could be triggered by a diet that doesn't restrict the intake of food, which is not recommended for gout sufferers, and a lack of exercise. An unrestricted diet can trigger high uric acid levels.

The family development stage of 4 managed patients, the first managed patient is Mrs. R, a single parent family whose husband has passed away. The client lives in one house with her first child, daughter-in-law and grandson. While the client's second child is away from home. In the second managed patient, Mrs. T has a nuclear family type, which in the client's house consists of a husband, wife, child and 2 grandchildren. Mrs. S as the third managed patient, where Mrs. S's family type is a single adult living alone. The client lives alone at home because the client decided not to marry and the client does not have children. Mrs. E as the fourth managed patient where Mrs. E is a middle-age or elderly couple family type, consisting of a husband and wife who only live together because their children already have their own household.

The aging family stage occurs when parents no longer have children living at home and begin to face significant changes such as retirement, loss of a spouse, and social isolation. Adjustment at this stage is crucial for maintaining the psychosocial balance of the elderly <sup>[9]</sup>. Based on the data above, it can be assumed that understanding the stages of family development is important in providing an appropriate nursing approach, especially for elderly patients. Patients like Mrs. S who live alone require a more emotional approach and social support than other patients who still live with their families<sup>[10]</sup>. Meanwhile, patients like Mrs. R and Mrs. E may need role strengthening in letting go of their children without losing their identity as parents. The role of nurses in understanding family dynamics is crucial in helping patients adapt to each stage of family development. Meanwhile, Mrs. T requires medical support and strength support in undergoing each healing process.

The four patients under our care experienced different short- and long-term stressors, but they had similar patterns, such as difficulty in managing diet, psychological distress, and challenges in maintaining medication adherence. According to Roy's family adaptation theory, families face stressors as part of the adaptation process to changing situations or the illness of family members. Both short- and long-term stressors will affect the family's coping system in maintaining stability and its social support function <sup>[11]</sup>. The family's ability to deal with stressors faced by patients is highly dependent on the level of awareness, knowledge, and involvement of all family members in supporting the patient's treatment efforts and lifestyle adjustments.

In the four patients managed, a physical examination was carried out in the form of blood pressure measurement, uric acid examination and exploration of subjective complaints felt by each patient. In the first patient, Mrs. R said whether the complaints currently felt could be cured, the client also said that both knees felt pain, a dry cough and the client sometimes complained of dizziness. Obtained blood pressure BP: 140/80 mmHg, N: 88 x / min, RR: 19 x / min, S: 36 °C, A.U: 8.7 mg / dl. In the second patient, Mrs. T, the client said that both knees often felt pain, the client also said that both knees often felt pain, dizziness. Obtained examination results BP: 150/80 mmHg, N: 87x / min, RR: 19 x / min, S: 36 °C, A.U: 9 mg / dl. In the third patient, Mrs. S, the client said that sometimes she did not take gout medication, because the medication was controlled by her relatives, the client said that the soles of her feet often felt tingling. The examination results showed BP: 148/85 mmHg, N: 98x/min, RR: 20x/min, S: 36.6 °C, A.U: 7.8 mg/dl. In the fourth patient, Mrs. E, the client said she was



confused about how to manage her health, the client said that both knees felt painful and hot, spreading to the soles of her feet. The examination results showed BP: 100/70 mmHg, N: 87 x / min, RR: 19x/min, S: 36 C, A.U: 8.5 mg/dl. Of the four patients, there seems to be a tendency that an unhealthy lifestyle and non-compliance in disease management are the main causes of high, uncontrolled uric acid levels. Although some regularly take medication, such as Mrs. T, an uncontrolled diet still triggers an increase in uric acid levels. Therefore, educational interventions about a healthy lifestyle are very necessary and must be personalized according to the needs of each patient.

## Family Nursing Diagnosis Analysis for Gout Arthritis Patients

In the first patient Mrs. R, the third patient Mrs. S and the fourth patient Mrs. E during the assessment had the same problem in the diagnosis, namely ineffective family health management. Mrs. R with subjective patient data said she did not know how to handle the perceived, and objective data obtained px failed to take action to reduce risk factors. Meanwhile, Mrs. S with subjective data Client said sometimes did not take gout medication, because the medication was controlled by her relatives, and objective data the patient failed to take action to reduce risk factors.

In all managed patients, there is a nursing diagnosis of Chronic Pain. The first patient, Mrs. R, with subjective data, the client said that both knees felt painful. While the objective data obtained A.U: 8.7 mg /dL and blood pressure 140/80 mmHg. The second patient, Mrs. T, with subjective data, the client said that both knees often felt painful, and objective data obtained A.U: 9 mg / dL BP: 150 / 80 mmHg. In the third patient, Mrs. S, with subjective data, the client said that the soles of the feet often felt tingling, objective data obtained A.U: 7.8 mg / dL and BP: 148 / 85 mmHg. The fourth patient, Mrs. E, subjective data, the client said that both knees spread to the soles of the feet felt painful and hot, objective data obtained A.U: 8.5 mg / dl and BP: 100 / 70 mmHg. Chronic Pain is a sensory or emotional experience related to tissue damage, both actual and functional, which lasts more than 3 months.

In the third patient, Mrs. S and the fourth patient, Mrs. E, during the assessment, there was a knowledge deficit with subjective data that the client said whether the complaint currently felt could be cured, and objective data that the client seemed confused when explained about his illness, it was found that the patient showed behavior that was not in accordance with recommendations, and showed a wrong perception of the problem. A knowledge deficit is the absence or lack of cognitive information related to a particular topic.

Three patients under management demonstrated readiness to improve family coping. Subjective data showed a desire to improve her healthy lifestyle, including taking her medication regularly, but not being able to limit her diet and eating what her child cooks. She also reported regular check-ups at Mardi Waluyo Hospital. Objective data indicated that her family was not actively involved in diet management. Readiness to improve family coping is a pattern of family members adapting effectively to situations experienced by the client and demonstrating a desire and readiness to improve the health of both the family and the client.

In patients managed by Mrs. T, there is a readiness to receive knowledge. Based on subjective data, the client stated that she wanted to know more about gout management, but occasionally the client still ate foods that were not allowed/restricted, and the client also always had regular check-ups at Mardi Waluyo Hospital as scheduled and always regularly took allopurinol 100mg. Meanwhile, objective data on the patient's behavior was in accordance with knowledge, the client actively asked questions during education. Readiness to increase knowledge is the development of cognitive information related to a specific topic that is sufficient to meet health goals and can be improved.

One patient, Mrs. R, was assessed for gouty arthritis for 2 years. Subjectively, the client

stated she was less open about her complaints. Objectively, the client appeared reluctant to communicate about her family. Family process disorder is a condition in which family relationships or functions experience changes or disruptions, so that they do not function effectively or optimally <sup>[12]</sup>.

## Analysis of Family Nursing Interventions in Gout Arthritis Patients

In developing nursing interventions for patients, researchers used the Indonesian Nursing Intervention Standards <sup>[12]</sup>. Based on the table, the interventions determined for the four families were the same, namely pain management and health education.

The table shows that the entire family received pain management interventions. One of the nurses' important roles in providing nursing care to families with gouty arthritis is pain management and health education, specifically efforts to control high blood uric acid levels to prevent severity and complications <sup>[13]</sup>. By implementing comprehensive pain management interventions, it is hoped that uric acid levels in gouty arthritis patients can be better controlled, thereby minimizing the risk of complications, improving pain complaints, and improving the patient's quality of life.

Based on the table, it is known that all four families received intervention in the form of support in planning care, and all families received intervention in the form of health education. Family involvement in the care planning process is very important, considering that families play a major role in the prevention and recovery process for family members who experience health problems <sup>[13]</sup>. Therefore, it is important for each family member to understand the health conditions occurring in their family environment, be able to make the right decisions when faced with illness, and utilize available health facilities <sup>[14]</sup>.

Education was provided using leaflets and calendars containing brief explanations about gout arthritis, how to lower uric acid levels using boiled bay leaves, and how to reduce pain using red ginger tea compresses. to patients and families. After the education was provided, patients and families were asked several questions to assess their understanding of the material presented. Education for families and gout arthritis patients is very important to increase their knowledge about this disease, because it has been proven effective in forming attitudes and behaviors that support efforts to prevent complications and control the disease. The family as the closest party to the patient and as a support system is expected to be able to participate in providing care to family members who experience gout arthritis <sup>[15]</sup>. Therefore, interventions in the form of health education are considered appropriate and in accordance with existing theories.

The intervention actions that were carried out and not carried out on the four managed patients were:

1. The nurse provided family health management interventions to Mrs. R, Mrs. S, and Mrs. E in accordance with the SIKI (Informational Health Information System), but the family did not utilize the available facilities due to limited resources and a lack of understanding of these facilities.
2. The nurse implemented a family coping readiness intervention for Mrs. T in accordance with the SIKI, and the family was able to carry out all actions without any obstacles.
3. The nurse implemented a chronic pain intervention in accordance with the SIKI for the patient, but the patient did not consult with a medical professional because she did not regularly check her uric acid levels.
4. The nurse implemented a knowledge deficit intervention for the patient and family in accordance with the SIKI so that the family could receive information effectively.
5. The nurse provided a knowledge improvement readiness intervention to the patient and family in accordance with the SIKI, and the family demonstrated an open attitude to the

education provided.

6. The nurse implemented a family process disruption intervention in accordance with the SIKI so that the family could actively participate in the patient's care.

## Analysis of Family Nursing Implementation in Gout Arthritis Patients

Implementation within families is in accordance with predetermined interventions and tailored to the family's circumstances and environment. Implementation is carried out by visiting each family's home within the Sananwetan Community Health Center's work area in Blitar City.

Based on the table, it can be seen that the four families with gout arthritis nursing problems were given the same implementation, namely identifying possible causes of persistent pain, checking uric acid levels in the blood, teaching gout arthritis management with therapy giving boiled bay leaves and compresses with red ginger tea on the painful area, recommending limiting prohibited diets by providing health education media in the form of leaflets and calendars and encouraging exercise. For health education provided in the form of illustrated leaflets, with lecture and discussion methods. Researchers explained to patients and families about risk factors that can worsen Gout Arthritis, taught patients to follow a restricted food diet, motivated patients to take gout medication regularly, taught complementary therapy using boiled bay leaves, and motivated families to use the nearest health facility. Researchers treated patients by giving boiled bay leaves therapy as much as 10-15 sheets, drunk for 7 days, once a day, in the morning on an empty stomach or at night before bed. This aims to motivate patients to undergo additional treatment, namely non-pharmacological therapy <sup>[16]</sup>. Based on previous research, pain management has been shown to significantly reduce blood uric acid levels <sup>[17]</sup>. Education about gout arthritis also influences adherence to dietary restrictions in gout patients <sup>[18]</sup>. Therefore, it can be said that the implementation has been carried out in accordance with previously determined interventions and there are no gaps.

The table also shows that three families had ineffective family health management issues, and four families had chronic pain issues. For those with ineffective family health management issues, family support was provided in planning care by identifying the family's health needs and expectations, identifying actions the family can take, motivating the family to support health development efforts, and encouraging the family to use the nearest health facility. For chronic pain issues, pain management interventions were provided by comprehensively identifying pain by location, duration, and characteristics, monitoring vital signs and pain scale, and explaining to the family the roles they can play during periods of pain (red ginger compresses).

Previous research has shown that support and pain management influence health care for sick family members and can reduce uric acid levels in the patient's blood through consumption of boiled bay leaves and warm red ginger tea <sup>[19]</sup>. Therefore, the implementation was in accordance with previously established interventions and existing theory.

## Analysis of Family Nursing Evaluation in Gout Arthritis Patients

After implementing the nursing intervention, researchers conducted an evaluation of the family with gouty arthritis. The evaluation was conducted to determine whether the nursing problem was unresolved, partially resolved, or resolved. The evaluation was conducted using the SOAP (Subjective, Objective, Analysis, and Planning) approach.

Based on the table, it can be seen that the nursing problems experienced by the four patients, namely chronic pain, were resolved for the entire family with subjective data from uric acid checks and complaints of decreased leg pain and subjective data A.U. 6.2mg/dL. Based on previous research, it was found that there is a relationship between family support and self-

management and blood sugar levels of diabetes patients <sup>[20]</sup>. Therefore, it can be said that the nursing problems of gout arthritis blood can be resolved because of family support after the implementation of nursing on the family and the patient.

Based on the table, it is also known that 3 families with ineffective family health management nursing problems can be resolved with subjective data of the family and patient understanding about gout arthritis, symptoms do not worsen, and can avoid risk factors that can worsen the disease. It is also known that 4 families with chronic pain nursing problems can be resolved with subjective data in the form of the family starting to be actively involved in monitoring health, and participating in maintaining the patient's diet, as well as objective data of the family being present in education and appearing enthusiastic in supporting the patient's care or treatment program. Based on previous research, it states that coping mechanisms and support from the family have a strong relationship with motivation and patient compliance in undergoing gout arthritis treatment. These two aspects contribute positively to the effective management of lowering uric acid levels <sup>[21]</sup>. Therefore, it can be said that from the results of the evaluation of nursing problems experienced by families can be resolved after implementation.

## Conclusions and Recommendations

A comprehensive family nursing assessment of gout arthritis patients was conducted, encompassing physical, psychological, and social aspects. Based on the assessment results, six primary nursing diagnoses were established: ineffective family health management, readiness to improve family coping, chronic pain, knowledge deficit, readiness to improve knowledge, and impaired family processes. Nursing planning was prepared by prioritizing family needs through a promotive and educational approach. Interventions were implemented through education, including the provision of bay leaf decoction, understanding gout arthritis, and a low-purine diet. Leaflets containing information on the prevention and control of gout arthritis, as well as complementary therapy in the form of bay leaf decoction, were used. Evaluation showed an increase in family knowledge, involvement in the care process, and patient compliance with disease management, demonstrated through the active role of the family and improvement in the patient's clinical condition.

Families are expected to continue developing skills in independently managing the health of the elderly, complying with medical recommendations, and maintaining consistency in therapy. Healthcare workers are expected to continue educational activities tailored to social backgrounds, educational levels, and family types, so that interventions are more targeted and have a significant impact on the six diagnoses identified. Community health centers are expected to strengthen the implementation of regular outreach as part of the ILP program, and to evaluate the success of diagnostic interventions that emerge in the field.

For further research, it is recommended to conduct long-term evaluations to assess changes in the health status of the elderly, as well as to examine the effect of continuity of education on reducing relapses and increasing compliance in controlling uric acid levels.

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