


Education on Making Bay Leaf Tea for Gout Therapy Arthritis in Cadres in Klapagading Kulon Village, Wangon District, Banyumas Regency

Adhelia Clarysha¹, Wasis Eko Kurniawan², Madyo Maryoto³

^{1,2,3}Harapan Bangsa University

Article Info	ABSTRACT
<p>Keywords: Gout Arthritis, Bay Leaf Tea, Cadre Education, Non-Pharmacological Therapy, Gout</p>	<p>The community service program, titled "Bay Leaf Tea Education for Gout Arthritis Therapy for Cadres in Klapagading Kulon Village, Wangon District, Banyumas Regency," addresses the significant health problem of gouty arthritis, particularly among the elderly. Gouty arthritis, characterized by severe joint pain, swelling, and redness, is often caused by high uric acid levels due to excessive purine consumption and a lack of public knowledge regarding its management. This problem is prevalent in Klapagading Kulon Village, where 52 elderly people suffer from gouty arthritis, and local cadres lack sufficient knowledge to effectively address it. The choice of this topic is crucial because bay leaves (<i>Syzygium Polyanthum</i> Wight) have known diuretic and analgesic properties, capable of lowering uric acid levels by increasing urine production. They also contain antioxidants and various beneficial compounds such as tannins and flavonoids. The program aims to increase cadres' knowledge about preparing bay leaf tea for gouty arthritis therapy and their interest in disseminating this information to the elderly. The methodology involved pre-testing, health education through lectures, discussions, and live demonstrations of bay leaf tea preparation, followed by post-testing. The results showed a substantial increase in cadre knowledge, with the average post-test score increasing to 95.5 from a baseline of 68.8, and all nine participating cadres achieving the 'good' category. This demonstrates the effectiveness of the educational methods used and the high enthusiasm of the cadres. The program successfully improved cadres' understanding and practical skills, highlighting the importance of utilizing local herbal remedies for non-pharmacological gout management. This enhanced knowledge empowered cadres to provide valuable health information to the elderly in their communities.</p>
<p>This is an open access article under the CC BY-NC license</p> 	<p>Corresponding Author: Adhelia Clarysha Harapan Bangsa University adheliarysha@gmail.com</p>

INTRODUCTION

The elderly are the final stage of growth and development, usually aged 60 years and above. Aging is characterized by physical, emotional, and psychological decline (Ningrum & Astuti, 2020). As we age, there are changes in the structure and function of cells, tissues, and organs, which have an impact on deteriorating physical health and increased susceptibility to disease (Akbar et al., 2020). Cell decline in the elderly can lead to organ weakness, physical decline,

and the appearance of various diseases, including increased uric acid levels (Anwar & Yulia, 2020).

Gout is the result of the final metabolism of purines, the nucleic acid component in the nucleus of the cell. The accumulation of uric acid crystals in the joints occurs due to excessive consumption of purines (0.5–0.75 g/ml), causing degenerative diseases that attack the joints, especially in the elderly (Irdiansyah et al., 2022). The disease decreases quality of life and is characterized by recurrent acute arthritis, chronic nodal deformities, joint damage, and kidney damage due to overeating (Ririn Fitriani et al., 2021). The causes include excess uric acid production, genetic factors, consumption of foods high in purines, and certain diseases such as blood cancer (Zainaro, M. A., 2021).

Gout Arthritis causes pain, swelling, joint stiffness, and lumps in the body, so that the activities of the elderly are disrupted. Improper handling can worsen the condition, so pharmacological and non-pharmacological therapies are needed (Marlinda and Putri, 2019). The global prevalence of Gout Arthritis in 2019 reached 34.2%, with the prevalence in the United States being 13.6% per 100,000 population. In Indonesia, the prevalence based on the diagnosis of health workers is 11.9% and based on symptoms is 24.7%, highest at the age of ≥ 75 years (Khoirunnisa & Retnaningsih, 2020). In Central Java, an epidemiological survey shows the prevalence of Gout Arthritis at 24.3% (Kusuma et al., 2023).

Pharmacological therapies for gout include uric acid (increases uric acid elimination) and uricostatic (reduces uric acid formation). Allopurinol works to inhibit the formation of uric acid from xanthin and hypoxanthin precursors (Wulandari et al., 2023).

Complementary therapy can also be used for the treatment of gout, with the benefit of lowering treatment costs and improving overall health. Bay leaves (*Syzygium Polyanthum* Wight) have diuretic and analgesic properties, so they can reduce uric acid levels through urine (Widiyono, 2020). Traditionally, bay leaves are used to treat gout, stroke, high cholesterol, indigestion, diabetes, and skin problems (Husnaniyah, 2019). The content of bay leaves, including tannins, flavonoids, saponins, triterpenes, polyphenols, alkaloids, essential oils, and vitamins, functions to reduce the formation of uric acid through purines (Aryani et al., 2020).

The bay leaf processing stage includes plant identification, picking, sorting, washing, and drying to maintain the quality of the active substance (Nurtanti & Susana, 2022). The processing technique can be in the form of boiling (infusion) with boiling water at 96–98°C for 15–20 minutes (Anggraini, 2018).

Nurses play a role in helping gout sufferers maintain normal uric acid levels and improve quality of life through nursing interventions, low-purine diet education, and healthy living principles (Srimawati, Fauzia, & Risna, 2022). Health cadres also have an important role in health education, support, and community mobilization, which has been proven to improve the health and well-being of the elderly (Yanur Abidin et al., 2020). Education by cadres is more effective than the elderly because trained cadres have a better understanding (Mujiastuti et al., 2021).

However, at the Klapagading Kulon Village Posyandu, cadres are still limited in their expertise in handling Gout Arthritis, because so far they have only taken data without

educational handling. Based on BPS Banyumas 2023 data, Klapagading Kulon Village has 12,176 elderly people, and the results of interviews on October 26-27, 2024 show that there are 52 elderly people with Gout Arthritis. The main causes are high consumption of purines and lack of knowledge about the disease and its treatment. Therefore, cadre education is needed on making bay leaf decoction for the treatment of the elderly with Gout Arthritis.

METHOD

This study uses a quantitative descriptive approach with a pre-experimental design to determine the effectiveness of bay leaf tea making education on the knowledge of Posyandu cadres in dealing with the elderly with gout arthritis. The research was carried out in Klapagading Kulon Village, Wangon District, Banyumas Regency, with a distance of about 37 km from Harapan Bangsa University. The location was chosen because of the high number of elderly people and there are significant cases of gout arthritis.

The research population is Posyandu cadres who are involved in assisting the elderly in the village. The research sample consisted of 15 invited cadres, with 9 cadres present to participate in the activity. Data were collected through knowledge questionnaires adapted from previous journals on gout arthritis, conducted at the pre- and post-education stages (pre-test and post-test).

The research procedure includes several stages. The first stage is preparation, which includes the management of research permits, pre-surveys to identify problems, and coordination with the village and Posyandu cadres. The second stage is implementation, starting with measuring the initial knowledge of cadres through pre-tests, followed by education using lecture methods and direct demonstrations of making bay leaf tea, then ending with a post-test and filling in the format of cadres' interest in conveying information to the elderly. The last stage is evaluation, which is assessing the understanding of cadres after education and confirming the implementation of education to the elderly through documentation and activity checks.

The intervention provided was in the form of health education on making bay leaf tea as a therapy for gout arthritis in the elderly. Counseling is carried out with direct demonstrations and accompanied by written educational materials (leaflets). Data analysis was carried out by comparing knowledge scores before and after education to assess the improvement of cadres' understanding. This study aims to evaluate the effectiveness of education and cadres' interest in providing health information to the elderly, so that it can be the basis for the development of advanced interventions for the treatment of gout arthritis in the elderly.

RESULTS AND DISCUSSION

Result

Community service activities carried out in Klapagading Kulon village are carried out face-to-face or interacting directly with cadres in Klapagading Kulon Village. The implementation of this community service activity was carried out through a series of meetings that took place during one meeting on May 21, 2025.

The overview of the implementation of community service is as follows:

The meeting was held on Wednesday, May 21, 2025 in the classroom of SD Negeri 1 Bojong. The implementation of this activity received a good response from cadres. The enthusiasm of cadres is evidenced by the presence of cadres who participated in community service activities, of the 15 invitations that were distributed there were 9 participants who could attend the activity, 6 participants who could not attend this activity because there were other interests, so that the number of cadres involved as participants in this PkM was 9 participants. The implementation team departed at 12.30 WIB from Harapan Bangsa University to Klapagading Kulon village and arrived at 13.30 WIB, then the team prepared community service activities. The event started at 15.00 WIB, starting with the opening after which it continued with the implementation of the pretest. The activities that have taken place are as follows:

Table 1. Schedule of Activities for the Implementation of PkM in Klapagading Kulon Village, Wednesday 21 May

Day/Date	Activities	Fillers/Officers
Wednesday, May 21, 2025 at 15.00-15.30 WIB	Registration and opening	Moderator : Adhelia Clarysha
Wednesday, May 21, 2025 at 15.35-15.50 WIB	Implementation of pretest Cadre knowledge level about making bay leaf tea and gout arthritis disease	Pemateri : Adhelia Clarysha
Wednesday, 21 May 2025 At 15.55-15.20 WIB	Delivery of material: education on making bay leaf tea for the treatment of the elderly with gout arthritis with lecture methods and leaflet distribution	Pemateri : Adhelia Clarysha
Wednesday, 21 May 2025 At 15.25-15.45 WIB	Conducting a live demonstration of how to make bay leaf tea	Pemateri : Adhelia Clarysha
Wednesday, 21 May 2025 At 15.50-16.00 WIB	Discussion and Q&A	Pemateri : Adhelia Clarysha
Wednesday, 21 May 2025 At 16.05-16.20 WIB	Implementation of post tests at the level of knowledge of cadres and filling of cadre interests	Pemateri : Adhelia Clarysha
Wednesday, 21 May 2025 At 16.25-16.35 WIB	Give appreciation and praise to the participants who participated and express their gratitude and closing greetings	Moderator : Adhelia Clarysha

Identifying the level of knowledge of cadres before PkM is carried out in Klapagading Kulon village, Wangon District, Banyumas Regency

Community service in the form of education on making bay leaf tea for the elderly with gout arthritis was carried out in a structured manner including pretest activities, education on making bay leaf tea and leaflet distribution, conducting direct demonstrations on how to make bay leaf decoction, discussions and questions and answers followed by post tests and filling in the interest of cadres.

Successful education on making bay leaf tea can be seen from the increasing value of cadre knowledge after being given education on making bay leaf tea and educational media. Pretest activities are given at the beginning of the activity with the aim of measuring the level of knowledge of cadres. The pretest measurement contains 10 items of true and false questions, to do the questionnaire cadres are given 10 minutes. The results of the 9 cadres who took the knowledge pretest obtained an average score of 60 with the lowest score of 50 and the highest score of 80. The pretest score of the good category was 2 people (25%) and the fair category was 5 people (50%) while the poor category was 2 people (25%).

Providing education about making bay leaf tea as a non-pharmacological therapy for elderly people with gout in Klapagading Kulon village, Wangon District, Banyumas Regency.

This activity was continued with the provision of material on making bay leaf tea for the elderly with gout starting from the definition of gout arthritis, causes of gout arthritis, signs and symptoms of gout arthritis, treatment of gout arthritis, benefits of bay leaf decoction, steps to make bay leaf tea. After being educated, the demonstration continued with the direct demonstration of making bay leaf tea.

When conducting a demonstration of making bay leaf tea, the cadres were very enthusiastic and one of the cadres practiced directly. After the demonstration, discussion and question and answer sessions continued. At the time of the discussion, the enthusiasm and readiness of the cadres was very good, marked by a question submitted by one of the cadres in the discussion session, namely "is it okay to drink bay leaf tea every day even if there is no history of gout?".

Identifying the level of knowledge of cadres after being educated about making bay leaf tea

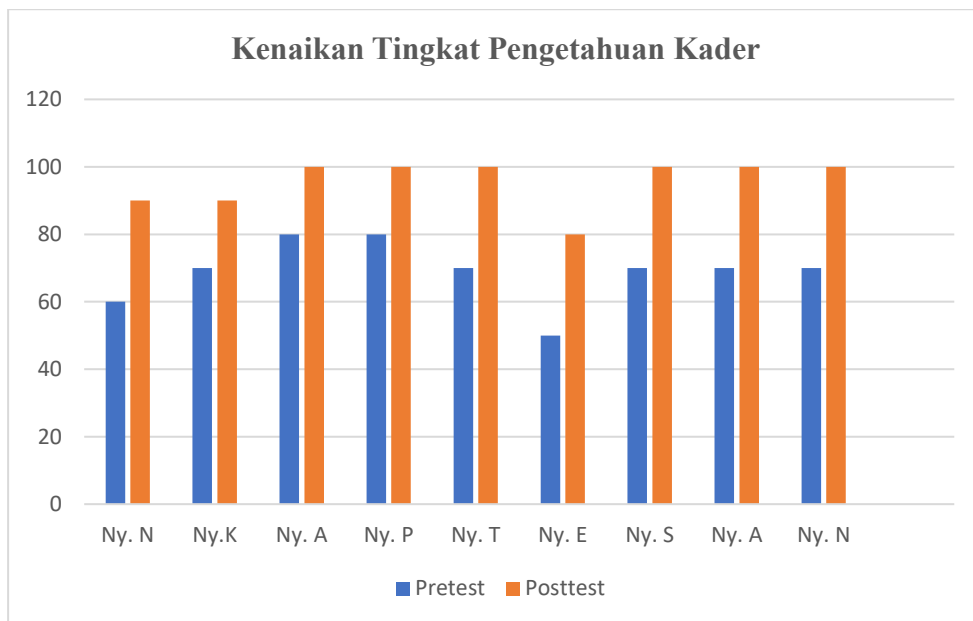
Then followed by an evaluation of the level of knowledge of cadres, namely conducting a posttest to find out if there is an increase in the value of knowledge after being given material and providing counseling media. The implementation of the knowledge posttest still uses the same questionnaire as the pretest questionnaire, which is 10 questions of true and false questions. To do the knowledge posttest questionnaire, cadres were given 10 minutes of time.

The results of the posttest from 9 cadres obtained an average score of 90. The results of the pretest and posttest knowledge scores can be described in the following table:

Table 2. Results of Pretest and Posttest of Cadres in Klapagading Kulon Village, Wednesday, May 21, 2025

No.	Respondent Name	Pretest	Category	Posttest	Category	Age
1.	Mrs. N	60	Less	90	Good	43
2.	Mrs. K	70	Enough	90	Good	46

No.	Respondent Name	Pretest	Category	Posttest	Category	Age
3.	Ny. A	80	Good	100	Good	54
4.	Ny. P	80	Good	100	Good	47
5.	Ny. T	70	Enough	100	Good	46
6.	Mrs. E	50	Less	80	Good	45
7.	Mrs. S	70	Enough	100	Good	43
8.	Ny. A	70	Enough	100	Good	45
9.	Mrs. N	70	Enough	100	Good	55
Average Score		68,8		95,5		
Highest Score		80		100		
Lowest Score		50		80		



Picture 1. Bar Chart of Increase in Cadre Knowledge Level

Table 3. Results of the intention/interest of cadres in Klapagading Kulon Village

No	Respondent Name	INQUIRY NO.				
		1	2	3	4	5
1.	Mrs. N	SS	S	S	S	S
2.	Mrs. K	SS	SS	SS	SS	SS
3	Ny. A	S	SS	S	S	S
.4.	Ny. P	SS	S	S	SS	SS
5.	Ny. T	SS	SS	SS	SS	SS
6.	Mrs. E	S	S	S	S	S
7.	Mrs. S	SS	S	SS	S	S
8.	Ny. A	S	SS	S	S	SS
9.	Mrs. N	S	SS	S	S	S

Discussion

Identifying the level of knowledge of cadres before PkM is carried out in Klapagading Kulon village, Wangon District, Banyumas Regency

The implementation of this PkM received a good response from the Klapagading Kulon Village Cadres. The enthusiasm of cadres can be seen from the presence of cadres who participated in community service activities, out of the 15 invitations disseminated, there were 9 participants who attended the activity. 6 participants could not attend this activity due to other interests.

The series of PkM activities began with filling out the list of participants and distributing snacks followed by the opening of the event and conveying the purpose and purpose of holding PkM and extension workers introducing themselves to all participants, the first event was the measurement of the level of knowledge of cadres before the education was carried out, then the team distributed pretest questionnaires to find out the level of knowledge before education was carried out. This questionnaire sheet consists of 10 questions with true and false questions. Participants were given 10 minutes to fill out the questionnaire.

The results of the PkM knowledge pretest obtained an average score of 68.8 with the lowest score of 50 and the highest score of 80. The pretest scores with the good category were 2 people (25%) and the fair category was 5 people (50%) while the poor category was 2 people (25%).

Knowledge is the result of knowing that occurs after people sense a certain object. Knowledge is a very important domain for the formation of a person's actions. The results of the study prove that behaviors based on knowledge will be more lasting than those that are not based on knowledge (Fitriyaningsih et al., 2021)

Based on the results of the pretest scores conducted before education, there are still many cadres who do not know about gout and how to handle it in a non-pharmacological way that can be applied if complaints about gout occur. The majority of cadres answered questions incorrectly and only answered because they did not know. The results of the average score show that the level of knowledge of cadres before education is still relatively low.

Providing education about making bay leaf tea as a non-pharmacological therapy for cadres in Klapagading Kulon village, Wangon District, Banyumas Regency

Community Service in the form of Health Education about the making of bay leaf tea as a non-pharmacological therapy for the elderly with gout in Klapagading Kulon village, Wangon District, Banyumas Regency, was carried out in a structured manner in accordance with the series of PkM implementations. Foods that contain purines, good foods for people with gout, the concept of non-pharmacological therapy with bay leaf decoction, the benefits of bay leaves, and the procedure for making bay leaf decoction. The provision of Health Education uses lectures, discussions, and direct demonstrations of making bay leaf tea with leaflet media, ppt. This method was chosen because this method is considered an effective method and easy to understand by the participants of health education, the delivery of material is carried out for 30 minutes and the filling out of a questionnaire for 10 minutes.

Through education, it can bridge the gap between knowledge, attitudes and behaviors in health and health education motivates a person to receive health information and act on it so that they become more knowledgeable and more positive. Education is carried out to develop messages and choose more appropriate media so that the information received can be understood.

Through education, it is not only changing a person to know from not knowing but rather changing a principle that was previously unknown to be true or wrong. So as to give confidence that his knowledge is more permanent. A person's attitude cannot simply change without an underlying process. Through education, there will be a process of changing someone's way of thinking because there is an open dialogue or discussion to express their respective opinions. Attitude is an act based on beliefs based on existing norms in society and usually religious norms. However, the actions that humans will do usually depend on what the problem is and are really based on their respective beliefs or beliefs (Komalasari et al., 2020)

Through the education carried out, cadres seem enthusiastic and easily understand the material being delivered, with the right educational method, cadres can immediately grasp what is being learned and ask questions related to the existing material. Cadres will also be enthusiastic about delivering educational materials that have been given to the elderly around the house because the methods that have been taught are easy to understand and the materials are easy to obtain and methods that are easy to apply independently.

Identifying the level of knowledge of cadres after being educated about making bay leaf tea

Evaluation of the level of knowledge after being given the material is by conducting a posttest with the same questions as those given in the pretest. The purpose of the posttest is to find out if there is an increase in cadre understanding after being educated. The number of questions on the questionnaire is 10 questions with true or false statements. The processing time is 10 minutes. Based on the table of the results of the knowledge posttest scores from the 9 cadres who attended, an average score of 95.5 was obtained with the highest score of 100 and the lowest score of 80 posttest scores with the good category of 9 people (100%). The majority of the results of cadre knowledge were obtained. The increase in knowledge of cadres as respondents in this counseling increased because the reception of material provided by respondents was very good. 10 statements of knowledge with right or wrong choices evaluated on 9 cadres with an increase in average scores. In this study, cadre knowledge can be obtained through the senses of sight and hearing, namely by counseling using leaflet and PPT media and conducting direct demonstrations.

In addition, the visual aspect of the leaflet image also makes it easier to receive information or educational materials. Knowledge is the result of human sensing or the result of a person's knowledge of an object through the five senses he has. Sense occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. According to Dale, the capture of knowledge imparted through the senses of sight is 75% - 87%, through the sensory hearing is 13%, and 12% from the other senses. The more senses involved in capturing messages, the easier it is for the message to be received by educational targets (Fitria & Sudiarti, 2021)

The results of the posttest scores that have been carried out show the effectiveness of this counseling activity, the majority of cadres have answered questions about the material that has been delivered correctly. This is shown by all posttest results showing that the score of the elderly in the good category was 9 people and there was an increase in questionnaire scores of 87.5% with an average score of 26.7 scores.

CONCLUSION

Community Service (PkM) activities that focus on education on making bay leaf decoction as a therapy for gout arthritis in cadres in Klapagading Kulon Village, Banyumas Regency, showed significant results in increasing cadre knowledge. Before education, cadres' knowledge about gout arthritis and non-pharmacological treatment was still low, with an average pretest score of 68.8, where the majority of cadres did not understand the disease and how to treat it properly. Through educational activities that include presentations, interactive discussions, lectures, direct demonstrations of making bay leaf tea, as well as media support such as leaflets and PowerPoints, there has been a substantial increase in knowledge. The average score of the posttest increased to 95.5, with all cadres in the good category, showing the effectiveness of educational methods in bridging the knowledge gap. The enthusiasm of the cadres can also be seen from their active participation in discussions and their desire to apply and disseminate this information to the elderly in the surrounding environment. Overall, PkM activities have succeeded in achieving the goal of increasing cadres' knowledge about making bay leaf tea as a gout arthritis therapy, which is expected to provide benefits for cadres and the community in managing the health of the elderly.

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