



KNOWLEDGE OF GOUT AND GOUT MEDICATION USE AMONG PATIENTS AT A COMMUNITY PHARMACY

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ABSTRACT

Gout is a common metabolic disorder associated with hyperuricemia, recurrent joint pain, and reduced quality of life. In community pharmacies, patients often obtain gout medicines without adequate understanding of the disease and its pharmacotherapy. This study aimed to describe patient knowledge regarding gout and gout medication use at Ngimbrang Pharmacy, Temanggung, Indonesia. A prospective descriptive study was conducted from 1 March to 23 April 2025 using purposive sampling. A literature-based questionnaire was tested in 30 respondents and demonstrated 14 valid items with good reliability (Cronbach's alpha = 0.776). Data from 54 respondents were analyzed descriptively. Most respondents were male (54.0%), aged ≥ 60 years (31.0%), and worked as farmers (48.1%). Overall, 46.0% had sufficient knowledge, 41.0% had good knowledge, and 13.0% had poor knowledge. Misconceptions remained regarding alcohol, allopurinol, and diclofenac. Patient knowledge was generally moderate.

Keywords: community pharmacy; gout; knowledge; medication use; patient counseling

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INTRODUCTION

Gout is one of the most common inflammatory arthropathies encountered in adults and is strongly associated with hyperuricemia, purine metabolism, age, sex, dietary patterns, renal function, obesity, and the use of certain medicines. The disease develops when uric acid levels exceed the body's capacity to keep urate soluble, leading to the deposition of monosodium urate crystals in and around joints. Clinically, gout is recognized by sudden episodes of severe pain, redness, swelling, and limitation of movement, often beginning in the lower extremities, especially the first metatarsophalangeal joint. Although the acute attack may resolve spontaneously, the condition is not trivial because repeated inflammation can impair mobility, reduce work productivity, and, when uncontrolled over time, contribute to chronic arthropathy and renal complications (Alatas, 2021; Junaidi, 2020; Riswana & Mulyani, 2022).

The burden of gout and hyperuricemia tends to increase with age and is influenced by both biological and behavioral factors. Men generally have a higher risk than women before older age because estrogen in women contributes to uric acid excretion, whereas uric acid elimination in men relies more heavily on renal handling. After menopause, the risk in women increases, and the age gap between men and women becomes narrower. In addition to age and sex, lifestyle plays a major role. Diets high in purine-rich foods such as organ meats, certain seafoods, fermented products, and excessive alcohol intake may increase uric acid production or reduce excretion. Obesity, sedentary habits, reduced fluid intake, and some medications such as diuretics may further aggravate hyperuricemia. Because many of these factors are modifiable, patient knowledge is central to prevention and control (Amrullah et al., 2023; Dungga, 2022; Lubis & Lestari, 2020; Sety, 2018).

From a therapeutic perspective, gout management includes both non-pharmacological and pharmacological approaches. Non-pharmacological management emphasizes diet modification, adequate hydration, weight control, reduced alcohol intake, and the avoidance of unnecessary trigger foods. Pharmacological treatment is more nuanced. Urate-lowering drugs such as allopurinol are used to reduce uric acid production or improve urate balance over the long term, whereas non-steroidal anti-inflammatory drugs (NSAIDs) and corticosteroids are primarily used to relieve pain and inflammation during acute attacks. This distinction is important because patients often encounter different medicines at different phases of illness. When they do not understand why the medicines are prescribed, they may discontinue long-term therapy too early, use analgesic drugs inappropriately, or assume that symptom relief alone means the disease is fully controlled (Adnyana et al., 2008; Alatas, 2021; Harahap et al., 2024).

Community pharmacies are one of the most accessible health-care facilities for patients with musculoskeletal complaints, including gout. In many Indonesian settings, patients come to pharmacies not only to redeem prescriptions but also to seek advice, buy over-the-counter products, or request repeat medicines based on previous experience. This makes pharmacies a strategic location for patient education. Pharmacists and pharmacy personnel can reinforce messages about medicine indications, dosage directions, lifestyle changes, expected effects, adverse effects, and the need for referral when symptoms are severe or recurrent. However, the educational potential of community pharmacies can only be optimized when the knowledge gaps of local patients are first identified. A descriptive profile of patient knowledge therefore provides practical information for designing counseling messages that are relevant to the actual misconceptions observed in the field (Amarullah et al., 2024; BPOM RI, 2008; Wulandari, 2021).

Health knowledge is generally defined as a person's understanding of facts, concepts, and procedures relevant to health problems and their management. It is shaped by exposure to information, educational attainment, prior experience with illness, social interaction, and access to health services. In behavioral models, knowledge does not automatically translate into action, but it is often the first prerequisite for appropriate decision making. Individuals who understand disease mechanisms and treatment goals are more likely to recognize symptoms correctly, seek suitable care, and adhere to medication instructions. Conversely, poor knowledge may lead to misconceptions, self-medication errors, irrational drug use, and delayed treatment seeking. This relationship has been observed in a variety of health topics, including maternal health, prevention behavior, and medicine use, indicating that educational interventions remain an essential component of public health practice (Alini, 2021; Gestina & Meilita, 2020; Syakurah & Moudy, 2020).

Studies conducted in Indonesia have consistently shown that knowledge related to gout remains uneven across communities and patient groups. Some studies among older adults and community residents reported that many respondents did not clearly understand the causes of gout, dietary restrictions, or methods of prevention. Other studies observed that misconceptions about uric acid were still common even among people with previous exposure to treatment. In pharmacy settings, patient understanding of specific medicines such as allopurinol may also be suboptimal. These findings suggest that public familiarity with the term 'gout' does not necessarily mean accurate understanding of its pathophysiology or treatment. For pharmacy practice, this distinction is important because counseling must move beyond naming the disease toward clarifying what each medicine actually does and what patients should monitor during therapy (Amarullah et al., 2024; Anindita, 2018; Hastuti, 2010; Indrayani et al., 2021; Maulida & Putra, 2023; Siregar, 2021).

Ngimbrang Pharmacy, located in Bulu, Temanggung, serves patients who seek treatment for gout and gout-like joint pain. Local patient profiles, according to routine pharmacy experience, include many older adults and workers whose daily activities may be physically demanding and whose eating patterns are shaped by household and agricultural contexts. In such a setting, gout is not only

a biomedical problem but also a practical issue that affects mobility, work capacity, and quality of life. Furthermore, because community pharmacies are often a first point of contact, patients may receive medicines before they have a full understanding of disease mechanisms or the role of long-term management. Assessing the knowledge profile of patients at this pharmacy is therefore relevant both for local service improvement and for the broader discussion of pharmacy-based health education in semi-rural Indonesian communities. Therefore, this study aimed to describe the level of patient knowledge regarding gout and gout medication use at Ngimbrang Pharmacy, Temanggung, Indonesia, including respondent characteristics, overall knowledge categories, and item-specific knowledge patterns.

METHOD

This study used a prospective descriptive design. The purpose of the design was not to test a causal hypothesis but to generate a structured picture of patient knowledge regarding gout and the use of gout medication among pharmacy visitors at a specific service site. A descriptive approach was considered appropriate because the primary research question focused on the distribution of knowledge levels and the identification of areas of misunderstanding rather than on statistical associations between independent and dependent variables.

The study was conducted at Ngimbrang Pharmacy, Bulu, Temanggung, Central Java, Indonesia, from 1 March to 23 April 2025. This pharmacy was chosen because it routinely serves patients purchasing medication for gout and gout-related symptoms, making it an appropriate community setting in which to observe real-world patterns of patient knowledge. Data collection was carried out during the pharmacy's operational hours. Respondents completed the questionnaire at the pharmacy under the supervision of the researcher to reduce missing responses and to ensure that instructions were understood.

The study population consisted of members of the community who came to Ngimbrang Pharmacy to purchase gout medication and reported using such medication. Based on pharmacy sales records and the estimated number of eligible visitors during the study period, the research population was projected at approximately 120 individuals. Sample selection used purposive sampling. Respondents were included if they met the following criteria: they came to the pharmacy to purchase gout medication, reported consuming the medicine, and were able to read, write, and hear sufficiently to complete the questionnaire. Individuals who had already completed the questionnaire were excluded from repeat participation, and those who did not agree to become respondents were also excluded.

A total of 54 respondents were included in the final study sample. Prior to the main data collection, the questionnaire underwent preliminary testing in 30 respondents. This pilot process was intended to evaluate item validity and overall instrument reliability before use in the main study. Following the pilot test, only items that met validity requirements were retained for the final questionnaire.

The instrument used in this study was a structured questionnaire developed from the literature on health knowledge, gout, and gout pharmacotherapy. The questionnaire contained two broad components. The first component covered respondent characteristics, namely sex, age, education, and occupation. The second component covered knowledge statements related to gout and the use of gout medication. The content domains represented in the questionnaire included the definition of gout, symptoms, causes, dietary triggers, the role of allopurinol, the use of anti-inflammatory medicines, the consequences of lifestyle choices, and simple non-pharmacological management.

Validity testing was performed on the draft questionnaire during the pilot phase. In the original 18-item questionnaire, 14 items met the validity criteria and were retained for the main study. Reliability testing using Cronbach's alpha yielded a coefficient of 0.776, which indicates that the

questionnaire had acceptable to good internal consistency for descriptive research purposes. This result suggests that the retained items measured a reasonably coherent construct related to patient knowledge of gout and gout medication use.

Scoring was performed using a dichotomous method. Correct answers were given a score of 1, whereas incorrect answers were given a score of 0. For negative statements, reverse scoring was applied so that the scoring direction remained consistent across items. Total scores were converted to percentages using the proportion of correct answers. Knowledge was then categorized using the study criteria as follows: good knowledge for scores of 76%-100%, sufficient knowledge for scores of 56%-75%, and poor knowledge for scores below 56%. These categories were used to summarize the general level of respondent knowledge and to facilitate interpretation of the results at both respondent and item levels.

Data analysis was descriptive. The completed questionnaires were first checked through editing to ensure completeness. Responses were then coded, entered into a computer database, and tabulated. Frequencies and percentages were calculated for respondent characteristics, total knowledge categories, and item-specific responses. The descriptive focus was retained throughout the analysis because the main objective of the study was to provide a practical profile of knowledge rather than to estimate predictors in a multivariable model.

In the implementation of the study, respondents were approached directly at the pharmacy and were informed about the purpose of the questionnaire. Participation was voluntary, and only those who agreed were enrolled. The questionnaire was completed in the presence of the researcher, which allowed respondents to ask for procedural clarification if needed while minimizing the risk that answers would be left blank. The study used primary data from the questionnaire and secondary contextual information from pharmacy records and the literature.

The trustworthiness of the results in this study depends on several design strengths and boundaries. A strength of the design is that it captured pharmacy users at the point of medicine access, making the findings directly relevant for counseling practice. Another strength is the use of a questionnaire that underwent validity and reliability testing before use. However, because the sampling was purposive and the setting was a single community pharmacy, the results are best interpreted as a local profile rather than as representative estimates for all patients with gout in Indonesia. This limitation is considered again in the discussion section.

RESULT

The instrument-testing phase showed that the final questionnaire was adequate for data collection. Of the 18 initial items, 14 were retained after validity testing, and the reliability coefficient for the final instrument was Cronbach's $\alpha = 0.776$. A total of 54 respondents were included in the final analysis. Respondent characteristics are presented in Table 1. The sample was slightly dominated by men (54.0%). The largest age group was respondents aged 60 years and older (31.0%), followed by those aged 30–40 years (28.0%) and 41–50 years (24.0%). Elementary-school and senior-high-school graduates each accounted for 31.4% of the sample, and farmers represented the largest occupational group (48.1%).

Table 1.
Respondent characteristics (n = 54)

Variable	Category	f	%
Sex	Female	25	46.0
	Male	29	54.0
Age (years)	30-40	15	28.0
	41-50	13	24.0
	51-60	9	17.0
	>=60	17	31.0
Education	Elementary school	17	31.4
	Junior high school	12	22.2
	Senior high school	17	31.4
	College/university	8	14.8
Occupation	Farmer	26	48.1
	Trader	9	16.6
	Civil servant	4	7.4
	Other	15	27.7

Table 2.
Distribution of patient knowledge levels

Knowledge level	f	%
Good	22	41.0
Sufficient	25	46.0
Poor	7	13.0

As shown in Table 2, the largest proportion of respondents fell into the sufficient knowledge category (46.0%), followed by good knowledge (41.0%) and poor knowledge (13.0%).

Table 3.
Knowledge level by respondent characteristics (% of total sample)

Characteristic	Good	Sufficient	Poor
Female	14.81	25.92	5.55
Male	25.92	20.37	4.70
Age 30-40 years	5.55	12.96	9.25
Age 41-50 years	16.66	7.40	0.00
Age 51-60 years	5.55	9.25	1.85
Age >=60 years	12.96	16.66	1.85
Elementary school	18.51	11.11	1.85
Junior high school	5.55	12.96	3.70
Senior high school	9.25	18.51	3.70
College/university	5.55	9.25	0.00
Farmer	27.77	16.66	3.70
Trader	1.85	9.25	5.55
Civil servant	1.85	5.55	0.00
Other	9.25	12.96	5.55

Table 3 indicates variation in knowledge categories across respondent characteristics. Men contributed a larger share of the good-knowledge category than women, respondents aged 41–50 years contributed the largest share of good knowledge, and farmers represented the largest share of the good and sufficient categories because they were the dominant occupational group in the sample.

Table 4 shows that the highest correct response rates were found for the statements that excess monosodium urate crystals can cause gout (96.20%), allopurinol is commonly taken once daily after meals according to the instruction received by respondents (94.44%), and high-purine foods can trigger gout (85.18%). The lowest correct response rates were found for the false statement that allopurinol can relieve acute gout pain (25.92%), the false statement that Voltadex lowers uric acid levels (48.14%), and the false statement that alcoholic beverages do not cause gout (51.85%).

Table 4.
Item-level analysis of knowledge statements

Knowledge item	Correct (n)	Correct (%)
Excess monosodium urate crystals can cause gout	52	96.20
Not every pain in the foot, knee, or joints is necessarily gout	38	70.37
High-purine foods such as organ meats can cause gout	46	85.18
Alcoholic beverages do not cause gout (false statement)	28	51.85
Vegetables and legumes are always harmless for gout (oversimplified statement)	41	75.92
Allopurinol is a gout medicine and should not be taken continuously without proper indication	47	87.03
Allopurinol can relieve acute gout pain (false statement)	14	25.92
Voltadex 50 mg lowers uric acid levels (false statement)	26	48.14
Dexamethasone 0.5 mg is used to lower uric acid levels (false statement)	39	72.22
Voltadex and dexamethasone do not cause hypertension (false statement)	37	68.51
Allopurinol is commonly taken once daily after meals according to the instruction received by respondents	51	94.44
Weight reduction cannot reduce uric acid levels (false statement)	34	62.96
Drinking plenty of water is unrelated to lowering uric acid (false statement)	37	68.51
Reducing meat/protein intake cannot lower uric acid (false statement)	40	74.07

DISCUSSION

The findings indicate that patient knowledge at Ngimbrang Pharmacy was generally at a moderate level. The predominance of the sufficient category rather than the good category is important because, in chronic disease management, ‘sufficient’ knowledge often means that patients can recognize disease labels and some common triggers, yet still hold clinically relevant misconceptions about pharmacotherapy and long-term prevention. In gout management, such gaps matter because symptom relief and disease control are not the same. Patients may feel familiar with gout as a condition, but without clear understanding of medicine roles they remain vulnerable to irrational expectations and inappropriate self-management (Indrayani et al., 2021; Maulida & Putra, 2023; Pasaribu, 2022; Siregar, 2021).

The age profile of respondents was consistent with the epidemiology of gout, with a substantial proportion of older adults in the sample. Older age is associated with cumulative exposure to metabolic risk factors, reduced renal urate handling, multiple comorbidities, and repeated contact with medicines. The prominence of respondents aged 60 years and older therefore reflects the practical reality that gout and hyperuricemia frequently become long-term management issues in later life. At the same time, the distribution of knowledge categories suggests that repeated experience with disease does not automatically eliminate misconceptions. Older adults may accumulate experience with symptoms and medicines, but not necessarily with a coherent understanding of therapeutic goals. This supports the need for repeated, age-sensitive counseling in pharmacy practice (Amrullah et al., 2023; Kurniawan & Kartinah, 2023; Toruan et al., 2022; Asghari et al., 2024).

The educational and occupational profiles of the respondents also have practical implications. Many respondents had elementary-school or senior-high-school educational backgrounds, and nearly half worked as farmers. In such settings, counseling strategies should be concrete, concise, and closely linked to daily routines. Patients who engage in physically demanding work may prioritize rapid symptom relief because pain directly interferes with activity and income. They may also have less time for repeated clinic visits or detailed medical explanations. Therefore, pharmacy counseling should be framed in language that is easy to understand and actionable in daily life, such as differentiating which medicine reduces uric acid over time and which medicine only relieves pain during an acute episode (Lestari et al., 2021; Maulida & Putra, 2023; Riswana & Mulyani, 2022).

The item-level results provide the clearest direction for improving pharmacy services. Respondents showed high awareness of broad disease concepts, especially the association between urate crystals and gout and the role of purine-rich foods. This pattern suggests that many patients have been exposed to general messages about gout through family, previous treatment encounters, or community discussion. However, the same respondents were much less accurate when interpreting medicine roles. This asymmetry between general disease awareness and medicine-specific understanding is highly relevant to community-pharmacy care because pharmacies are the setting where medicine-related misunderstandings can most directly affect daily use (Amarullah et al., 2024; Sari et al., 2022).

The most important misconception identified in this study concerned allopurinol. Only 25.92% of respondents correctly rejected the false statement that allopurinol can relieve acute gout pain. This indicates that a large proportion of patients may not distinguish between urate-lowering therapy and symptomatic therapy. Contemporary guidance emphasizes that allopurinol is a long-term urate-lowering agent, not an analgesic for immediate pain relief. When patients misunderstand this role, they may stop treatment when pain does not improve quickly, use the medicine only when symptoms recur, or judge the medicine as ineffective for the wrong reason. Such misunderstanding is not a minor educational issue; it can directly undermine long-term disease control (Alatas, 2021; Amarullah et al., 2024; ACE, 2023; McCarty et al., 2025).

A second major misconception involved diclofenac, represented in the questionnaire by the local product name Voltadex 50 mg. Fewer than half of the respondents correctly recognized that diclofenac does not lower uric acid levels. This finding suggests that patients tend to evaluate medicines primarily by the speed of symptom relief. Because diclofenac can rapidly reduce pain and inflammation during an acute episode, some patients may assume that it is also correcting the underlying disease process. Recent reviews of gout management emphasize the continuing need to distinguish anti-inflammatory treatment from urate-lowering therapy and to communicate these distinctions clearly to patients, especially in real-world settings where medicines are remembered by brand name rather than therapeutic class (Baban et al., 2022; Harahap et al., 2024; Yao et al., 2024).

Misunderstanding was also evident for dexamethasone. Although the proportion of correct responses was higher than for diclofenac and allopurinol, more than one quarter of the sample still misclassified dexamethasone as if it were related to uric acid reduction. The problem here is similar: anti-inflammatory medicines are often grouped mentally as ‘obat asam urat’ because patients associate them with relief from gout symptoms. In practice, however, symptom relief does not replace long-term urate control. Pharmacy counseling should therefore explain not only what a medicine is used for, but also what it is not intended to do (Alatas, 2021; ACE, 2023; Yao et al., 2024; McCarty et al., 2025).

The findings related to lifestyle knowledge also deserve attention. Correct responses concerning alcohol, weight reduction, hydration, and dietary restriction were only moderate. This suggests that patients may know isolated messages but have not fully integrated them into a coherent understanding of gout prevention. Recent reviews continue to identify alcohol use, dietary patterns, obesity, and metabolic risk factors as important contributors to hyperuricemia and gout burden. Therefore, counseling should move beyond simply listing forbidden foods and instead help patients understand how different behaviors influence urate levels and recurrence risk (Dungga, 2022; Nurmala & Suryadi, 2022; Tumbel et al., 2024; Asghari et al., 2024; Timsans et al., 2024).

The statement that not every pain in the foot, knee, or joints is necessarily gout was answered correctly by about seventy percent of respondents, which is encouraging because it indicates that some respondents did not overgeneralize all musculoskeletal pain as gout. However, nearly one

third still answered incorrectly. In community settings, the label 'asam urat' may be used broadly for many kinds of joint discomfort. This can lead to inappropriate self-medication or delay in seeking care for other problems. Accordingly, pharmacy counseling should also include referral messages, especially when pain is persistent, atypical, severe, or not responsive to previously effective treatment (Pasaribu, 2022; Siregar, 2021; Asghari et al., 2024).

Taken together, the results indicate that respondents were stronger in recognizing broad concepts than in distinguishing the specific roles of medicines. This pattern is consistent with the way health information often circulates in communities: disease labels and food restrictions are remembered more easily than pharmacological mechanisms. Yet for gout, successful management depends precisely on understanding the difference between long-term urate control and short-term symptom relief. This makes the community pharmacy a particularly important point of intervention because pharmacists and pharmacy personnel can provide medicine-specific explanations at the moment the medicine is dispensed (Wulandari, 2021; ACE, 2023; Hu et al., 2024; McCarty et al., 2025).

Comparison with previous Indonesian studies strengthens the interpretation of the present findings. Research among older adults and community populations has repeatedly shown that respondents often have moderate knowledge with important gaps in prevention and treatment understanding. The present study extends that literature by documenting the same issue in a pharmacy-service context, where misunderstanding about medicine roles has immediate implications for daily treatment behavior. In that sense, this study contributes practical evidence for pharmacy-based educational interventions, not merely general community health promotion (Indrayani et al., 2021; Maulida & Putra, 2023; Siregar, 2021; Amarullah et al., 2024).

Several implications for pharmacy services emerge from this study. Counseling should be prioritized not only for first-time users but also for repeat users, because familiarity with a medicine name does not guarantee correct understanding. Counseling should be problem-oriented, focusing on misconceptions that were clearly identified in this study: the assumption that allopurinol relieves acute pain, the belief that diclofenac lowers uric acid, and incomplete understanding of alcohol and lifestyle factors. Counseling should also connect medicine information with practical self-management advice that fits the local demographic profile of older adults and farmers. Brief written reinforcement, such as simple handouts or label notes, may help patients remember key distinctions after leaving the pharmacy (Harahap et al., 2024; Wulandari, 2021; ACE, 2023).

This study also has implications for rational drug use. Misunderstanding medicine roles can encourage inappropriate expectations, self-adjustment of therapy, or repeated reliance on symptomatic medicines without adequate long-term control. When patients overvalue the immediate effect of NSAIDs or corticosteroids, they may undervalue urate-lowering therapy. Conversely, if they expect allopurinol to act like an analgesic, they may consider it ineffective and discontinue it inappropriately. Recent evidence on adherence and gout management underscores that patient understanding remains central to long-term treatment success (Hu et al., 2024; McCarty et al., 2025).

This study has several limitations. The sample size was modest and drawn from a single community pharmacy using purposive sampling, so the findings are not intended to represent all patients with gout in Temanggung or Indonesia. The analysis was descriptive and did not test statistical associations between knowledge and demographic characteristics, treatment duration, adherence, or laboratory values. In addition, the structured questionnaire captured selected responses rather than deeper reasoning that might be explored through interviews. Nevertheless, the study remains valuable because it identifies concrete misconceptions that are directly actionable in routine community-pharmacy counseling.

Future research may build on this work by combining questionnaires with interviews to explore why patients hold specific misconceptions, and by testing whether pharmacist-led counseling, pictorial handouts, or follow-up education can improve medicine understanding and rational use over time. Such work would strengthen the evidence base for pharmacy-centered education in chronic disease management in Indonesian community settings. The present findings are also important from the perspective of continuity of care. In routine practice, patients with gout may move between clinics, laboratories, pharmacies, and informal sources of advice. Because community pharmacies are often visited more frequently than physicians for repeat medicines or symptom relief, the messages delivered there can substantially influence what patients believe about their treatment. If pharmacy counseling is brief but accurate, it can strengthen continuity by reinforcing prior clinical instructions. Conversely, if counseling is absent or unclear, misconceptions may persist despite repeated health-care contact. This makes the pharmacy not only a medicine-supply point but also a practical communication bridge within long-term gout management (ACE, 2023; Hu et al., 2024; McCarty et al., 2025).

Another point highlighted by this study is the need to individualize educational messages according to the patient's likely decision pathway. Some patients seek medicines because they want immediate relief from pain; others may come for repeat allopurinol or because they were advised by family members to buy a familiar product. These differing motivations mean that the same standard explanation may not always be sufficient. Patients seeking acute relief need a very clear explanation that pain medicine and urate-lowering medicine are not interchangeable. Patients collecting repeat medicines may need reinforcement of duration, adherence, and monitoring messages. Patients who self-initiate treatment based on previous experience may need stronger counseling on when professional reassessment is necessary. A brief targeted approach may therefore be more feasible and more effective than a generic counseling script for every patient (Wulandari, 2021; Harahap et al., 2024).

The study further supports the value of item-level knowledge assessment in pharmacy research. Reporting only an overall knowledge category can obscure where the most consequential misunderstandings are located. In the present study, the overall profile might appear moderately acceptable if assessed only through the proportion of respondents in the sufficient and good categories. However, item-level analysis revealed specific misconceptions with direct therapeutic consequences, particularly around allopurinol and diclofenac. For service improvement, this level of detail is much more actionable than a single summary score because it allows counseling priorities to be matched with the exact concepts that patients are misunderstanding. Future pharmacy-based assessments of chronic disease knowledge may benefit from a similar approach in order to generate intervention content that is more precise and more clinically relevant (Amarullah et al., 2024; Rosita et al., 2021).

Finally, the findings have broader public health relevance beyond the pharmacy itself. Gout is closely linked with dietary behavior, obesity, comorbid disease, and long-term medicine adherence. Misconceptions at the individual level can therefore interact with broader community beliefs and produce repeated patterns of suboptimal self-management. In areas where community discussion strongly shapes medicine use, pharmacy counseling can function as a form of micro-level health promotion by correcting myths in a repeated and practical way. This role becomes even more important in settings where older adults, workers with limited time, or patients with variable educational backgrounds rely heavily on pharmacy encounters for treatment guidance. Strengthening the counseling function of community pharmacies may therefore contribute not only to better understanding of gout medicines, but also to more rational medicine use and more consistent chronic-disease self-management in the wider community (Asghari et al., 2024; Timsans et al., 2024; Yao et al., 2024).

In addition, the current results suggest that simple educational reinforcement may be particularly valuable at the time of dispensing. Even a short explanation that names the medicine, states its purpose, clarifies whether it works for acute symptoms or long-term urate control, and reminds the patient of one key lifestyle measure could reduce misunderstanding. Because the most problematic misconceptions identified in this study were concentrated around a few specific items, a structured mini-counseling checklist for gout medicines may be feasible for routine pharmacy practice and worthy of evaluation in future implementation studies.

CONCLUSION

Patients at Ngimbrang Pharmacy generally demonstrated a sufficient level of knowledge regarding gout and the use of gout medication. Of 54 respondents, 46.0% had sufficient knowledge, 41.0% had good knowledge, and 13.0% had poor knowledge. Respondents were relatively well informed about the general definition of gout, the role of purine-rich foods, and some routine medicine instructions, but important misconceptions remained regarding the role of allopurinol, diclofenac, corticosteroids, alcohol, and lifestyle measures in gout management.

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