Western European Journal of Medicine and Medical Science
Volume 3, Issue 10, October 2025
https://westerneuropeanstudies.com/index.php/3
ISSN (E): 2942-1918 Open Access| Peer Reviewed

MODERN APPROACHES TO DIETARY NUTRITION FOR PATIENTS WITH GOUT

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Abstract. Gout is a systemic inflammatory disease characterized by hyperuricemia and inflammation at sites of monosodium urate crystal deposition. The goal of therapy is to maintain blood uric acid levels within normal limits, prevent exacerbations and complications, and improve patients' quality of life. This requires eliminating risk factors for the disease, following a therapeutic diet, and taking urate-lowering medications. This article presents data from an analysis of patient management in both inpatient and outpatient settings.
Keywords: gout, uric acid, diet therapy, patient management.

Introduction. Gout is a systemic inflammatory disease characterized by the deposition of sodium monourate crystals in tissues [5,10]. The main risk factor for gout development is hyperuricemia - a blood uric acid level above 360 μmol/L [3]. The primary clinical manifestation of gout is an acute attack caused by sodium monourate (SMU) crystals [5,8]. The goal of gout treatment is to achieve normal blood uric acid levels. Researchers are paying special attention to non-pharmacological treatment of gout. Patients with gout require a special diet. Patients are advised to follow a low-purine diet, which will protect the musculoskeletal system [1,2,7]. However, specific diets for gout have not yet been developed. Among the studied diets, DASH (Dietary Approaches to Stop Hypertension) is recommended for gout patients, which is designed to maintain normal blood pressure levels, as well as a Mediterranean diet consisting of fruits, vegetables, and low-fat dairy products with reduced total and saturated fats [4,11].

It should be noted that therapeutic nutrition for gout is the most important component of complex therapy. The basic principles of diet therapy for gout have been preserved, but recently some of them continue to be studied. New data are not always incorporated into specific recommendations given by doctors to patients. This may be due to doctors' low awareness of gout prevention and treatment principles, which has been confirmed by several studies. Some authors link the development of gout to dietary factors (overeating, excessive meat consumption) and alcohol consumption. Despite the existence of general patterns of risk factors leading to exacerbation of the inflammatory process and complications, the assessment of actual nutrition in gout patients, the individualization of nutrition based on the complex of metabolic disorders, and their hygienic justification have not been fully studied.

Considering the above, it is important to observe the individualization of nutrition based on the complex of metabolic disorders and the use of national cuisine dishes [6]. In gout, dietary nutrition is a more important treatment factor than all other methods.

Purpose of the research. Improving dietary nutrition for patients, considering their management in both inpatient and outpatient settings.

Materials and methods of research. To achieve the set goal, we conducted a retrospective analysis of 125 medical histories of gout patients treated at the outpatient clinic and rheumatology department of the Multidisciplinary Clinic of Tashkent State Medical University. All patients were male, aged 30-75 years.

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The analysis showed that the majority of patients were young, working-age individuals between 30-55 years old. Patients were divided into 2 groups based on the structure of their disease diagnosis; all patients sought medical care at the clinic during an exacerbation of the disease. Group I consisted of 72 patients diagnosed with gout, intermittent course, and Group II consisted of 53 patients diagnosed with gout, chronic course, chronic gouty arthritis. All patients underwent clinical, biochemical, instrumental, and statistical research methods and their analysis. We carefully studied the data collected from medical histories and the results of patient examinations. From the anamnesis, special attention was paid to hereditary history, the presence of risk factors, harmful habits, concomitant diseases, lifestyle, and diet. We analyzed the results of physical examinations, laboratory tests of blood and urine, levels of urea, creatinine, uric acid, calcium, vitamin D, lipid profile, radiological examination of the osteoarticular system, and ECG.

Statistical analysis was conducted using Microsoft Office Excel 2020 and SPSS 22 software packages. The obtained data were expressed as M±m, where M is the mean of the variation series, and m is the standard error of the mean. The significance of differences between independent samples was determined using the Mann-Whitney method and Student's t-test.

Research results: The diagnosis of intermittent gout with gouty arthritis was established in 72 patients, while 53 patients were diagnosed with chronic gouty arthritis. Kidney damage - urate nephrolithiasis and chronic kidney disease - was identified in every fifth patient. Sudden onset of rapidly increasing pain in one joint, most often in the first metatarsophalangeal joint of the foot, along with local inflammatory phenomena in the joint such as skin hyperemia, swelling, and impaired function of the affected joint were observed in all patients. Patients frequently complained of weakness, muscle pain, and rapid fatigue. It was found that patients often suffered from common colds. Gout more frequently affected individuals engaged in intellectual work (teachers, engineers, managers) and young people of working age. Common risk factors for gout exacerbation were identified: smoking more than 1 pack of cigarettes (in 36 patients), low physical activity (in 87 patients), and low fluid intake (in 78 patients).

A study of patients' adherence to dietary recommendations given by their treating physicians revealed that most patients violated their diet by periodically or regularly consuming spicy foods, meat products, and alcoholic beverages (Table 1). It is also important to note that in all patients, an attack of acute gouty arthritis was provoked by alcohol consumption, dietary violations, colds, or the use of diuretics.

Table 1

Analysis of adherence to dietary recommendations

Age (years)	observed				partially				did not observe			
	I		II		I		II		I		II	
	abs	%	abs	%	abs	%	abs	%	abs	%	abs	%
30-39	0		1		3		1		10		7	
40-49	1		2		1		1		13		7	
50-59	2		2		1		6		14		11	
60 and above	1		3		8		8		9		13	
Total	4		8		13		16		46		38	

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It should be noted that out of 125 patients with gout during the acute phase, body mass index (BMI) was measured in only 96 patients. Normal body weight was observed in only 14 patients. An increase in BMI was detected in the majority of patients; however, appropriate recommendations for weight reduction were not provided (Table 2).

Table 2

Distribution of Patients According to BMI

Age/BMI	18,5-24,9		25-29,9		30-34,9		35-39,9	
	I	II	I	II	I	II	I	II
30-39 years	2	2	3	0	3	1	0	0
40-49 years	1	0	8	3	3	4	2	1
50-59 years	0	0	11	10	3	4	1	1
60 and above	6	3	**10**	**6**	6	**1**	**1**	**0**
Total	**9**	**5**	**32**	**19**	**15**	**10**	**4**	**2**

In this regard, we developed a special questionnaire for a hygienic assessment of the actual nutrition of patients suffering from gout and developed measures to optimize the organization of dietary meals. A survey was conducted among 60 gout patients who consented to participate in the study. The survey results showed that patients prefer national cuisine, local products, fruits, and vegetables. When a hygienic assessment of the standard diet No. 6 was conducted, it was established that 28.5% of patients refused diet No. 6, which has insufficient energy value, rarely includes national dishes, contains an amount of fish and chicken below the required need, does not include meat, and lacks dairy products in the diet. An abundance of bread products was revealed.

Based on the data obtained, we have developed a new improved therapeutic diet, which includes dishes of national cuisine (shavla, mastava, pilaf with chicken, eel soup, pumpkin cutlets, dimlama made from vegetables, etc.), and reduces the amount of bread products and sugar in the diet. The energy value of the diet, the structure, and eating regimen for gout patients have been adjusted accordingly.

The inclusion of the new, improved diet in the treatment regimen for gout patients for three months significantly improved the clinical course of the disease, eliminating joint pain and swelling. The study results showed a significant decrease in the level of uric acid in the blood during treatment from 505.1 to 335.8 μmol/L and a reduction in BMI by 5% or more.

Conclusion. Important parameters for predicting the effectiveness of gout management and treatment are: non-compliance or partial compliance with diet, abnormal body mass index, frequent colds, and accompanying comorbid pathologies. Assessment of the actual nutrition of gout patients revealed a discrepancy in the structure and caloric content of their diet, as well as insufficient intake of national cuisine dishes, which led some patients to abandon the recommended diet. Normalization of caloric intake and dietary structure, including the incorporation of national cuisine dishes into the complex therapy for gout patients, significantly improved the clinical course of the disease, contributing to a decrease in body mass index and blood uric acid levels.

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