

Nutrition Counseling among Patients with Gout

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ABSTRACT

Hyperuricemia (high levels of uric acid in the blood) can cause a buildup of monosodium urate crystals. Sudden increase may lead to gout attacks. Consumption of an unbalanced diet, intake of proteins containing high purine is one of the factors that affect gout arthritis. Based on data from medical records at the hospital Mohamad Palembang Hoesin and increase in the number of visits patients with gout, the cumulative incidence of gout reached 22 % after 5 years, the uric acid levels > 9 mg / dL. One of the efforts to help clients change behavior and accelerate the healing process that nutritional counseling is conducted face to face using leaflets media. The purpose of this study was to determine the effectiveness of low-purine diet counseling against uric acid levels in gout patients who were treated at the Hospital dr. AK Gani Palembang. Is a quasi-experimental study design, this study indicated that nutrition counseling with low-purine diet will help to change the behavior of people with gout in the diet to accelerate the reduction in uric acid levels. The average reduction in uric acid levels after being given a low-purine diet counseling that is equal to 1.6 mg/dL and concluded that giving low-purine diet counseling are effective in lowering uric acid levels in patients with gout. Based on these results, low-purine diet counseling should be offered to patients with gout in an effort to motivate behavior change and reduction in uric acid levels. Nutrition counseling with Low-purine diet in patients with gout can change the eating habits of patients who eventually decreased the levels of uric acid.

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1. INTRODUCTION

Nutrition and diet therapy have an important role in the prevention and cure a number of diseases, and are associated with degenerative diseases and metabolism that can not be cured but can be controlled [1]. High uric acid (hyperuricemia) contribute as risk factors for metabolic syndrome in obese [2],[3]. The purpose of the diet in patients with gout is to reduce levels of uric acid in the blood and urine [4],[5].

Nutritional counseling is an effort to speed the healing process and achieve optimal nutritional status. The purpose of nutritional counseling activities are to assist clients in changing behaviors related to nutritional status thus improving nutritional quality and health of the client [4]-[6]. One of the benefits of nutritional counseling is to help speed of the healing process through improved nutrition clients [7]. The new strategy is needed to motivate people with Gout and improve the effectiveness of counseling to begin a better lifestyle and adhere to the diet [8].

In a low-purine diet, the diet should run a lot of carbohydrates and little fat with an adequate amount of water [9]. Many restrictions on food would affect non-compliance to the diet. Noncompliance besides being one of the obstacles to the achievement of the purpose of treatment, will also lead patients require

examination or treatment is unnecessary. Patients who do not comply will be seen as negligent and that negligence is considered as individuals who have self-control problems [10].

In a study found the incidence of gout: 0.1% at a level of <7 mg / dL, 0.5% at levels of 7 to 8.9 mg / dL, 4.9% in blood uric acid levels > 9 mg / dL, the incidence cumulative gout reached 22% after 5 years, the uric acid levels > 9 mg / dL [11]. Further research is needed to determine the relationship between nutrition counseling with lifestyle changing in patients with chronic hyperuricemia and gout sufferers [12]. Increased uric acid disorder patients to Palembang, the outline can be seen from the number of patients who went to the department of Dr. Mohammad Hoesin Palembang, based on data from medical records rheumatism clinic, patients with a diagnosis of hyperuricemia in 2008 amounted to 152 people, in 2009 as many as 120 people, while from January to September 2010 as many as 203 patients [13]. This study aims to determine the effectiveness of counseling know the low-purine diet on levels of uric acid in patients with gout outpatient dr. AK Gani Hospital Palembang.

2. RESEARCH METHOD

This research used quasi experimental design with a draft form one group pretest-posttest design with the aim to see the difference in uric acid levels in gout patients before and after low-purine diet counseling. Sample size of 30 people who were outpatients at the AK Gani Hospital Palembang. Sampling was done by systematic random sampling based on the criteria that have been determined.

For the selection of respondents first screened with uric acid levels, patients with uric acid levels ≥ 7 mg / dl (male) and ≥ 6 mg / dl (female) will be selected as respondents. Respondents received nutritional counseling by referring to low purine diet leaflets conducted by experienced nutritionists as much as 2 times per week for 4 weeks. Nutritionists provided nutritional counseling in the form of a low purine diet counseling materials include a sense of gout, foods that were allowed and restricted food for consumption and provide motivation for patients adhere to a diet low in purines given.

Intake of nutrients and purine respondents obtained by 24-hour recall method. This study used several equipments which was included : microtoice, bathroom scales, Self Monitoring of Blood Uric Acid, leaf let low-purine diet counseling, identity questionnaire respondents, and form food recall to measure diet adherence respondents. After completion of nutritional counseling using a low purine diet leaflet, then examined uric acid levels to see the effects of nutritional counseling on decreased uric acid levels. To see the effect of nutritional counseling on decreasing uric acid levels in gout patients, the data of the research results were tested statistically by using t dependent test. This research received ethical recommendation from Ethics Committee of Health Polytechnic Makassar Indonesia.

3. RESULTS AND ANALYSIS

3.1. Intake of nutrient and purine

Respondents in this study were 30 people who comprised 80% of women and 20% men. By age group was highest in the age group 50-64 years by 46.7%, the age group 30-49 years by 30% and the remaining 23.3% including the age group ≥ 65 years.

Based on the results of interviews with use form recall the food was categorized into good if $\geq 80\%$ of their needs and less if less than 80% of needs. Purine intake is good categorized if ≤ 150 mg per day and includes not good if ≥ 150 mg per day. The data was then processed by the program Nutrisurvey thus obtained nutrient intake of the respondents is presented in Table 1.

Table 1. Distribution of Respondents Nutrient Intake

Nutrient Intake		n	%
Energy:	Good	14	46.7
	Less	16	53.3
Protein :	Good	18	60.0
	Less	12	40.0
Fat :	Good	8	26.7
	Less	22	73.3
Carbohydrate:	Good	7	23.3
	Less	23	76.7
Purine :	Good	11	36.7
	Not Good	19	63.3

3.2. Dietary adherence

Dietary compliance of respondents to the low-purine diet counseling was given categorized into two categories, namely obedient and not obedient. Most respondents were 63.3% non-adherent to low purine diet counseling given and the remaining 36.7% were considered not obedient, the data can be seen in Table 2.

Table 2. Distribution of Dietary Adherence of Respondents

Dietary Adherence	n	%
obedient	11	36.7
not- obedient	19	63.3
T o t a l	30	100

3.3. Effect of low-purine diet counseling to decrease uric acid levels

To know the effect of giving low purine diet counseling to decrease uric acid levels of respondent was tested statistically using t- dependent test. Statistical test results show that low purine diet counseling may help reduce uric acid levels of Gout patients. For more details, the data could be seen on Table 3.

Table 3. Effect of Low-Purine Diet Counseling to Decrease Uric Acid Levels

	Mean before \pm SD	Mean after \pm SD	T	CI 95%	p value
uric acid levels	8.42 \pm 2.60	6.82 \pm 1.83	7.10	1.13 \pm 2.06	0.000

P* : t dependent p value < 0.005

The data in Table 4 showed that giving low-purine diet counseling at the respondent likely reduce uric acid levels, with the average difference uric acid levels before and after low-purine diet counseling by 1.60 mg / dl.

The results of this study showed that Gout is more common in women as much as 80% and in the age group of 50-64 years is as much as 46.7%. The uric acid levels in men increased by getting older. In women, the increase in Gout patients related to the estrogen hormone. When menopause, estrogen hormone in women decreased dramatically, so the possibility of gout disease increase [14].

As many as 60% of respondents \geq 80% protein intake needs, and respondents still consume protein sources that are high in purines such as, beef, chicken and vegetable protein. To controlling uric acid level in patients with gout, patients should avoid consuming protein sources that are high in purines excessively [9].

Most respondents, 73.3% of total fat intake more than recommended, and it was caused by that affected often consumed fried foods and foods that were processed by using coconut milk. The patients gout are encouraged to consume fat \leq 15% of the total requirement, because fat has a negative impact on uric acid that can inhibit or removal of uric acid excretion via urine. The more fat consumption, the removal of uric acid disorders is increasing [14].

Based on the analysis turned out as much as 63.3% of respondents intake of purine was high (\geq 150 mg. Purine is a compound that is converted into uric acid in the body, hence people with hyperuricemia is not recommended consumption of foods high in purines [15]. The survey results revealed that 19 patients (63.3%) did not adhere to the low-purine diet was given, patients still consume foods that contain high purines such as beef, chicken meat and protein sources. Consuming of meat and seafood in high amounts shown to increasing of uric acid levels [16], while the consuming protein or vegetables rich in purine in moderation was not shown to increase the risk of gout patients [17].

Compliance with the health program was a behavior that can be observed and thus can be measured. In a sense obedience was the term used to describe obedience or surrender to the predetermined objectives, while disobedience describe someone's refusal to follow the specified program [18]. In this study, patient compliance was measured by looking at the intake of purines, purine patients who dutifully consume <150 mg, while patients who did not comply consume purines > 150 mg. Adherence to a diet program on clients with high uric acid was obedience to not consuming foods that can increase the levels of purine [19].

The average reduction in uric acid levels in the respondents was 2.14 mg / dL and the statistical test showed a significant decrease and proves that low-purine diet counseling effect to the decreasing of uric acid levels in patients with gout. The result of the research on the effect of a diet low in purines to uric acid levels showed a decrease in uric acid levels result significantly with an average reduction of uric acid levels in respondents was 2.85 mg / dl [20]. The results of the research on the effects of nutrition counseling with a pocket book using diet in patients with hyperuricemia in the Noongan Hospital North Sulawesi province

showed a decrease in uric acid levels of patients after receiving nutritional counseling [21]. The main principle of nutrition therapy in patients with gout and hyperuricemia is including restrictions on the amount of purines in the diet and the proper regulation of body weight [6].

The modification of diet in patients with Gout should be noted and highly recommended [22]. Nutritional counseling was very important and absolutely necessary for the long-term well-being in patients with gout [23]. The results of this research was supported by several previous studies that decrease uric acid levels will be significant if given counseling on a diet low in purines, then counseling diet low in purines was important given to patients with Gout to motivate and improve knowledge so that patients change their behaviors and avoiding the consuming foods that contain high in purines that can increase the levels of uric acid.

4. CONCLUSION

Unbalanced eating habits, with too high protein and purine intake increase the risk of hyperuricemia. To control uric acid levels, Gout patients need to maintain diet and adhere to diets recommended by nutritionists. Nutritionists need to improve nutritional counseling to Gout patients, because nutrition counseling with Low-purine diet in patients with Gout can change the eating habits of patients who eventually decreased the levels of uric acid.

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