
Description Of Increased Uric Acid Levels In Ujung Tanduk Village Communities Before And After Drinking Tuak

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Abstract

Tuak is a type of alcoholic drink made from palm sugar. Continuous excessive consumption of palm wine can increase uric acid levels in the body. Uric acid is part of purine metabolism, but if metabolism occurs abnormally there will be a process of accumulation of uric acid crystals in the joints which causes quite high levels of pain such as joint disorders (Gouty arthritis). The aim is to determine the description of uric acid levels before and after consuming palm wine in residents in Ujung Tanduk Village, Laguboti District. The research that will be used is a quantitative type of research with a descriptive research design, with a purposive sampling technique. The results showed that 8 research samples, 2 people (25%) of the sample consuming 4 glasses of palm wine experienced a decrease in uric acid levels with an average of 0.25 mg/dl, 4 people (50%) of the sample consuming 6 glasses of palm wine experienced an increase in uric acid levels with an average of 0.4 mg/dl, and 2 people (25%) of the sample who consumed 8 glasses of palm wine experienced an increase in uric acid levels with an average of 1.25 mg/dl. Consuming too much palm wine can increase uric acid, therefore reducing the frequency of consuming palm wine can reduce uric acid levels.

Keywords: Uric Acid, Level Of Uric Acid, Tuak

INTRODUCTION

According to (WHO 2016), uric acid is part of purine metabolism, but if metabolism occurs abnormally there will be a process of accumulation of uric acid crystals in the joints which causes quite a lot of pain. Under normal circumstances, uric acid levels in men begin to increase after puberty, while in women uric acid levels do not increase until after menopause, this is because estrogen increases the excretion of uric acid through the kidneys. Based on data from the World Health Organization (World Health Organization, 2017), the prevalence of gouty arthritis in the world is 34.2%. Gouty arthritis often occurs in developed countries like America. Based on data, the prevalence of gouty arthritis in the United States is 13.6% per 100,000 population. Data from the World Health Organization (WHO 2018) increased by 1,370 (33.3%).

The prevalence of gout in Indonesia has increased. The prevalence of gout based on diagnosis from health workers in Indonesia is 11.9% and based on diagnosis or symptoms 24.7% when viewed from age characteristics, the highest prevalence is at age ≥ 75 (54.8%) (Kemenkes RI, 2018). The increase in uric acid levels is influenced by many factors, one of which is the habit of consuming large amounts of alcohol (tuak) for a group of people, causing an increase in gout cases in men (Subhan et al., 2023).

High uric acid in the body can endanger health and interfere with daily activities if left to continue. High uric acid in the blood can cause hyperuricemia. Increased uric acid can cause disorders in the human body which are characterized by pain in the joint area, so this disease is often called gout. If this is allowed to continue, it will result in complications in gout sufferers such as the appearance of recurrent arthritis and recurrences, the longer the joints become painful, the larger the crystals appear and can burst, and the appearance of stones in the urinary tract can even cause failure. kidney (Joewono Soeroso, 2014).

Tuak, which generally contains alcohol, will be dangerous for the body if consumed excessively over a long period of time. Just like other drinks containing alcohol, palm wine has a bad impact on health. Drinking palm wine excessively can cause drunkenness, weight gain, high blood

pressure, a decreased immune system, and problems with organs such as the liver and kidneys. Apart from that, the purine content in palm wine can also cause uric acid levels to increase in the blood if consumed excessively (Krisyanella et al., 2019).

The impact of the habit of consuming traditional alcohol (tuak) for a group of people in large numbers resulting in increasing cases of gout in adult men, including my parents, were drinkers (tuak consumers), with a volume of 6 glasses per day, and after my father was old 45 years old has experienced Gouty arthritis. Based on this, researchers are interested in conducting research on "The description of uric acid levels in the people of Ujung Tanduk Village, Laguboti District, Toba Regency before and after drinking palm wine in 2023".

RESEARCH METHODS

The type of research method that will be used in this research is quantitative research with a descriptive research design. The aim of this research is to determine the description of uric acid levels in the people of Ujung Tanduk Village, Laguboti District before and after drinking palm wine in 2023. Respondents in this study are adult men in Ujung Tanduk Village, Laguboti District. The sampling technique used is purposive sampling, which meets the following criteria, male gender, age 20-30 Years, healthy body condition, have uric acid levels ≤ 7 mg/dl.

RESULTS AND DISCUSSION

Based on the requested sample criteria and time constraints in the research, researchers could only obtain a sample of 8 people. Of which 8 samples consumed palm wine. 2 samples consumed 4 glasses of palm wine, 4 samples consumed 6 glasses of palm wine, and 2 samples consumed 8 glasses of palm wine. Tables and charts or captions are arranged in the form of a phrase (not a sentence) succinctly.

Overview Of Uric Acid Levels

From the results of research on "Description of uric acid levels in the people of Ujung Tanduk Village, Laguboti District before and after drinking palm wine in 2023" which was carried out, the following data was obtained:

Table 1. Description of the results of uric acid levels before and after consuming palm wine for 1 week in 8 people.

No.	Initials	Age	Tuak Volume	Uric acid levels (mg/dl)		Results
				Pre-test	Post test	
1.	TS	30 Year	4 Glass	4,4 mg/dl	4,2 mg/dl	0,2 mg/dl
2.	HP	23 Year	4 Glass	3,9 mg/dl	3,6 mg/dl	0,3 mg/dl
3.	JL	22 Year	6 Glass	5,9 mg/dl	6,3 mg/dl	0,4 mg/dl
4.	JS	23 Year	6 Glass	6,5 mg/dl	7,0 mg/dl	0,5 mg/dl
5.	AS	26 Year	6 Glass	5,3 mg/dl	5,6	0,3

					mg/dl	mg/dl
6.	AH	25 Year	6 Glass	5,3 mg/dl	5,7 mg/dl	0,4 mg/dl
7.	CP	28 Year	8 Glass	3,7 mg/dl	4,8 mg/dl	1,1 mg/dl
8.	AS2	26 Year	8 Glass	5,5 mg/dl	6,9 mg/dl	1,4 mg/dl

From the research data in table 4.1, it shows that of the 8 research samples, 2 people (25%) of the sample consumed 4 glasses of palm wine experienced a decrease in uric acid levels with an average of 0.25 mg/dl. 4 people (50%) of the sample consuming 6 glasses of palm wine experienced an increase in uric acid levels with an average of 0.4 mg/dl, and 2 people (25%) of the sample consuming 8 glasses of palm wine experienced an increase in uric acid levels with an average of 1.25 mg/dl.

Discussion

From the research data in table 4.1, it shows that of the 8 research samples, 2 people (25%) of the sample consumed 4 glasses of palm wine experienced a decrease in uric acid levels with an average of 0.25 mg/dl. 4 people (50%) of the sample consuming 6 glasses of palm wine experienced an increase in uric acid levels with an average of 0.4 mg/dl, and 2 people (25%) of the sample consuming 8 glasses of palm wine experienced an increase in uric acid levels with an average of 1.25 mg/dl.

Research on the description of uric acid levels in the people of Ujung Tanduk Village, Laguboti District before and after drinking palm wine in 2023 was carried out for 1 week. Checking uric acid levels is done twice a week, namely before and after drinking palm wine. Precisely in the morning before urinating, before consuming food, and before doing activities. Because measuring uric acid levels in the morning is more accurate. In this study, researchers had limitations in monitoring samples for 24 hours.

Research conducted by (Juliantini et al., 2022) states that men are twice as likely to experience hyperuricemia or high uric acid levels in the blood. The theory states that men are more susceptible to having high uric acid because men do not have the estrogen hormone that women have. This estrogen hormone functions as a uricosuric agent, which is a chemical substance that functions to help excrete uric acid through the kidneys. The mechanism of uricosuric agents in uric acid excretion is to inhibit urate transporter-1 from the lumen to proximal tubular cells when regulating fluid-electrolyte balance. This is what causes uric acid levels in men to tend to be higher than in women.

The research was conducted at the age of 20-30 years because increasing a person's age is a factor in increasing uric acid. The risk factors for gout will increase after the age of 40 years. Someone who is >40 years old will tend to experience an increase in uric acid if they do not have a healthy lifestyle. This is supported by research conducted by (Arjani, 2018), namely that 37 respondents out of 57 respondents in the age group > 60 years had high uric acid levels. The same research was also conducted by (Jaliana & Suhadi, 2018). The limit of alcohol allowed to enter the body in a day is 40%. Meanwhile, the alcohol content in palm wine in North Sumatra is 4% *vv*. The volume of palm wine in 1 glass is 250 ml. The alcohol content in 1 glass is 10% so to reach 40% the wine you have to drink is 4 glasses.

According to previous research conducted by (Ragab et al., 2017). Alcohol is a risk factor that also triggers an increase in uric acid. Studies show that alcohol consumption is related to the amount consumed. Additionally, the risk of gout and hyperuricemia depends on the different types of alcoholic beverages. Alcohol contains ethanol so it will inhibit the excretion of uric acid in the body and can trigger an increase in uric acid if you consume alcohol in the long term. An increase in uric acid occurs through increased production and decreased excretion through urine (Ana B. Montol,

2014). The results of this research are also in line with research conducted by Krisyanella et al (2019) regarding the profile of uric acid levels in palm wine consumers in Singaran Pati, Bengkulu City. It was found that 17 respondents (41%) who consumed palm wine every day had high acid levels and 11 respondents (26%) had normal uric acid levels. Of the respondents who rarely consumed palm wine, 2 respondents (5%) had high uric acid levels and 12 respondents (28%) had normal uric acid levels.

CONCLUSION

Based on the results of research conducted for 1 week on adult men in Ujung Horn village, it can be concluded that 8 research samples, namely 2 people (25%) who consumed 4 glasses of palm wine, experienced a decrease in uric acid levels with an average of 0.25 mg/ etc. 4 people (50%) consuming 6 glasses of palm wine experienced an increase in uric acid levels with an average of 0.4 mg/dl, and 2 people (25%) consuming 8 glasses of palm wine experienced an increase in uric acid levels with an average of 1.25 mg /dl. Researchers concluded that the more frequency of consuming palm wine and the longer consuming palm wine will increase uric acid levels and cause gouty arthritis

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