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ORIGINAL ARTICLE

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THE EFFECT OF SOURSOP JUICE (ANNONA MURICATA L) ON DECREASING URIC ACID LEVELS IN YOUNG ADULT PATIENTS IN MAWEA VILLAGE, MAWEA COMMUNITY HEALTH CENTER WORK AREA

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ABSTRACT

Background : The World Health Organization (WHO) defines that gout has a twofold increase globally. In the United States the number of adults has increased by about 8.3 million. Gout is estimated to occur in 840 people and every 100 people.

Destination : To determine the effect of soursop juice on the decrease in uric acid levels in young adult patients in the working area of Mawea Public Health Center, Tobelo Timur District, North Halmahera Regency.

Research methods : used is the Quasy Experiment, namely the control design with the design of two testing groups, namely pretest and post test control. The first group was given treatment with soursop juice which is called the experimental group and the second group was not given treatment / administration of soursop juice which is called the control group.

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Research result : The result of the t-test statistic volume $a = 0.000 < 0.005$. And volume T-table 2.776 using the effect of soursop juice on reducing uric acid levels in young adult patients. Based on the results of the study, it has shown that there is an effect of soursop juice on reducing uric acid levels in young adult patients. From this research it can be concluded that by consuming soursop juice can reduce uric acid levels, it is hoped that patients use or utilize soursop juice as a treatment for uric acid levels.

INTRODUCTION

Gout Or Often Called Uric Acid Is The Result Of Metabolism In The Body, The Levels Should Not Be Excessive Everyone Has Uric Acid In The Body, Because Gout Produces Every Metabolism (Rina Kundre et al, 2019).

Gout is a metabolic disease characterized by a build-up of gout which causes pain in the joints. Gout is an acid in the form of crystalline crystals, which is the end product of purine metabolism. Gout is normally present in the body, but high uric acid levels (hyperuricemia) can cause gout crystals to accumulate in joints and become disease (Sari Komla Indah et al, 2018).

Hyperurismia is a precursor to gouty arteritis, but not all hyperurismic conditions end in gouty arteritis, the risk of developing gouty arteritis increases in patients with high uric acid levels. Hyperurismia in the long term can damage the joints, soft fingers and kidneys (Sativa Ocha Ahania, 2020).

Uric acid levels in the body can be caused due to the consumption of high-grain foods, including meat, offal, and sefood, especially if they are consumed excessively (Santi Hustika Henny, 2019).

Symptoms The attack mainly affects one joint and is active for a few days, eventually the kidneys disappear slowly, where the joint is active, then there is no kidney so that it is generally associated with joint tendons that are touched by repeated attacks of gout (polyarthrititis), namely: toes (podogra), tarsal joints of the feet, ankles, back joints, wrists, knees, and olecranon bursa at risk (Hamit Nur Senja, 2018).

Patients with gout often use allopurinol as a drug to lower uric acid levels, but synthetic drugs have side effects such as nausea, allergies and headaches (Himawan Cahaya Herson et al., 2020).

Laboratory blood tests are used to diagnose hyperuricemia, while urine tests to see urinary excretion and detect kidney stones. Normal uric acid levels in the blood are 2-6 mg / dl for women, while 3-7 mg / dl for men. For the elderly, the level is higher (Haringan Herlin, 2020).

Prevention of gout is not consuming foods that have high purine substances, drinking lots of white water, not consuming alcoholic drinking, drinking enough coffee, consuming fruit with high antioxidants, exercising regularly. Anonymous, 2019).

Risk factors that cause gout are: Genetics / family history, stress, excessive intake of purine compounds, excessive alcohol use. Anggraini yuli farida, 2020).

Soursop or known by the Latin name *Annona muricata* L is a plant that originated from the Caribbean, South America and Central America. Apart from the delicious fruit, soursop leaves also have many benefits, especially for the health of the body. Soursop fruit also offers a variety of ingredients that are good for health. Soursop fruit is also dense in vitamin C. (Elida Yetti. Budidaya, 2017).

Soursop Compounds and Contents

| Compound | Contents |
|---------------|----------|
| Carbohydrate | 16.8 |
| Water | 81.6 |
| Calories | 66 |
| Vitamin C | 34 Akg |
| Antioxidants | 70 Ppm |
| Fat | 0.30 |
| Mineral | 0.7 |
| Protein | 1.0 |
| Calcium | 14.0 |
| Iron | 0.6 |
| Phosphor | 27.0 |
| Thiamin | 0.07 |
| Ascorbic Acid | 20 |
| Bdd | 68 |

METHOD

This study used a type of research Quasy Experiment control design with a two-group testing design, namely pretest and post-test control. The first group was given treatment with soursop juice which is called the experimental group and the second group was not given treatment / administration of soursop juice which is called the control group.

The place of this research will be conducted in Mawea, the working area of Mawea Community Health Center, Tobelo Timur District, North Halmahera Regency.

Population and Sample

The population in this study were 52 gout sufferers at Mawea Public Health Center, North Halmahera Regency from 2020.

The sample is as a whole of the object under study or is considered to have the entire population. The sampling technique is a sampling technique. Using purposive sampling, by observing inclusion and exclusion criteria. Sempel Which Researchers Use The Slovin Formula With A Total Sample Of 16 People.

SLOVIN

FORMULES

$$n = \frac{N}{1 + Ne^2}$$

n: Sample size

N: Population size

e: Percentage of inaccurate leeway due to Fatigue in Sampling which is Tolerable or Desirable, for example 2%.

$$n = \frac{52}{1 + (52 \times 0,2)^2}$$

$$n = \frac{52}{1 + (52 \times 0,04)}$$

$$n = \frac{52}{1 + 2,08}$$

$$n = \frac{52}{3,08}$$

n = 16, people

Inclusion and Exclusion Criteria

Inclusion Criteria

Inclusion criteria are general requirements that the subject deserves to meet in order to be included in research. The inclusion criteria at the time of this study were:

- a. Those who are willing to become respondents
- b. Gout sufferers aged 20-35 years
- c. Gout sufferers

Exclusion Criteria

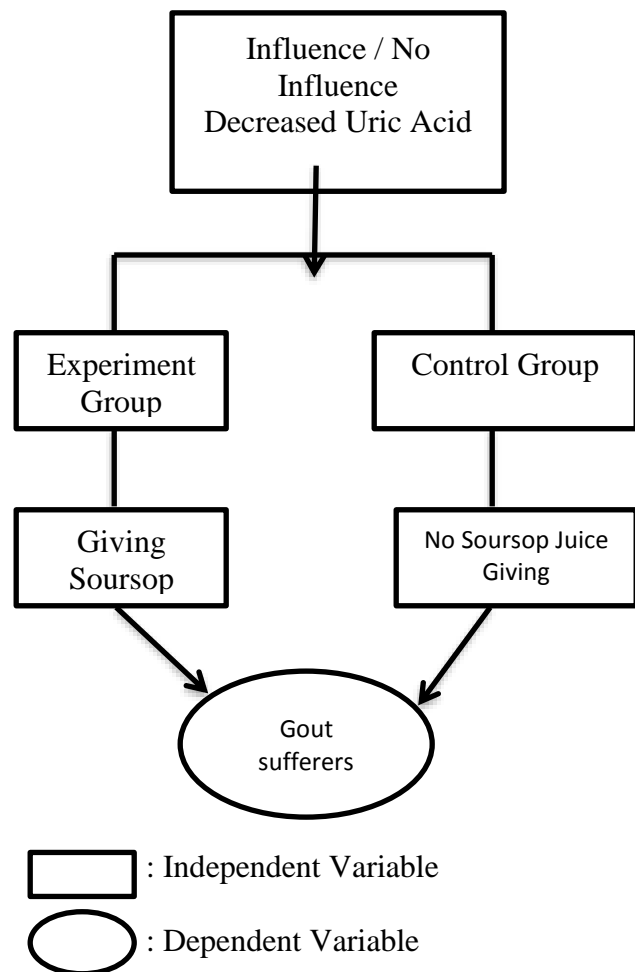
The exclusion criterion is removing subjects who meet the inclusion criteria from the study for various reasons, including:

- a. Gout Patients Outside the Work Area of the Mawea Community Health Center
- b. Subjects Refuse Giving Soursop Juice

Method of collecting data

Data collection technique

1. Primary data: Observations, interviews.
2. Secondary data: Secondary data are obtained from theoretical books, national and international research journals and thesis or thesis, which are related to the supporters of this research, as well as data obtained in the working area of the Puskesmas.



Result

The study was conducted from September 2020 to October 2020 for 1 month. The data was collected by checking uric acid levels and direct interviews with 16 respondents, documented using the observation sheets that had been prepared. Based on the results of interviews and observations, it was found that the characteristics of respondents according to age, sex, education, occupation, as shown in the following table:

Table 1. Characteristics of Respondents by Age.

| No. | Age | Frequency | Percent |
|-----|-------|-----------|---------|
| 1 | 20-30 | 11 | 68.8% |
| 2 | 31-35 | 5 | 31.3% |
| | Total | 16 | 100% |

Table 2. Characteristics of Respondents by Gender.

| No. | Gender | Frequency | Percent |
|-----|--------|-----------|---------|
| 1 | Male | 7 | 43.8% |
| 2 | girls | 9 | 56.3% |
| | Total | 16 | 100% |

Table 3. Characteristics of Respondents by Education.

| No. | Education | Frequency | Percent |
|-----|-----------------|-----------|---------|
| 1 | Junior High | 7 | 43.8% |
| 2 | High school | 5 | 31.3% |
| 3 | COLLEGE STUDENT | 4 | 25% |
| | Total | 16 | 100% |

Table 3. Characteristics of Respondents by occupation.

| No. | Profession | Frequency | Percent |
|-----|-----------------|-----------|---------|
| 1 | Farmer | 2 | 12.5% |
| 2 | IRT | 6 | 37.5% |
| 3 | Entrepreneur | 4 | 25% |
| 4 | College student | 4 | 25% |
| | Total | 16 | 100% |

Intervention Group

Table 4. Statistical T-test Results in the Intervention Group

| Respondent | Result | | Df | Value | Normal | Conclusion |
|------------|--------|------|-------|---------|------------|----------------|
| Code | | | value | of | Value | |
| | Pre | Post | | Thitung | Table A | |
| 1 | 8.3 | 6.2 | | 0,000 | 2,776 0.05 | Because titung |
| 2 | 7.3 | 5,4 | | | | (0,000) <tcoun |
| 3 | 9.7 | 6.3 | | | | (1,528) |
| 4 | 7.9 | 5.3 | | | | |
| 5 | 7.0 | 5.7 | | | | |
| 6 | 8.7 | 6.4 | | | | |
| 7 | 8.6 | 5,9 | | | | |
| 8 | 8.5 | 5.7 | | | | |

Control Group

Table 5. Statistical T-test Results in the Intervention Group

| Respondent | Result | | Df | Value | Normal | Conclusion |
|------------|--------|------|---------|-------|----------------|-----------------|
| Code | | | value | of | Value | |
| | Pre | post | Thitung | | Table α | |
| 1 | 9.7 | 9.7 | 1,528 | 2,776 | 0.05 | Because ttabel |
| | | | | | 0.025 | (0.025) < |
| 2 | 8.5 | 8.5 | | | | thitung (1,528) |
| 3 | 10.2 | 10.2 | | | | |
| 4 | 8.1 | 8.1 | | | | |
| 5 | 8.6 | 8.6 | | | | |
| 6 | 8.7 | 8.7 | | | | |
| 7 | 8.6 | 8.6 | | | | |
| 8 | 8.3 | 8.3 | | | | |

Conclusion

Based on the results of research and discussion, it can be concluded that:

- a. Uric Acid Patients Who Do Not Consume Soursop Juice Does Not Have A Decrease In Uric Acid Levels
- b. Uric Acid Patients Who Consume Soursop Juice Decrease Uric Acid Levels
- c. In the Experimental Group, there is an effect of soursop juice (*Annona muricata* L) on the decrease in uric acid levels in young adult patients, where the results of the SPSS test ($0.00 < 0.05$)
- d. In the control group there was no effect of soursop juice (*Annona muricata* L) on the decrease in uric acid levels in young adult patients, where the results of the SPSS test ($1.528 > 0.05$)

Suggestion

- a. For the Community

From the results of this study, it is hoped that the public will recognize that soursop is not just an ordinary fruit but also has high potential which is beneficial for the body and health and can also reduce uric acid levels.

- b. For Institutions

In order to improve services to the community both in terms of infrastructure and resources Human / Health Workers Who Are In These Facilities.

- c. For further researchers

It is hoped that the next researchers who have the same interest, to develop it further, can be used as a comparison for those interested in continuing with several other variables.

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