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Soursop Leaf Water Decoction Against Decreased Uric Acid Levels in Menopause

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ABSTRACT

Menopausal women are 60% more likely to develop gout; this is caused by a decrease in levels of the hormone estrogen, which causes uncontrolled uric acid disposal. Gout sufferers who continue to take analgesic drugs will cause dangerous side effects, so nonpharmacological treatment is needed. One of the nonpharmacological treatments is the provision of soursop leaf water decoction. This study aimed to determine the impact of giving soursop leaf water decoction on decreasing uric acid levels in menopausal mothers. This research method uses pre-experiments with the design of one group pre-test-post-test. With a study population of 35 people and a sample of 15 people taken using purposive sampling techniques. Respondents comsumed 200 ml soursop leaf water decoction every morning after breakfast for 14 days. The research analysis results used the Paired Sample T-Test, which showed an effect of giving soursop leaf water decoction before and after being given soursop leaf water decoction. A p-value = 0.000 (<0.05). Based on the research results, it can be concluded that the decoction of soursop leaf water affects the decrease in uric acid levels in menopause.

Keywords: Gout, Menopause, Soursop Leaf Water Decoction

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INTRODUCTION

Menopause is a condition in a woman who experiences a decrease in ovarian function that results in decreased production of the hormone estrogen. This situation, among others, resulted in the cessation of menstruation for good. The age of women who enter menopause ranges from 45-55 years (Mustiari et al., 2018). At menopause, women will experience changes in the physical and psychological changes felt by the woman, including changes in menstrual patterns, difficulty sleeping, heat, weight, and constipation, changes in the germination system, and bodily system psychic changes (Widorini, Devi Ertha & Dkk, 2017) (Rauf, 2021). The aging process individually stems from physical, biological, mental, and socio-economic problems. This is related to the most widely experienced health problems in non-communicable diseases. One of which is a chronic disease, which most attacks menopausal women are gout (Arpiana, 2017).

Gout or gout arthritis is caused by uric acid or monosodium urate crystals (MSU) buildup in tissues, especially joint tissues. Uric acid results from the breakdown and disposal remain of certain feeding materials containing purine nucleotides or derived from purine nucleotides produced by the body. Cristal monosodium urate deposits (MSU) are commonly affected by various diseases such as rheumatism, gout or gouty Arthritis, the onset of tofi (lumps), cartilage, or soft tissues, impaired kidney function called gout nephropathy, and the formation of uric acid stones in the kidneys or bladder (Utomo & Dkk, 2018). Work is one of the things that can result in increased pain in respondents who suffer from gout. This is due to the excessive work of respondents, so respondents are more likely to attach importance to their work than attention to their health (Ilkafah, 2017). Gout is also one of the categories of chronic non-communicable diseases (PTM), characterized by hyperuricemia or increased uric acid levels in the blood. Hyperuricemia occurs when serum uric acid levels are>5.7 mg/dL in women and 7.0 mg/dL in men (Hastuti et al., 2018).

The Health Organization (WHO) estimates that about 335 million people worldwide have gouty Arthritis. The prevalence of gout sufferers in developed countries such as the USA is estimated to be 13.6% per 100,000 population. The prevalence of gout sufferers in Indonesia is growing as in China and Taiwan every year. At the same time, in Indonesia, almost 80% of the population is aged 40 years or older (Utomo & Dkk, 2018). Based on Riskesdas results in 2018, the prevalence of joint disease in the population aged ≥15 years is 7.3%. The highest is Aceh Province (13.3%), and the lowest is West

Sulawesi (3.2%). According to the Gorontalo Provincial Health Office 2018, the number of older people in Gorontalo City is 1966 people taken from 46 villages. Meanwhile, data from the Gorontalo City Health Office 2018, there are several gout sufferers from the age of 45 years to >70 years, which is as many as 440 gout sufferers. Sufferers in men as many as 162 people and women as many as 278 people.

Several types of research on plants as a nonpharmacological treatment against uric acid have been widely done, some with bay leaves (Ni Wayan Rhacik Ardhiyanti, Rosalina, 2014b). As a tropical country, plant types are very abundant, including those containing compounds to lower uric acid, such as soursop leaves, in Sulawesi island. Various studies on the benefits of soursop leaves have been conducted in several groups of respondents, but the provision of such therapy to menopausal mothers has not been done.

Previous research, a decoction of dried soursop leaves as much as 200 ml. Consumed during the morning and night for 7 days with an average result of a decrease in uric acid levels of 0.51 (pre 7.70 and post 7.19). Meanwhile, in this study, 200 ml of soursop leaf decoction was given. Consume in the morning for 14 days.

This study aimed to determine the impact of giving soursop leaf water decoction on decreasing uric acid levels in menopausal mothers.

METHOD

The study used a pre-experimental method with the design of one group pre-test-post-test from February – March 2020. This study will be the first observation (pretest) so that it can test the changes that occur after the treatment (post-test).

The population in this study was all menopausal women who experienced gout, which amounted to 35 people. The samples in this study used purposive sampling techniques of as many as 15 people. The inclusion criteria in this study are mothers who are menopausal, have uric acid levels > 5.7 mg / dl, have no other disease complications, while the exclusion criteria are mothers who are not willing to be respondents.

The instrument used in this study is a tool to measure uric acid (GCU) with an observation sheet designed by previous researchers to determine uric acid levels before and after being given a decoction of soursop leaf water against decreased uric acid levels in menopause.

Data collection starts from measuring uric acid levels at the pretest. Then the respondents were asked to make soursop leaf boiled water by boiling ten pieces of old soursop leaves into 400 ml of water for 15 minutes until boiling and remaining

approximately 200 ml, then consumed every morning for 14 days. After 14 days, the respondent's uric acid levels will be measured again as posttest data.

Analyze the data used in this study using *paired sample T-test* with IBM SPSS.

RESULTS AND DISCUSSIONS

Result

Table 1 Characteristics of Respondents

Characteristics	N	%
Age		
48-57	6	40,0
58-67	5	33,3
68-78	4	26,7
Education		
Elementary	8	53,3
Middle	6	40,0
University	1	6,7
Occupation		
Housewife	12	80,0
Self employed	2	13,3
Civil Servant	1	6,7
Uric Acid Levels		
Normal	0	0
High	15	100

Source: Primary Data

Data collection of characteristics from 15 respondents obtained results as seen in Table 1. The table above shows that most respondents aged 44-57 years amounted to 6 people (40%), and at least 68-78 years old amounted to 4 people (26.7%), some respondents with elementary education amounted to 8 people (53.3%) and at least one college (6.7%).

The results also showed that some respondents who were not working or housewives amounted to 12 people (80.0%), and respondents worked the least as civil servants, amounting to 1 person (6.7%).

The table above also shows that the uric acid levels of *menopausal* respondents before being given soursop leaf water decoction are all in the high uric acid category, which is as much as 100% or > 5.7 mg/dl standard limit.

Table 2. Levels of Menopause Uric Acid After Being Given Soursop Leaf Water Decoction

Uric Acid Levels	N	(%)
Decrease	13	86,7
Not decrease	2	13,3
Total	15	100

Source: Primary Data

The table above shows the frequency distribution of uric acid levels of menopausal respondents after being given a decoction of soursop leaf water that decreased by 86.7% and who did not experience a decrease of 13.3%. Based on the data in the table above showed that a sample of 15 *menopausal* respondents showed *Shapiro-Wilk* values in the group before treatment of 0.719 with a significant level of 0.312 with a value of α 5% and a group value after treatment of

0.599 with a considerable rate of 0.141 with a value of α 5% it can be concluded that in that group the value of p = value>0.05 which means the data of both groups is the normal distribution.

Table 3. Soursop Decoction on Decreased Uric Acid Levels In Menopause In Limba B Village of Gorontalo City

Uric Acid Levels	Mean	Min	Max	P-value
Before (Posttest)	7.31	5,9	11,2	0,000
After (Pretest)	5.41	4	9,5	

The table above shows that the average value of uric acid levels *of menopausal* respondents before being given a decoction of soursop leaf water is 7.31. While based on the average value of uric acid levels in the blood in women is in the high category (2.5-5.7 mg. dl). Based on the minimum and maximum uric acid levels in the blood spread in *menopausal* respondents, the minimum value was 5.9, and the maximum value was 11.2. All respondents experienced high uric acid levels.

From the results of the study, the average value of uric acid levels in menopausal respondents after being given a decoction of soursop leaf water was 5.41 when viewed based on the minimum, and maximum values of uric acid levels in the blood spread in menopausal respondents showed the minimum value was 4 (down). The maximum was 9.5 (not down). This means that there are menopausal respondents whose uric acid levels drop after being given a decoction of soursop leaf water. There are still menopausal respondents whose uric acid levels do not decrease after receiving a decoction of soursop leaf water. Data shows that the number of menopausal respondents who experience a decrease in uric acid levels after being given a decoction of soursop leaf water is as many as 13 respondents, 86.7% who have decreased. There are two respondents, 13.3%, whose uric acid levels have not reduced, this is due to the consumption of eating respondents who contain a lot of purines such as offal, seafood, fried foods, durian, and consume food with milk squeezed from coconut so that uric acid levels do not decrease.

The above study results showed an influence on the decrease in uric acid levels at menopause after being given a decoction of soursop leaf water for 14 days. This is evidenced by the post-test results of menopausal uric acid levels. There are 13 respondents whose uric acid levels dropped after being given a

decoction of soursop leaf water; meanwhile, 2 other respondents did not experience a decrease.

Discussion

Some studies prove that nonpharmacological treatment plays an essential role in overcoming gout. One of them is the administration of topical ice, proven to reduce acute uric acid. In addition, patients with gout should be advised to reduce the consumption of red meat, fish, and shellfish, especially for Gorontalo Province, which has abundant seafood (Abhishek & Doherty, 2018).

In addition to reducing some types of food, some foods are recommended to reduce purine levels in the urine as nonpharmacological management to reduce uric acid levels, including consuming dairy products, cherries, and foods from soybeans. The results showed that consuming various types of these foods regularly could reduce uric acid levels in the body (Kakutani-Hatayama et al., 2017).

A study from (Nursoleha & Dkk, 2019) explains that the production of uric acid in the body increased is the cause of consuming foods high in purines and, lack of fruit consumption, and rarely exercise. This condition will make the metabolism of foods high in purines from uric acid, eventually making high uric acid levels in the blood. This is illustrated in the observation that respondents' types of food are still in the form of foods containing purines and high fat, such as seafood, fried food, durian, and food with milk squeezed from coconut.

One of the nonpharmacological ways that can be done by utilizing available and affordable natural resources is to consume soursop water decoction. Soursop leaves contain acetogenin and phenolic compounds that are responsible for antioxidants. The phenolic compounds that have the highest antioxidant activity are flavonoids. The antioxidant properties of soursop leaves can prevent the formation of uric acid by inhibiting the work of the enzyme xanthine oxidase, which plays a role in the change of hypoxanthine to xanthine and then into uric acid. The mechanism of action of antioxidants in soursop leaves is similar to the mechanism of work of the drug allopurinol, a drug to lower uric acid levels in the blood (Sangging, Putu Ristyaning Ayu & Utama, 2017).

The results showed a significant decrease in respondents given a decoction of soursop leaves, it was in line with the research conducted by (Komariyah & Dkk, 2019), consuming soursop leaf decoction affects the decrease in uric acid levels and the decrease in uric acid using

the *Quasy Experiment One Group Pre-Posttest design method*.

The decoction of soursop leaves proved to reduce uric acid levels in people with Arthritis. Soursop leaf decoction can be used as an herbal remedy with no side effects on the patient (Nur, 2019)(Rukmana et al., 2020). Other studies show that soursop water can reduce the pain from gout arthritis (Andri, 2017) (Mono Pratiko Gustomi., 2016) (Ibrahim, 2014).

One of the causes of gout is age. As we age decreases, kidney function in the excretion of metabolic results. In addition to decreased kidney function, some health problems often occur over 40 years, including obesity, high blood pressure, and cholesterol (Nurhayati, 2019).

The above study showed decreased uric acid levels in menopause after receiving a decoction of soursop leaf water for 14 days. This is evidenced by the results of post-test menopausal uric acid levels. Thirteen respondents whose uric acid levels dropped after receiving a decoction of soursop leaf water sending two other respondents did not decrease. This is due to the habit of responders who always eat poor food that can trigger high uric acid levels. The study found that two respondents whose uric acid levels did not experience changes due to the habit of responders who always eat poor food that can trigger high uric acid levels.

As women get older, will experience the menopause phase, menopause typically usually occurs between the ages of 40-60 years, after menopause women tend to have high uric acid levels; this is due to hormonal changes that are lack of stories of hormone estrogens in the blood, the hormone estrogen is reduced it will slow the disposal of uric acid through the urine (Sani & Dkk, 2019).

The production of uric acid in the body increases the cause of consuming foods high in purines and lack of fruit consumption, and rarely exercise. This condition will make the metabolism of food that is high in purines from uric acid, which eventually makes high levels of uric acid in the blood.

Less education will hinder a person's development of newly introduced values, so many people do not know more health information (Saimin & Dkk, 2016).

The respondents' lack of knowledge about things that can increase the high uric acid will be a team of crystal buildup in the joints and capillary blood vessels. The crystals will rub against each other and make movements in each joint cell that will cause gout arthritis pain and will interfere with the comfort of menopause, then in need of certain handling efforts to lower uric acid levels. One of the efforts

to lower uric acid levels is to provide a decoction of soursop leaf water by taking ten sheets of old soursop leaves, with water as much as 400 cc, then boiled for 15 minutes or up to 200 cc of water remaining, and drink one time a day every morning (Ni Wayan Rhacik Ardhiyanti, Rosalina, 2014a).

The results of the paired statistical test of t-test samples showed a significant influence on menopausal respondents. It can be seen from the post-test results that there is a relationship between the impact of soursop leaf water decoction to decrease uric acid levels in menopause. The limitation in this study is the lack of monitors because the manufacture of soursop leaf decoction was carried out by respondents themselves in their respective homes. In addition, there is a lack of adherence of menopausal respondents in reducing eating foods high in purines that can cause uric acid levels to increase.

CONCLUSION

The uric acid levels of menopausal mothers decreased after being given soursop leaf water decoction water, proven from the uric acid levels of menopausal mothers before being given soursop water decoction and decreased after being given a soursop water decoction so it can be concluded that the effect of providing soursop leaf water decoction against the decrease in uric acid levels in menopause.

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REFERENCES

Abhishek, A., & Doherty, M. (2018). Education and non-pharmacological approaches for gout. *Rheumatology (Oxford, England)*, *57*(1), i51–i58. https://doi.org/10.1093/rheumatology/kex421

Andri, K. (2017). Soursop Leaf Decoction on Reducing Pain Scale in Group Elderly With Gout Arthritis in Puskesmas Andalas. *Jurnal.Umsb.Ac.Id*, *XI*(75), 76–81.

Arpiana, I. (2017). *Hubungan Menopause dengan Kadar Asam Urat dalam Darah*. Sekolah Tinggi Ilmu Kesehatan Insan Cendekia Medika Jombang.

Hastuti, V. N., Murbawani, E. A., & Wijayanti, H. S. (2018). Hubungan Asupan Protein Total Dan Protein

Kedelai Terhadap Kadar Asam Urat Dalam Darah Wanita Menopause. *Journal of Nutrition College*, *7*(2), 54. https://doi.org/10.14710/jnc.v7i2.20823

Ibrahim, H. 2011. F. – faktor yang berhubungan dengan kejadian I. pada anak B. di wilayah P. B. K. B. T. 2011. T. P. P. U. (2014). *Aktifiktas Berbagai Sediaan Buah Sirsak (Annona Muricata Linn) Dalam Penurunan Kadar Asam Urat Tikus Putih Sprague-Dawley*. *14*(c), 1–43.

Ilkafah. (2017). Efektivitas Daun Sirsak Dalam Menurunkan Nilai Asam Urat Dan Keluhan Nyeri Pada Penderita Gout Di Kelurahan Tamalanrea Makassar. *Ilmiah Farmasi-UNSRAT*, *6*(2).

Kakutani-Hatayama, M., Kadoya, M., Okazaki, H., Kurajoh, M., Shoji, T., Koyama, H., Tsutsumi, Z., Moriwaki, Y., Namba, M., & Yamamoto, T. (2017). Nonpharmacological Management of Gout and Hyperuricemia: Hints for Better Lifestyle. *American Journal of Lifestyle Medicine*, *11*(4), 321–329. https://doi.org/10.1177/1559827615601973

Komariyah, I. &, & Dkk. (2019). Pengaruh Rebusan Daun Sirsak Terhadap Penurunan Kadar Asam Urat dalam Darah di Desa Takisung Kecamatan Takisung Kabupaten Tanah laut. *Citra Keperawatan*, *6*(1).

Mono Pratiko Gustomi., F. W. (2016). Pemberian Rebusan Daun Sirsak (Annona Muricata Linn) Menurunkan Nyeri Pada Penderita Gout Arthritis. *Journal of Ners Community*, *07*(02), 162–172.

Mustiari, N. N., Olii, N., & Yulianingsih, E. (2018). Pengaruh Pemberian Air Rebusan Buah Mahkota Dewa terhadap Kadar Asam Urat Darah pada Wanita Menopause di Wilayah Kerja Puskesmas Tilango Kabupaten Gorontalo. *Jurnal Midwifery Update (MU)*, 93–99.

Ni Wayan Rhacik Ardhiyanti, Rosalina, P. P. (2014a). Pengaruh Pemberian Air Rebusan Daun Salam (. *Jurnal Ilmiah Ilmu-Ilmu Kesehatan*, *XVII*(2), 22–26.

Ni Wayan Rhacik Ardhiyanti, Rosalina, P. P. (2014b). PENGARUH PEMBERIAN REBUSAN DAUN SALAM (Syzygium polyanthum) TERHADAP KADAR ASAM URAT PADA LANSIA. *Jurnal Ilmiah Ilmu-Ilmu Kesehatan*, *XVII*(2), 22–26.

Nur, M. & D. (2019). Rebusan Daun Sirsak Efektif Menurunkan Kadar Asam Urat Pada Penderita Gout Artritis Di Kelurahan Lawangan Daya Kabupaten Pamekasan. *Ilmu Kesehatan*, *4*(2).

Nurhayati, Y. (2019). The Correlation of Age with Uric Acid in Kadipiro, Surakarta. *Journal of Epidemiology and Public Health*, *4*(3), 180–182. https://doi.org/10.26911/jepublichealth.2019.04.03.04

Nursoleha, N. &, & Dkk. (2019). Pengaruh Pemberian Air Rebusan Daun Sirsak (Annona muricata L) Terhadap Penurunan Kadar Asam Urat Pada Pasien Rawat Jalan di Puskesmas Pasawahan. *Journal Of Holistic And Health*, *3*(1).

Rauf, M. (2021). Efektivitas Konsumsi Bahan Olahan Kedelai terhadap Usia Menopause. *Journal Midwifery Jurusan Kebidanan Politeknik Kesehatan Gorontalo*, *6*(2), 92. https://doi.org/10.52365/jm.v6i2.323

Rukmana, D., & Riniasih, W. (2020). *Effectiveness of Consuming Decoction of Bay Leaves (Syzygium Polyanthum) and Soursop Leaves*

(Annona Uricata) on Reducing Uric Acid Levels in Elderly in Grobogan, Central Java. 50273. https://doi.org/10.26911/the7thicph.05.30

Saimin, J., & Dkk. (2016). Kecemasan Wanita Premenopause dalam Menghadapi Masa Menopause, Sebuah Studi Crossectional. *Julnal Jk Unila*, *1*(2).

Sangging, Putu Ristyaning Ayu & Utama, A. S. (2017). Efek Pemberian Infusa Daun Sirsak (Annona muricata Linn) terhadap Penurunan Kadar Asam Urat Darah. *Jurnal Kesehatan*, *6*(2).

Sani, F. N. &, & Dkk. (2019). Pengaruh Pemberian Jus Sirsak (Annona Muricata Linn) terhadap Kadar Asam Urat pada Lansia dengan Gout. *Kebidanan Dan Keperaatan*, *10*(2).

Utomo, Y., & Dkk. (2018). Pengaruh Kombinasi Terapi Akupresur dan Pemberian Jus Sirsak terhadap Penurunan Kadar Asam Urat Pada Penderita Gout Arthritis. *Maternal*, *2*(4).

Widorini, Devi Ertha, & Dkk. (2017). Pengaruh Edukasi terhadap Tingkat Kecemasan pada Ibu dalam Menghadapi Menopause di Kelurahan Oro-oro Dowo Kota Malang. *Ilmiah Kesehatan*, *6*(1).