Indonesian Journal of Global Health Research
Volume 4 Number 3, August 2022
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

CUBE THERAPY APPLICATION IN GOUT PATIENTS

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ABSTRACT
When uric acid crystals accumulate in the body's joints as a result of excessive consumption, gout develops. Three types of treatments are used to manage gout patients: pharmaceutical, non-pharmacological, and complementary treatments. Use pharmaceuticals such NSAIDs, cholcicine, and corticosteroids for pharmacology. By consuming low-purine diets and doing mild exercise, for non-pharmacological. Cupping is another supplementary therapy technique. This study sought to ascertain whether cupping may lower uric acid levels in gout patients in Tunjungharjo, Grobogan. A case study research methodology with a pre-study and pretest-posttest design was employed in this study. The sampling technique that was used was purposive sampling. Four people who met the inclusion criteria were the case study's four subjects high uric acid clients, defined as men >7 mg/dl and women >6 mg/dl. Data collected from uric acid levels before and after cupping intervention. Data analysis is done by presenting facts, then by comparing existing theories and putting them into discussion opinions. According to the findings, 75% of the responders had uric acid levels above 6.0 mg/dl prior to cupping. All (100%) of the responders saw a drop in uric acid levels after cupping, it was discovered. According to the study's findings, cupping helps gout patients with lower uric acid levels.

Keywords: cupping; uric acid; uric acid level

First Received	Revised	Accepted
08 May2022	12 June 2022	09 August 2022
Final Proof Received		**Published**
18 August 2022		25 August 2022

How to cite (in APA style)
Sutrisno, D., & Retnaningsih, D. (2022). Cube Therapy Application in Gout Patients. *Indonesian Journal of Global Health Research*, *4*(3), 521-526. https://doi.org/10.37287/ijghr.v4i3.1165.

INTRODUCTION

When uric acid crystals accumulate in the body's joints as a result of excessive consumption, gout develops. If the blood's level of uric acid rises over the normal range, it will crystallize into urate and infiltrate the body's organs, particularly the joints. These urate crystals will result in an inflammatory response or reaction that produces pain, swelling, and redness. When uric acid levels reach 910 mg/dl, uric acid crystallization is simple (Febianto & Jamaludin, 2020; Putri, 2019). The cause of excess uric acid production in the body is due to genetic factors, food and disease factors. Symptoms of gout include pain, swelling and signs of inflammation in the joints. The prevalence of gout in women is 8.5% and 6.1% occurs in men (Khoirunnisa & Retnaningsih, 2021) .

According to a 2018 World Health Organization (WHO) data, uric acid prevalence has increased by 1370 worldwide (33.3 percent). Additionally, the prevalence rose among adults in the US and the UK by 3.9 percent and 3.2 percent, respectively(WHO World Health Organization, 2018).While the prevalence of gout in Central Java in 2018 was 11.2 percent based on health care professionals' diagnoses or 25.5 percent based on diagnoses and symptoms (Riskesdas, 2018). Gout is typically brought on by two sources: primary factors and secondary factors. Although the fundamental factor's cause is unknown (idiopathic), it is believed to be connected to genetic and hormonal variables that lead to metabolic

abnormalities that increase or potentially even decrease the body's synthesis of uric acid (Sugung, 2017). The influence of an unregulated diet, which includes eating foods high in purines, increased uric acid production as a result, obesity, diabetes, and diseases that impair kidney function are examples of secondary factors. Other variables that contribute to gout include stress, nutrition, joint injury, and excessive exercise. Men's normal uric acid levels are 3.5-7.0 mg/dl, whereas women's normal levels are 2.6-6 mg/dl (Ningsih & Afriana, 2017; Soeroso & Algistian, 2011).

The result of cupping therapy for gout is the removal of uric acid crystals from the joints and surrounding tissue, which reduces pain and eliminates edema, redness, and inflammation in the joints. Nitric oxide (NO) cup therapy helps to reduce swelling in sore joints, and prostaglandins are released during cupping, which reduces pain. Additionally, cupping causes the body to release endorphins and enkephalins, which have analgesic properties. Due to the removal of toxic compounds from the body with cupping therapy, uric acid levels might be reduced (Permatasari, 2018; Putri, 2019).

The results of a study by Rina Sumartini and Arif Cilegon on the impact of wet cupping therapy on lowering uric acid levels in the Cilegon Health Center's working area with a sample of 20 people revealed that the average uric acid level of respondents before wet cupping therapy was 9.7 while the average uric acid level after wet cupping therapy was 3.8. Following wet cupping therapy, the average uric acid level was 4.9. Bivariate analysis revealed a p value of 0.00, indicating that wet cupping therapy did indeed reduce uric acid levels (Sumartini & Susila, 2021). A preliminary investigation conducted on April 15, 2022 produced data that showed there were up to 13 cases of gout in Tunjungharjo Village. Similar to how many methods are described above for lowering uric acid levels, they include cupping, diet foods, herbal remedies, and taking chemical (medical) pharmaceuticals. This study sought to ascertain whether cupping may lower uric acid levels in gout patients in Tunjungharjo, Grobogan.

METHOD

An experimental research approach with a pre-experimental design and a one group pretest-posttest design was employed in this study. There is no comparison group (control) in this design, but the initial observation (pretest) is performed to allow assessment of the changes that take place following the experiment (program). In order to compare the levels of uric acid before and after cupping therapy at the Independent Practice of the Partinah Midwife, Tunjungharjo Village, Tegowanu District, Grobogan Regency, the researcher utilized this design. The sampling technique that was used was purposive sampling. Four people who met the inclusion criteria were the case study's four subjects high uric acid clients, defined as men >7 mg/dl and women >6 mg/dl. Data collected from uric acid levels before and after cupping intervention. Data analysis is done by presenting facts, then by comparing existing theories and putting them into discussion opinions.

RESULTS

Uric Acid Levels of Gout Patients Before Doing Cupping

Table 1.
Uric acid levels before cupping in Tunjungharjo Village

Criteria	f	%
Low (<2,6 mg/dl)	-	00.0

Normal (2,6 -6 mg/dl)	-	00.0
Height (>6)	4	100.0

Table 1 reveals that as many as 4 respondents have elevated uric acid levels, or more than half of the respondents (100 percent).

Uric Acid Levels of Gout Patients Before Doing Cupping

Table 2.
Uric acid levels after cupping in Tunjungharjo Village

Criteria	f	%
Low (<2,6 mg/dl)	0	00.0
Normal (2,6-6 mg/dl)	3	75.0
Height (>6)	1	25.0

According to table 2 of the frequency, three respondents (75 percent) had uric acid levels that were normal (2.6 – 6 mg/dl), whereas the remaining respondents had high uric acid levels (> 6 mg/dl), indicating that cupping had an impact on lowering uric acid levels in Tunjungharjo Village.

Effect of Uric Acid Levels Before and After Cupping

Table 3.
Uric acid levels before and after cupping

	Uric Acid Level Before		Uric Acid Levels After				
Respondents	Pra Test 1	Pra Test 2	Post Test 1	Post Test 2	Difference	f	%
I	7.0	6.8	6.9	5.9	1,1	1	25.00
II	6.6	6.0	6.3	5.5	1,1	1	25.00
III	8.4	7.8	7.0	6.6	1,8	1	25.00
III	6.5	6.3	6.2	5.4	1,2	1	25.00

According to Table 3, which summarizes the analysis of uric acid levels before and after cupping intervention, four respondents who received cupping in Tunjungharjo Village, Grobogan, had a 100% drop in uric acid levels. This demonstrates that cupping has an impact in lowering uric acid levels.

DISCUSSION

The patient's uric acid level before cupping

Table 1 reveals that there were four responders in total, four of them had high uric acid levels (>6.0 mg/dl), and whose pre-cupping uric acid management was subpar. According to the patient's information, it is known that the patient has never used cupping to keep uric acid levels under control. According to the data collected, 3 of 4 patients were over 40 and had uric acid levels greater than 6.0 mg/dl. This demonstrates that age is just one of several causes of excessive uric acid levels in the body. This circumstance demonstrates how aging is linked to a decline in the physiological functions of the body and an elevated chance of developing gout.

Data on patients' gender revealed that three out of four were men (75 percent). Research suggests that gender influences high uric acid levels. Men are more prone to gout than women during menopause because men have less estrogen, and women also experience a

drop in estrogen levels at this time (Sumartini & Susila, 2021). The amount of uric acid in the body continues to rise as people age, which puts them at higher risk of developing gout in small joints like the toes. According to researchers, many responders with high uric acid levels are influenced by age. start to feel pain, and lumps start to form due to the accumulation of uric acid crystals. The findings demonstrated that prior to cupping, all patients were responding with uric acid levels in the lowest range, or 6.6 mg/gl, and the maximum range, or 8.4 mg/dl, when patients were still consuming meals strong in purines.

The patient's uric acid level after cupping

According to table 2, the usual category (2.6-6.0 mg/dl) had three responses (75 percent) and the high category (6.0 mg/dl) had one respondent for gout sufferers who had cupped Tunjungharjo, Grobogan. All respondents who cupped had a reduction in uric acid levels, according to the data. Although there are some patients whose uric acid levels have fallen but are still outside the normal range, the decrease in uric acid levels has approached normal values. Two times per week for two weeks, cupping is administered. The levels of uric acid were measured early on and after cupping twice over the course of two weeks. The removal of poisons from the human body using static blood is treated with cupping, a supplementary therapy. The act of cupping involves sucking the skin, which is followed by bleeding from the previously sucked skin (Hidayaturrofiah et al., 2016; Masduki & Shaleh, 2018)

The case study's findings demonstrated that the respondent's uric acid level dropped after receiving cupping, and he or she felt more at ease performing daily tasks. This demonstrates that cupping can bring comfort to those who, prior to receiving treatment, found it difficult to go about their everyday lives due of pain in their leg joints. The removal of uric acid crystals from the joints and surrounding tissue by cupping lowers uric acid levels by preventing the development of inflammation, a reddish tint, or swelling in the joints. Nitric oxide (NO) cup therapy helps to reduce swelling in sore joints, and prostaglandins are released during cupping, which reduces pain. Additionally, cupping causes the body to release endorphins and enkephalins, which have analgesic properties. Due to the removal of toxic compounds from the body with cupping therapy, uric acid levels might be reduced (Bahri, 2019; Permatasari, 2018; Putri, 2019).

Effect of uric acid levels after cupping

Based on the study's findings, which are presented in table 3, it can be concluded that all four respondents who underwent cupping saw a 100% decrease in blood uric acid levels. According to the results of calculating the average difference, all respondents' uric acid levels have decreased, indicating that cupping has had an impact on changes in uric acid levels in Tunjungharjo, Grobogan. This result is consistent with (Putri, 2019) investigation into the impact of cupping therapy on lowering uric acid levels in the elderly. Uric acid levels in 17 respondents (53.1%) returned to normal. demonstrates the value (pvalue<0.05) where cupping therapy has a positive impact on lowering uric acid levels.

The research performed by (Sumartini & Susila, 2021)on the efficiency of wet cupping therapy in lowering uric acid tendon levels is another study that is consistent with this study. Through the processes of detoxification, excretion, hemostasis, and organ stimulation, cupping can lower uric acid levels. Mast cells will release a number of chemicals, including serotonin, histamine, and bradykinin, as part of the cupping mechanism to lower uric acid levels in the blood (Laboratorium JT, 2016). However, the reactions are delayed (SRS). Histamine aids in healing sick cells, combating inflammation, and promoting the growth of reticuloendothelial cells, which boosts resistance and immunity (Misnadiarly, 2019).

CONCLUSION

The researchers can draw the conclusion that the uric acid levels in the blood of the respondents in Tunjungharjo, Grobogan before they received cupping were primarily in the high category of uric acid based on the findings of the research that has been conducted and described in the discussion exposed in the previous table. After receiving cupping in Tunjungharjo, Grobogan, all responders had blood uric acid levels that fell within the normal category. Cupping has a beneficial effect on lowering uric acid levels in Tunjungharjo, Grobogan.

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