

Cupping as Complementary Therapy for Patients with Hyperuricemia

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ABSTRACT

Hyperuricemia is the high level of uric acid in the blood that can create an abundant small crystal on tissue, especially on the joint. When this crystal was created in joint, it will cause a relapse pain and arthritis. The increase of uric acid usually followed by hypertension, hyperlipidemia, obesity, kidney failure, diabetic, and other metabolism disorder. The increase of uric acid also effects cognitive function through cerebrovascular system. Cupping, known as bekam or hijamah, has used as nonfarmacology therapy for many symptoms and diseases as abnormal blood component. The purpose of this study was to deeply identify the effect of cupping therapy on level of uric acid in the blood of patients with hyperuricemic. This study also aimed to describe changes in symptoms of the disease before and after cupping therapy. This is a case study where the data was collected using pretest and posttest without control and also using in-depth interview. The number of participants are 5 people. Wilcoxon Signed Ranks Test was used to test the effect of cupping therapy of the uric acid level. Researcher then interviewed respondents to find out their gout complaints they felt before and after treated by cupping therapy. The statistical test showed decreasing of uric acid level after cupping that is interpreted from the decreasing of its mean from 8,60 to 4,66. The analyze of Wilcoxon Signed Ranks Test showed the significant score ($p = 0.043$) that means cupping therapy can significantly reduce uric acid level in patients with hyperuricemic. All five respondents stated that symptoms of unbearable pain, swelling, and feeling of heat in the joints were no longer felt after treatment with cupping therapy. This study revealed that level of uric acid on patients with hyperuricemic can be reduced with cupping therapy. Hospitals are advised to recommend cupping therapy as complementary therapy for patient with hyperuricemic, although other factors (i.e. dietary management, medical treatment, exercise, other diseases, etc) should be considered. For further research, it is recommended to investigate the cupping therapy with better instrument and more samples.

Keywords: Hyperuricemia, Uric acid, Cupping therapy

I. INTRODUCTION

Uric acid disease is a term often used to refer to one type of articular rheumatic disease [1]. Study from Shamley [2] showed that 90% of uric acid is the result of purine catabolism aided by guanase enzymes and xanthine oxidase. The latest data from Rumah Sakit Umum Pusat Dr. Cipto Mangunkusumo (RSCM), Jakarta showed an increase of about 9 people from 1993 to 1994 and about 19 people from 1994 to 1995 [1]. In 2007, according to the data of patients treated at RSCM, patients with hyperuricemic are 7% of all patients suffering from rheumatic diseases. While the prevalence of hyperuricemia in the population in Central Java is 24.3% in males and 11.7% in females. In Bandung, Central Java, prevalence in the age group of 15-45 years was 0.8%; covering men 1.7% and women 0.05% [3].

Advanced hyperuricemia can develop into gout [4]. The prevalence of gout not only occurs in the United States but also in some developing countries, such as in Indonesia [5]. Hyperuricemic is classified as primary gout disease (90 %) and secondary gout disease (10 %). Primary gout is a case where the cause is unknown or due

to abnormalities of metabolic processes in the body. Secondary gout is the case where the cause can be known. Approximately 90% of primary gout patients are men who are generally older than 30 years, while gout in women generally occurs after menopause. It is estimated that gout occurs in 840 people every 100,000 people. Gout is strongly associated with obesity, hypertension, hyperlipidemia, and diabetes mellitus.

Management of gout is to stop pain in acute attacks, prevent recurrence, and prevent complications due to deposition of urate crystals in joints, kidneys, or other body parts. While in patients with asymptomatic hyperuricemia, it is not required pharmacological therapy. Reduction of hyperuricemia is needed to prevent the development of acute gout in patients at high risk. Dietary and lifestyle changes including weight loss, alcohol restriction, high purine diet, and hyperlipidemia and hypertension control can lower serum uric acid levels even without drug therapy. Decreased levels of uric acid in the blood can also be achieved with a variety of alternative treatments such as herbal remedies, acupuncture, and cupping. Today, the more frequent method of balancing the blood content is cupping [6,9].

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Cupping therapy is a treatment with minor incision techniques using a knife or needle to remove dirty blood, blood poison, blood diseases contained in the body. The bloods cause blockage or constriction in the blood vessels. Cupping has been widely used for various diseases such as excessive menstrual bleeding, inflammation, hernia, sciatica, ulcers, hydrocele, gout, kidney disorders, epistaxis, etc. [7,10]. However, it is limited to find studies that explored what is felt by hyperuricemic patients who get cupping therapy. Therefore, this study is needed to assess the effect of cupping therapy on uric acid levels as well as to explore the symptoms felt by hyperuricemic patients who get cupping therapy.

II. METHOD

A. Design

This is a case study where the data was collected using pre and posttest without control and also using in-depth interview.

B. Participant

Participants are patient with hyperuricemic in Kecamatan Tembalang, Semarang, Central Java, Indonesia. Participants recruitment used purposive sampling. The number of participants are 5 people.

C. Procedure

Before interview, researcher gave cupping therapy to participants. I also checked participants' level of uric acid before first cupping therapy and after third cupping therapy. After three times of cupping therapy, researcher made an unstructured interview to explore the symptoms that participants felt.

D. Measures

Level of uric acid was measured by blood check tool, while the symptoms explored by in-depth interview. The uric acid level measured before first cupping therapy and after third cupping therapy. Wilcoxon Signed Ranks Test was used to test the effect of cupping therapy of the uric acid level. Researcher interviewed respondents to find out their gout complaints they felt before and after treated by cupping therapy.

E. Data analysis

The data of participants' uric acid was analyzed by pair sample t Test. While the results of the transcript interview are analyzed thematically by organizing categories, sub themes, and themes.

III. RESULT

A. Participants Characteristic

The participants were residents of Bulusan Village, Tembalang, Semarang, Central Java, who were recorded as hyperuricemia patients at Tembalang Public Health Centre. The five participants all women ranged 30-50 years old. Participants experienced hyperuricemia for a long time ranged 2-7 years.

B. Statistics

The uric acid levels in patients with hyperuricemia before and after cupping therapy presented in Table I.

Table 1. Table type styles

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre	8.6000	5	2.69691	1.34846
	Post	4.7500	5	.92916	.46458

The difference in mean of uric acid before and after Cupping Therapy. The analyze of Wilcoxon Signed Ranks Test presented in table II.

Table 2. Wilcoxon signed ranks test

Table Head	Test Statistics ^a
	Post-Pre
Z	-1,970 ^b
Asymp. Sig (2-tailed)	0,049

a. Wilcoxon Signed Ranks Test
b. Based on negative ranks

Test Statistics shows that Asymp.Sig (2-tailed) is 0,049. This is less than 0,05 means that there is different level of uric acid before and after cupping therapy.

C. Thematic Analysis

One theme created from the interview is less pain. All five participants stated that symptoms of unbearable pain, swelling, and feeling of heat in the joints were no longer felt after treatment with cupping therapy. Participants also stated their desire to obtain further cupping therapy. Participants did not feel pain even though the procedure cupping using sharp tools. Only two participants expressed little pain like an ant bite.

IV. DISCUSSION

Excessive uric acid creates small crystals that accumulate in the tissues of the body, especially in the joints. When these crystals form inside the joint it will cause repeated attacks on joint inflammation (arthritis) and the risk of gout disease [4]. A study conducted at Johns Hopkins University Hospital in 2007 showed that high levels of uric acid became one of the causes of

decline in cognitive, cardiovascular, and biological metabolism in older adults. Increased uric acid is usually accompanied by hypertension, hyperlipidemia, obesity, kidney failure, diabetes, and other metabolic disorders. Increased uric acid is thought to affect cognitive function through cerebrovascular changes. Levels of uric acid in cerebrospinal fluid are increased in dementia patients but decreased in Alzheimer's patients. Invalid source specified.

The effect of decreased uric acid levels by cupping therapy is thought to be influenced by changes in blood content of cupping. A study by Bilal, Khan, Ahmed, and Afroz of the Karachi University Faculty of Pharmacy, Pakistan [8] compared blood cupping and venous blood. The results showed that there was a decrease of white blood cells, red blood cells, hemoglobin, Hb concentration, platelets, and monocytes in cupping blood compared with venous blood.

The first purpose of this study was to determine uric acid levels in patients with hyperuricemia before cupping therapy. In 2007, according to patient data treated at RSCM clinic, uric acid sufferers about 7% of all patients suffering from rheumatic disease [3]. The prevalence of hyperuricemia in the population in Central Java was 24.3% in males and 11.7% in females. In Bandung, Central Java, prevalence in the age group of 15-45 years was 0.8%; Covering men 1.7% and women 0.05%.

This study showed the mean of uric acid level before cupping therapy was 8.60 and could be categorized as moderate hyperuricemia based on categorized according to normalized hyperuricemia, mild hyperuricemia, moderate hyperuricemia, severe hyperuricemia and high severe hyperuricemia. And for the results, data showed that there was a decrease in mean of uric acid levels in hyperuricemic patients one hour after cupping therapy. The result 4.75 interpreted as normal uric acid levels. This study also identify changes in uric acid levels in patients with hyperuricemia before and after cupping. The result of statistical analysis shows mean difference (average) of uric acid level before and after cupping with Asympt.Sig (2-tailed) or p value is 0,049. Value p less than 0,05 means that there is a significant change of the measurement results of uric acid levels in patients with hyperuricemia.

From thematic analysis, this study revealed that patients with hyperuricemia felt less pain due to cupping therapy for three times.

V. CONCLUSION

This study revealed that level of uric acid on patients with hyperuricemic can be reduced with cupping therapy. Hospitals are advised to recommend cupping therapy as complementary therapy for patient with hyperuricemic, although other factors (i.e. dietary management, medical

treatment, exercise, other diseases, etc) should be considered.

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