

Dry Cupping Has Effect On The Reduction Of The Pain Scale In Administrative With Uric Acid

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Abstract—Increased uric acid levels are a degenerative disease experienced by the elderly. Excess uric acid levels in the blood if not immediately prevented and treated will be dangerous because they cause joint pain and the onset of thopia. Dry cupping is a process of cupping with a pump without bleeding. This study aims to determine the effect of dry cupping on reducing pain scale in elderly with gout in Masaran Sragen Village. This research is a quasy experiment with a one group pretest and posttest design. The study population was the elderly with gout pain in the village of Masaran Sragen, amounting to 33 people. Sampling in this research is using total sampling technique. The data analysis used the Wilcoxon test because after the normality of the data the results were not normal. The results showed that the average pain scale of respondents before and after being given dry cupping, the pain scale 6 became the pain scale 3. The results of the correlation test analysis showed that there was an effect of giving red ginger foot soaking on the blood pressure of hypertensive patients, indicated by the p-value. = 0.0001 (p-value <0.05).

Keywords—Gout, Dry Cupping, Pain, Elderl

I. INTRODUCTION

The process of aging causes a decrease in muscle tone, strength and resistance of the musculoskeletal system, as joint stiffness and erosion decrease joint movement. This occurs due to decreased hormones that cause bone loss and affect the bone's ability to heal [1].

The decline in physical, psychological and social conditions is the whole process of aging experienced by the elderly and this process has the potential to cause health problems [2]. One of the degenerative diseases experienced by the elderly is an increase in uric acid [3].

Uric acid is the end product of purine metabolism. Uric acid circulating in the human body is produced by the body (endogenous uric acid) and comes from food (exogenous uric acid). Uric acid is the end product of purine metabolism which cannot be excreted through the kidneys [4].

The prevalence of gout in the United States more than doubled in the population over 75 years between 1990 and 1999, from 21 per 1000 to 41 per 1000. 7% in men aged 75 years (Alexander, 2010 in Diantari, 2013). Patients with uric acid in Taiwan in 2005-2008 showed an increase in the incidence of hyperuricemia in elderly women by 19.7% and

the prevalence of uric acid in elderly women by 2.33% (Diantari dkk, 2013).

Based on Basic Health Research Results [5], 11.1% of those who experienced uric acid from the middle age were 43-54, the elderly 55-64 were 15.5%, the old people 65-74 were 18.6% and the very old people > 75 were 18.9%.

Excess uric acid levels in the blood, if not prevented and treated immediately, will cause joint pain and the emergence of thopy, which is a buildup of uric acid crystals under the skin which then becomes a small lump [6].

One of the management of pain in gout is pharmacological therapy by providing analgesic therapy which is a type of pharmacology to reduce pain and non-pharmacological therapy is one of which is the provision of cupping therapy [7]. Cupping is done by suctioning the skin surface with or without bleeding. The principle of dry cupping is to increase oxygen supply to tissues experiencing ischemia. This method is given by rubbing the oil, giving a stimulus to the meridian points using a device to suck the skin with air so as to improve circulation of the ischemic area, so that pain can be reduced [8].

Based on the results of a preliminary study at the Posyandu for the elderly in Masaran village, Sragen, there were 33 elderly who experienced gout pain, with complaints of pain that were felt, including heat, swelling, and rheumatism in the joint area. Pain management that has been done so far is by consuming analgesic drugs purchased at pharmacies. Based on the description above, the researchers are interested in knowing the effect of dry cupping on pain scales in the elderly with gout.

II. METHOD

This type of research is quantitative research, the research method used is quasi experimental with one group pre and post-test without control, the researcher only intervened in one group without comparison. One group pre-test post-test without control design where the respondents did a pre-test and post-test measurement of the pain scale before and after being given dry cupping therapy.

The population in this study were 33 elderly suffering from gout pain in the elderly Posyandu in Masaran village, Sragen. The sample collection technique used random sampling

techniques. The number of samples in this study were 33 elderly who experienced gout pain.

The research data were taken by measuring the pain scale before dry cupping therapy was carried out. The next researcher gave dry cupping therapy to the respondents and then measured the pain scale again. Data analysis was performed using the Wilcoxon test.

III. RESULTS AND DISCUSSION

Characteristics of Respondents by Age

Table 1. Characteristics of Respondents by Age

Information	Result
Mean	64.88
Median	65
Min	60
Mak	72
STD	3.305

The characteristics of the respondents based on the table show that the average age of the respondents is 64.88, the youngest is 60, the oldest is 72, with a standard deviation value of 3.305. This is in line with the research results from Arjani et al dkk (2018), said the majority of uric acid respondents were over 60 years old as many as 39 people (68.24%). This is also in line with research conducted by Puput (2018) which states that respondents who experience gout have an age range from 64 years to 89 years.

According to Purba's research (2014), women over 40 years of age tend to have high uric acid levels due to hormonal changes, namely a lack of estrogen levels in the blood, while uric acid levels are higher in men because uric acid levels tend to increase in line with getting older. This is caused by kidney function which causes uric acid excretion to decrease. It can be concluded that age plays a role in increasing uric acid.

Characteristics of Respondents Based on Gender

Table 2. Characteristics of Respondents by Gender

Information	Result
Women	64.88
Man	65
Total	60

The characteristics of respondents based on the table show that most of the respondents were female as many as 22 people (66.7%) and a small proportion of them were male as many as 11 people (33.3%). This is in line with the results of research from Fatimah (2017) which states that the majority of respondents are female, namely as many as 22 people (100%), Yesika's research results [9] state that 24 respondents are female (80.0%).), and the results of Anggun's research (2016) that most respondents were female as many as 21 people (70%).

According to research conducted by Ningrum (2013), it was found that the female sex suffered the most from gout, this was because women had experienced menopause while men did not have the hormones estrogen and progesterone to excrete uric acid. It can be concluded that postmenopausal women have decreased estrogen levels which play a role in increasing uric acid excretion through urine, so that the risk of hyperthermia in women increases when entering menopause (Mulyasari, 2015).

Characteristics of Respondents based on Nutritional Status

Table 3. Characteristics of Respondents based on Nutritional Status

Nutritional status category	Number of respondents
Thin	-
Normal	13
More weight	13
Fat	7

The characteristics of the respondents based on the table indicate that there are no respondents with a thin nutritional status, 13 respondents with normal weight, 13 people with excess weight and 7 people in the fat category. Uric acid levels will increase with weight gain. In addition, uric acid levels in obese people are significantly higher in people with malnutrition. The prevalence of increased uric acid levels in people who have more nutrition is 2.98 times more than people with malnutrition in people with obesity is 5.96 times more than people with less nutrition (Honggang, 2014).

Characteristics of Respondents based on Uric Acid Value

Table 4. Characteristics of Respondents based on Uric Acid Value

Information	Result
Mean	8.24
Median	8.4
Min	6.3
Mak	11.2
STD	1.388

The characteristics of the respondents based on the table indicate that the average uric acid value of the respondents is 8.2424 with a minimum value of 6.30 with a maximum value of 11.20 with a standard deviation value of 1.388. It can be concluded that the metabolic disorder underlying uric acid is hyperuricemia, which is defined as a serum uric acid level of more than 7 mg / dL in men and more than 6 mb / dL in women [6]. Uric acid levels depend on several factors, including increased uric acid production due to nutrition, namely eating foods with high levels of purines, drinking alcohol, and obesity. In addition, other causes are age, hormones and decreased kidney function in the body [10].

Pain scale in the elderly before dry cupping

Based on the results of the study, it is known that the scale value of the pain scale in the elderly with gout before dry cupping can be seen in table 5 below:

Table 5. Pain scale in the elderly before dry cupping

Information	Result
Mean	6.15
Median	6
Min	4
Mak	8
STD	1.278

Based on the table, the average pain scale value before dry cupping (pre-test) is 6.15, the standard deviation value is 1.278, while the lowest pain scale value before dry cupping was owned by the lowest respondent of 4 and the highest pain scale value owned by the respondent according to Hadi's research [11], the pain scale category of respondents with hyperemia in Leyangan Village, East Ungaran District before cupping therapy experienced mild pain 1 person (5.6%),

moderate pain 13 people (72.2%), and severe pain 4 people (22.2%).

1. Pain scale in the elderly after dry cupping

Based on the results of the study, it is known that the scale value of the pain scale in the elderly with gout after dry cupping can be seen in table 6 below:

Table 6. Pain scale in the elderly after dry cupping

Information	Result
Mean	2.61
Median	3
Min	1
Mak	4
STD	0.827

Based on table 6, the average pain scale value after dry cupping (post test) is 2.61, with the lowest pain scale value of 1 and the highest pain scale value of 4. This is in line with the results of research from Hadi [10], saying that hyperuresemic pain sufferers with a pain scale response after being given cupping therapy, namely 2 people who complained of no pain (11.1%), 7 people who experienced mild pain (38.9%), and 9 people who experienced moderate pain (50.0 %), from a total of 18 respondents.

Dry cupping therapy can be done as a non-pharmacological therapy for gout sufferers because the cupping points taken to reduce pain in gout are the point of kahil, zusanli, sanyinciao, front stomach point, hind kidney, tri heating point, back spleen point, bladder front bile, navel and hind liver [7].

Dry cupping causes capillary dilation in the clamped area so that it can elicit a relaxation response. This relaxation response occurs when clamping is done at one point. The relaxation impression obtained from the clamping process is then transmitted to the hypothalamus so that the release of corticotropin relasing factor (CRF) and other releasing factors by adenohipofise in the hypothalamus, this CRF then stimulates the pituitary gland to increase proopiomelanocortin production so that the production of enkephalin by the adrenal medulla increases. Enkephalin is a small peptide that causes presynaptic inhibition of type C and A-Delta fibers in the spinal cord thereby reducing the delivery of pain stimuli out of the spinal cord so that pain sensation is reduced. CRF also causes the formation of ACTH (adenocorticotropin), corticotropin, and corticosteroids. This corticosteroid compound, as it is known, has properties in reducing inflammation and stabilizing cell permeability [12].

2. Analysis of the Effect of Dry Cupping on Decreasing Pain Scale in the Elderly with Gout

Table 7 Analysis of the Effect of Dry Cupping on Decreasing Pain Scale in the Elderly with Gout

Wilcoxon Signed Rank Test	Z	Median		P value
		Min	Mak	
Hasil post – Hasil pre (post 2.61 – pre 6.15)	-5.088	3.00	6.00	.000

Based on the results of the Wilcoxon statistical test

analysis showed that there was an effect of giving dry cupping therapy on the pain scale before and after dry cupping therapy with a value of $p = 0.000$ then $p < 0.05$ so that there was an effect of giving dry cupping on the pain scale in the elderly with gout in the village, Masaran, Sragen.

This is reinforced by the results of the measurement of the uric acid pain scale with the VAS pain gauge with the average of 6.15 before dry cupping therapy, while after dry cupping therapy the average was 2.61 so that there was a decrease in the pain scale of 3.54. Based on the results of research by Hadi [11], before cupping therapy was carried out, the average pain scale was 3.17 and after cupping it was obtained an average pain scale value of 2.39 with the conclusion that there was a decrease in the pain scale of 0.78. This is because dry cupping functions to release wind, heat and fire pathogens [13].

According to medical science, uric acid is caused by accumulation of moist pathogens in the body's meridians, causing blockages and causing pain. Moist pathogens are external diseases that often occur in the muscles and tendons of the limbs that feel heavy, muscle aches and swelling, especially the lower limbs, the pain that is caused will be permanent and not moving. Blockages in the meridians cause pain. Changes in uric acid levels are also caused by a decrease in abnormal kidney function and pain (Purba, 2014).

Decreased kidney function in the process of metabolic excretion in the body is indicated by high levels of urea and creatinine (Nurjanah, 2015). The kidneys function to remove water from the body's metabolism, when the water in the body runs smoothly, body heat will come out. When the heat comes out, the body will maintain its balance, so that body heat does not occur. If there is impaired renal excretion function, heat does not come out then the heat will make moisture in the body. Dry cupping is done to remove heat in the body because one of the functions of cupping is to remove heat from the body [13].

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