



THE EFFECT OF CRYOTHERAPY ON THE REDUCTION OF PAIN LEVELS IN GOUT ARTHRITIS PATIENTS IN JAMBI CITY

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ABSTRACT

Gout arthritis is a disease caused by metabolic disorders with increased concentrations of uric acid, which causes pain in local joints. Management of gout arthritis with pharmacological therapy usually uses several conventional drugs. The high prevalence of chronic pain experienced by sufferers along with the negative effects of dependence on painkillers, causing patients to have an interest in undergoing non-pharmacological therapy, which is an essential strategy in the management of gouty arthritis. Among non-pharmacological therapies, cold compresses (cryotherapy) are more appropriate to use on joints with signs of inflammation such as redness and swelling that occur in patients with rheumatoid arthritis. ice (ice pack) and ice water in the treatment of injuries and treatment modalities commonly used in the management of pain and injury. This study used a Quasy Experiment design with a Two Group Pretest and Posttest design approach. This study was conducted on patients with gout arthritis at PSTW Budi Luhur Jambi City with 16 respondents and control groups respectively. Data analysis in this study used univariate and bivariate tests. independent t-statistics . The results showed the average p enurunan level of pain in patients with gouty arthritis in the control group without treatment pretest 3:50 whereas for the average posttest 3:19 and the average value decreased levels of pain in patients with gouty arthritis in the intervention group before performed cryotherapy 3:38 while the average -The average after treatment is 1.38, the statistical test p-value is 0.0 00 . A da influence Cryotherapy To Decrease Rate Gout Arthritis Pain In Patients PSTW Budi Luhur in the city of Jambi .

Keyword : Rheumatoid Arthritis, Cryotherapy, Pain

INTRODUCTION

Gouty arthritis is a disease caused by g angguan metabolic by increasing uric acid concentration . This is caused by the accumulation of joint crystals by monosodium urate and at a further stage degeneration of joint cartilage ¹. Gout arthritis is often found in the elderly, and includes four diseases that are closely related to the aging process. The World Health Organization declared gouty arthritis sufferers in the world ber number in 1370 (33.3%) , and increased in the adult population in the UK by 3.2% and the US by9% . Indonesia alone has increased by 11.9% in 2013 and 19.2% in 2019 , while in Pr ovinsi J ambi own patients with gout arthritis of 8.0% ².

Syamsiah (2015) in Hoesny, R., ALIM, Z., & Hartina (2017) , states that in gout arthritis there is an increase in

uric acid which causes pain in local joints. Light touch or pressure on the affected area is unacceptable during the attack. The attacks last for 3 to 14 days, after that time period, the disturbance will suddenly disappear, but will return at any time. In the end, repeated attacks will damage the joints and limit the Range Of Motion (ROM)permanently⁴.

Penatalaksanaan gouty arthritis can be done with pharmacological treatment and non-pharmacological. Pharmacological therapy usually uses several conventional drugs. The high prevalence of chronic pain experienced by sufferers along with the negative effects of dependence on painkillers has caused sufferers to have an interest in undergoing non-pharmacological therapy , which is an essential strategy in the management of gout arthritis⁵. Non-pharmacological therapy in the form of interventions such as avoiding foods that



contain high purine levels, including organ

Cold compresses are more appropriate for joints with signs of inflammation such as redness and swelling, while warm compresses are more appropriate for people with joint pain without symptoms of inflammation. If you experience joint pain accompanied by inflammatory symptoms such as rheumatism, gouty arthritis, and arthritis due to infection, choose a cold compress (cryotherapy) to reduce symptoms. While joint pain without symptoms of inflammation such as calcification of the joints, choose a warm compress to reduce the symptoms of pain ⁷.

Cryotherapy is the use of ice (ice pack) and ice water in the treatment of injuries and a treatment modality commonly used in the management of injuries and pain. Physiologically ice reduces metabolic activity in tissues thereby preventing secondary tissue damage and reducing pain to the centralnervous system. Cryotherapy can be applied in less than 48 hours, after the appearance of knee injury or arthritis ⁸.

Research by Lenni Sastra and Lola Despitasaki (2018) , explained that the results of statistical tests using the paired sample T-test obtained a p value of 0.000 ($p \leq 0.05$).

The results of the study by 12 respondents obtained that the average pain intensity value before being given cryotherapy was 5.83 and after being given cryotherapy it decreased to 2.83 with a mean difference of 3.

In line with the results of Rifan's research (2016) , with the Wilcoxon cryotherapy test subjectively obtained Z value count (-3,300), with p value (0.001) <0.05 and objectively count Z value (-3.409), with p value (0.001) <0.05 . These results mean that H_a : accepted and H_o : rejected, which means there is a difference in pain before and after cryotherapy. The research objective was to study the effect of cryotherapy on the reduction of pain levels in gout arthritis patients at the Tresna Werda Budi Luhur Social Home, Jambi City. Based on the above phenomenon, the researcher has conducted a study entitled "The effect of cryotherapy on reducing the pain level of gout arthritis patients in a novice lecturer scheme"

MATERIAL AND METHODS

Quantitative research with quasi experimental design, pre and post test control group design . This research was conducted at the Tresna Wherda Budi Luhur Social Institution, Jambi City . The population in this study were 62 patients with gout arthritis who were in PSTW Budi Luhur Jambi City with a sample of 16 for intervention. and 16 for control. This study was conducted on March 10 - July 20, 2020. with the inclusion criteria for the elderly with a diagnosis of gout arthritis and the elderly who experienced pain due to rheumatoid arthritis for less than 48 hours (acute pain) and exclusion criteria for the elderly with visual and hearing impairment. This study carried out the observation and examination of the patient's uric acid levels. Secondary data is supporting data or complementary data from other parties taken at the PSTW Budi Luhur Jambi City institution. Research Instruments: the research instrument used an observation sheet to determine the pain felt by the respondent . Statistical test using t-independent .



RESULT

Table 1 Average Decreased Pain Levels in Patients with Gout Arthritis Pad a Control Group

Variable	Mean	N
The mean reduction in pain levels in patients with pretest arthritis gout in the control group	3.50	16
The mean reduction in pain levels in patients with postest gout arthritis in the control group	3.19	

According to the table 1 above proves that the average value of p enurunan level of pain in patients with gouty arthritis in the untreated control group pretest 3:50 whereas for the average posttest 3:19.

Table 2 Average P enurunan Level of Pain In Patients with Gout Arthritis P there is Group I intervention

Variable	Mean	N
The mean decrease in the level of pain in patients with gouty arthritis before performed cryotherapy	3.38	16
The mean decrease in the level of pain in patients with gouty arthritis after performed cryotherapy	1.38	

Tabel 2 above proves that the average value decreased levels of pain in patients with gouty arthritis in the intervention group before performed cryotherapy 3:38 while on average after the treatment is done at 1:38

Table 3 Effect of Cryotherapy on Decreasing Pain Levels in Gout Arthritis Patients in the Control and Intervention Groups

Variable	Mean	SD	P-Value	N
The mean decrease in the level of pain in patients with gouty arthritis after performed cryotherapy in the control group and i ntervensi	0.239	0,173	0.000	32

Table 3 above shows that the statistical test results obtained p-value 0.000 ($p \leq 0.05$), means no influence Cryotherapy To Decrease Rate Gout Arthritis Pain In Patients PSTW Budi Luhur in the city of Jambi .

DISCUSSION

Based on the results of the study, the statistical test results obtained were p Value 0.000 ($p \leq 0.05$) which means that there is an effect of cryotherapy on reducing pain levels in people with gout arthritis at PSTW Budi Luhur Jambi City in 2020.

This study is in line with research conducted by Khodijah (2011), regarding the effectiveness of cold compresses on reducing pain intensity in patients with gout arthritis at RSUP H. Adam Malik Medan, which concluded that patients experienced a very significant reduction in pain. Cryotherapy is the use of ice (ice pack) and ice water in



medicine that is commonly used in pain management ¹⁵.

The pain felt by individuals has different threshold and tolerance. Pain threshold is the point where the pain stimulus is felt as pain, whereas pain tolerance is more to the maximum intensity or duration of pain that you want to endure or endure before an action to relieve pain is taken ¹⁶.

Cryotherapy is an application of low temperature or cold therapy used in pain management ¹⁷. The use of ice is very effective at reducing metabolic activity in the tissues thus preventing secondary tissue damage and reducing pain to the central nervous system ¹⁸.

Sharma and Khandpur (2009) claim that cryotherapy is easy to do, safe and does not require a large amount of money even though cryotherapy has the possible risk of unwanted effects such as ice burns, nerve injury, reduced range of motion and allergic reactions, but it can be avoided by following the instructions. the use of this therapy, namely by cooling which is done periodically with intervals of ¹⁹intervals.

CONCLUSION

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