

Effectiveness of Allium Sativum and Olive Oil in Overcoming Pruritus in Kidney Failure Patients at Hemodialysis Unit of Dr. Soekardjo Hospital, Tasikmalaya City

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Abstract— Objective: This study aimed to determine the effectiveness of Allium Sativum and Olive Oil in overcoming pruritus in kidney failure patients at Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya City. **Method:** This study was a pre-experimental study “one group pre-test post-test” design. The sample in this study amounted to 38 people (19 people in Allium Sativum Oil intervention and 19 people in the Olive Oil intervention) were taken using purposive sampling methods that met the inclusion and exclusion criteria. The instrument in this study used a 5 Dimensions Itch Scale questionnaire adapted from Mayo et al (2010). Research data processed using a paired t-test. **Results:** The results showed that there was no difference in the degree of pruritus in patients with Kidney Failure after topical Allium Sativum Oil intervention with p-value 0.067. However, there were differences in the degree of pruritus in Kidney Failure patients after topical Olive Oil intervention with p-value of 0.001. **Conclusion:** Allium Sativum Oil is less effective in overcoming pruritus in Kidney Failure patients at Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya City, while Olive Oil is effective in overcoming pruritus in kidney failure patients at Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya city.

Keywords: Allium Sativum, Kidney Failure, Olive Oil, pruritus

I. INTRODUCTION

Noncommunicable diseases are still a health problem in Indonesia. According to Kementrian Kesehatan Republik Indonesia, 2013 showed that kidney failure is among the top 10 non-communicable diseases in Indonesia. In West Java Province itself, the prevalence is 0.3%. This disease is most often suffered by men and the risk of the disease will increase with age

Kidney failure is a condition in which the kidneys are unable to get rid of metabolic waste from the bloodstream (Urology Care Foundation, 2018). The causes of this condition are as follows: the kidneys do not get enough blood perfusion to be filtered, the kidneys are disrupted due to disease conditions (for example Diabetes, Hypertension, Glomerulonephritis, Polycystic Kidney Disease) and/or the presence of blockages in the form of stones or scar tissue in the urinary tract (Urology Care Foundation, 2018). According to data from the 7th Report of Indonesia Renal Registry in 2014

that in addition to the disease, there are other causes, namely diabetic nephropathy, gout, and lupus. But these diseases are smaller in proportion than the diseases mentioned earlier (Kementrian Kesehatan Republik Indonesia, 2016).

As for the problems that can be experienced by patients with kidney failure that is one of them is pruritus (Berger, TG., Steinhoff, 2013). More than 40% of kidney failure patients with hemodialysis experience general pruritus. And in older people, the figure is higher at 90% (Berger, TG., Steinhoff, 2013).

This pruritus must be treated because it can have a negative impact on the sufferer. Pruritus is associated with a decrease in the quality of life of patients and can even increase mortality because it can disrupt the patient's sleep time (Berger, TG., Steinhoff, 2013).

According to Mettang & Kremer, 2015 Pruritus occurs because of an increase in Reactive Protein C and other inflammatory cytokines because the results of the examination indicate the presence of the inflammatory component in the form of pruritus. Besides, abnormalities in calcium metabolism that occur with kidney failure can cause the formation of phosphate crystals in skin tissue. And these crystals can stimulate itching receptors.

From the process of pruritus, we need materials that contain anti-inflammatory. The results showed that olive oil is beneficial for healing disorders found in the skin by increasing skin moisture and elasticity (Madadi, ZAA., Zeighami, R., Azimian, J, Javadi, 2015). Besides, the fatty acids present in olive oil can also act as anti-inflammatory (WebMD, 2018). While Allium sativum is proven to be anti-inflammatory (Khashan, 2014).

II. MATERIAL AND METHOD

A. Procedure

This research was a pre-experimental research type one group pre-test post-test. In this study, researchers conducted pruritus studies before and after the intervention. In this study, there were two intervention groups. One group was given intervention using Allium Sativum Oil as much as 19 people and another group were given Olive Oil as much as 19 people. Before and after the intervention, patients were assessed pruritus using instruments. The instrument used in this study was the 5 Dimensions Itch Scale questionnaire adapted from Elman, Hynan, Gabriel, & Mayo, 2010 specifically used for patients with chronic pruritus.

B. Data Analysis

Analysis of the data used in this study was bivariate analysis. Before conducting a bivariate analysis, researchers first conducted a data normality test. This data normality test aims to determine whether the data distribution is normal or not. The Normality test in this study used the Smirnov Kolmogorov. Test of Normality because the sample was ≤ 200 respondents. The data normality test results showed that all data were normally distributed, both pre-test data before the intervention, and post-test after intervention in both groups. Because all data are normally distributed, the researchers conducted a bivariate analysis using the paired t-test. Declared significant if $p\text{-value} \leq 0.05$ and declared no significant if $p\text{-value} > 0.05$.

III. RESULTS

A. Allium Sativum Group

Difference in Pruritus Degrees in Patients with Kidney Failure in Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya Before and After Given Allium Sativum Oil are shown in Table 1

TABLE 1: DIFFERENCE IN PRURITUS DEGREES IN PATIENTS WITH KIDNEY FAILURE AT HEMODIALYSIS UNIT OF DR. SOEKARDJO HOSPITAL TASIKMALAYA BEFORE AND AFTER GIVEN ALLIUM SATIVUM

Test	Mean	Std. Deviation	P Value
Pre Test	17,1	5,2	0,067
Post Test	14,9	4,9	

B. Olive Oil Group

Difference in Pruritus Degrees in Patients with Kidney Failure at Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya Before and After Being Given Olive Oil are shown in Table 2.

TABLE 2: DIFFERENCE IN PRURITUS DEGREES IN PATIENTS WITH KIDNEY FAILURE AT HEMODIALYSIS UNIT OF DR. SOEKARDJO HOSPITAL TASIKMALAYA BEFORE AND AFTER BEING GIVEN OLIVE OIL

Test	Mean	Std. Deviation	P Value
Pre Test	27	8,2	0,001
Post Test	19,6	9,2	

IV. DISCUSSION

Allium Sativum is the Latin name of garlic. Allium Sativum contains active ingredients Allicin, which can provide many benefits. Allicin has benefits in inhibiting the proliferation of bacteria, fungi, and cancer cells; it reduces blood pressure and cholesterol so that it is good for the heart (Borlinghaus, Albrecht, Gruhlke, Nwachukwu, & Slusarenko, 2014). In this study using Allium Sativum Oil produced by processing with cold processing methods to minimize the odor produced. But apparently, this method produces minimal Allicin so that the resulting efficacy was minimal. This is consistent with the results of the study where the p-value of 0.067 which means that there is no difference in the degree of pruritus of Renal Failure patients in RSU dr. Soekardjo, Tasikmalaya City before and after being given Allium Sativum Oil.

The olive oil used in this study was 100% pure where the process is "cold-pressed" in which the oil produced from olives is crushed and squeezed only once. So it has the best quality and purity. Olive oil produced in this way contains more antioxidants. Antioxidants for the skin is very important to maintain healthy skin. According to Ichihashi, M., Yanagi, H., Yoshimoto S., Ando H., Kunisada M., 2018 that one of the benefits of antioxidants is to prevent skin aging due to exposure to ultraviolet light. Besides, olive oil is beneficial for healing disorders found in the skin by increasing skin moisture and elasticity. So it can reduce pruritus in kidney failure patients.

V. CONCLUSION

- a. There is no difference in the degree of pruritus of Renal Failure patients at Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya before and after being given Allium Sativum Oil with a p-value of 0.067
- b. There is a difference in the degree of pruritus of Renal Failure patients at Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya before and after being given Olive Oil with a p-value of 0.001

ACKNOWLEDGMENT

This article is a publication of a Lecturer Research funded by the Direktur Riset dan Pengabdian Masyarakat. The authors thank the Indonesian Ministry of Technology Research and Higher Education, Lembaga Penelitian dan Pengabdian Masyarakat (LPPM) Universitas Bhakti Kencana and the LPPM of Universitas Muhammadiyah Tasikmalaya.

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