EFFECTIVENESS OF PROVIDING VIRGIN COCONUT OIL (VCO) TOWARDS PRURITUS REDUCTION: STUDY ON PATIENTS WITH CHRONIC KIDNEY DISEASES UNDERGOING HEMODIALYSIS

Erna Melastuti, Desy Ari Dwi Setyaningrum
Academic Qualification, Departement Of Emergency and Medical Surgical Nursing Islamic Sultan Agung University Of Semarang, Indonesia
E-mail : erna@unissula.ac.id

ABSTRACT
Introduction: Pruritus is the most frequent problems faced by hemodialysis patients. One of pruritus cause on patients with chronic kidney diseases is xerosis or dry skin. The study aims to find the effectiveness of providing VCO towards pruritus decreasing on patients with chronic kidney diseases who are undergoing hemodialysis. Methods: It was a quantitative study “Quasi Experimental non equivalent control group” with intervention on providing VCO (Virgin Coconut Oil). Data collecting was carried out by 5-D questionnaire of pruritus scale and observation sheets of Visual Analog Scale (VAS). The number of respondents is 60 patients with total sampling technique. The data obtained is processed statistically by using Wilcoxon Test. Result: The statistical test result of Wilcoxon show that there is a significant difference between the change of pruritus scale after intervention on comparison group and treatment group with value p = 0.000 (p value < 0.05). Discussion: VCO is effective in reducing pruritus on patients with chronic kidney diseases who are undergoing hemodialysis.

Key words: vco, pruritus, hemodialysis patients

INTRODUCTION
Patients who have chronic kidney disease every body system will be affected by the condition of uremic. Then, the patient will show signs and symptoms such as a decrease in body fat, water retention in the tissues, skin discoloration, itching, slowed movement, and the accumulation of substances that are no longer needed by the body that require haemodialysis blood as soon as possible. Haemodialysis is a process used to remove fluid and waste products from the body when the kidneys are not able to implement the process. Patients undergoing haemodialysis will experience a number of problems and complications (Smeltzer& Bare, 2002).

According to National Kidney Foundation (2013), 10% of the population worldwide is affected by chronic kidney disease (CKD), and millions die each year because they do not have access to affordable treatment(National Kidney Foundation,2013).In Indonesia, the incidence of Chronic Kidney Disease approximately 40-60 cases a(Foundation, 2013) annually, the national prevalence of chronic renal failure patie(Indonesia, 2013)nts at 0.2 % . The provinces with the highest prevalence is in Central Sulawesi (0.5 % ) and there are seven provinces with the lowest prevalence . And based on individual analysis unit shows that nationally, 0.2 % of Indonesia's population suffer from chronic kidney disease . If the current of Indonesia's population of 252 124 458 504 248 people then there are souls who suffer from chronic renal failure (0.2 % x * = 504 248 252 124 458 soul). A condition that is quite surprising (Ministry of Health, 2013). According to data from the Indonesian Renal Registry (2011), the number of patients with chronic kidney disease in Central Java in 2011 is about 51393 cases. The data obtained in dr. Adhyatma, MPH Hospital of Semarang, patients with chronic kidney disease who undergo haemodialysis was ranked fifth out of 10 major chronic diseases. Based on data from patient records in 2013 showed that patients with chronic kidney disease who undergo haemodialysis was ranked fifth out of 10 major chronic diseases. Based on data from patient records in 2013 showed that patients with chronic kidney disease who undergo haemodialysis as much as in 1084 with a prevalence of 14.5% . (Medical Record Adhyatma Hospital, 2013).

One of the complications that often occur during haemodialysis lasts is pruritus (itching). (Smeltzer& Bare, 2002). Treatment of pruritus can be done using a topical ointment such as capsaicin or trakolimus. Systemic treatments have been tried with naltrexone, receptor agonists, μ-opioid, and nalfurafin, k-
opioid receptor agonist. (Sagita, C., et al., 2007). Another alternative to solve the problem of pruritus patients with chronic kidney disease who undergo hemodialysis is by using herbal ingredients from pure coconut oil or commonly called the VCO (Virgin Coconut Oil). VCO (virgin coconut oil) is a processed form of coconut meat. In some areas, VCO better known as virgin oil, sara (Agero, AL., and Verallo, 2004). Kuncoro & Maloedyn (2005) says that the rash and itching can be lost after smearing with VCO.

METHODS

The design of this research study is "Quasi Experimental non-equivalent control group" with the intervention Giving VCO (Virgin Coconut Oil). This study was conducted to determine the decrease in pruritus in patients with chronic kidney disease who undergo haemodialysis before and after the intervention Giving VCO (Virgin Coconut Oil) in Chronic Kidney Disease patients undergoing hemodialysis and had complications pruritus. VCO is given by way of rub evenly on the surface of the skin that is experiencing pruritus by topical 3x every 5 minutes. Giving VCO is done to reduce the effective pruritus performed 3-4 weeks, researchers took 3 weeks to study and carry out the provision of VCO in the treatment group within a week 3x, every Monday, Wednesday, and Friday. The comparison group is given 3x lotion within a week, on every Tuesday, Thursday, and Saturday. Measurement of pruritus scale, conducted a day before being given VCO and lotions were then performed a pre-test and a day after being given VCO and lotions do post-test in the experimental group. Data were tested using the Wilcoxon test (non-parametric statistics) with a significance level of p <0.05.

RESULTS

Table 1 shows that the scale pruritus treatment groups before intervention was 2.80 with a standard deviation of 0.407 and the biggest pruritus scale is 3 treatment groups after intervention was 1.57 with a standard deviation of 0.568 and the biggest pruritus scale is 3.

Table 2 Results of the analysis of pruritus scale before and after the intervention in the comparison group at the Hospital dr. Adhyatma, MPH Semarang in 2013 (N = 60)

<table>
<thead>
<tr>
<th>Comparative group</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Min-Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before intervention</td>
<td>2.80</td>
<td>0.407</td>
<td>2-3</td>
</tr>
<tr>
<td>After intervention</td>
<td>2.70</td>
<td>0.535</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Table 2 also shows that the scale pruritus comparison group before the action was 2.80 with a standard deviation of 0.407 and the biggest pruritus scale is 3. The average scale pruritus comparison group after the intervention was 2.70 with a standard deviation of 0.535 and the largest pruritus scale is 3.

Table 3 Analysis Differences pruritus change after intervention in the treatment group and the comparison group at the Hospital dr. Adhyatma MPH Semarang in 2013 (N = 60) and RSUD dr. Adhyatma, MPH Semarang in 2013 (N=60)

<table>
<thead>
<tr>
<th>The Change of pruritus</th>
<th>N</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>treatment group</td>
<td>60</td>
<td>0.000</td>
</tr>
<tr>
<td>control group</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 is the result of Wilcoxon that the value of significance (p-value) 0.000 <0.05 means Ho rejected or no difference between the control group to the treatment group after intervention.

DISCUSSION

Pruritus was the most common problems experienced by peritoneal dialysis or heemodialysis patients and its prevalence is reported to be between 50-90% starting from the (Sagita, 2007) (Wardani, 2007) (Kuncoro, J., 2005a) local, general, light and heavy (Narita et al, 2006). One of the causes of pruritus in patients with chronic kidney disease is a skin xerosis or dry skin (Pardede, 2010). Xerosis skin usually caused by retention of vitamin A
due to reduced function of the kidney to excrete these substances. So vitamin A will accumulate in the subcutaneous tissue of the skin. Vitamins are too excessive will lead to atrophy of the sebaceous gland and sweat gland so that the skin becomes dry and itchy (Sherwood, 2001; Akhyani, et. Al, 2005).

Treatment of pruritus can be done by using topical ointments such as capsaicin or trakolimus Systemic treatments have been tried with naltrexone, receptor agonists, μ-opioid, and nalfurafin, κ-opioid receptor agonist (Pardede, 2010). In addition, by using herbal ingredients from pure coconut oil or commonly called the VCO (Virgin Coconut Oil) (Setiaji in Kuncoro & Maloedyn, 2005).

Virgin coconut oil (VCO) is a processed product native to Indonesia that began widely used to improve public health. It is known that fatty acids (especially uric acid and oleic) in VCO, its nature is to soften the skin. In addition, the VCO effective and safe to use as a moisturizer to the skin so that it can improve skin hydration, and accelerate the healing of the skin (Agero and Verallo, 2004). In addition, the VCO can eliminate red spots and itching (Kuncoro, J. & Maloedyn, 2005). Virgin Coconut Oil (VCO) containing medium chain fatty acids are easily digested and oxidized by the body to prevent the accumulation of toxins in the body. The main component of VCO is a saturated fatty acid and about 90% unsaturated fatty acids of about 10%. VCO saturated fatty acids is dominated by uric acid. VCO contains uric acid ± 53% and about 7% caprylic acid. Both are medium chain fatty acids are commonly called Medium Chain Fatty Acids (MCFA). Meanwhile, according to Wardani (2007) VCO contains 92% saturated fat, 6% mono unsaturated fat and 2% poly unsaturated fats. Fatty acid content (especially uric acid and oleic) in VCO, nature softens the skin. In addition, the content of uric acid in coconut oil is antibacterial and antifungal properties that help your body fight infection.

When uric acid contained in the VCO are in the body, it is converted into monouric, a monoglyceride compound that exhibits antiviral, antimicrobial, antiprotozoal and antifungal. VCO will be absorbed into the skin and kills all viruses, bacteria and protozoa. Fatty acids in VCO is easily absorbed by the body, not hoarded used as fat as long-chain fatty acids, thus reducing the itching that exist within the body. Therefore, VCO is effective and safe to use as a moisturizer to the skin so that it can improve skin hydration, and accelerate the healing of the skin (Agero and Verallo, 2004).

CONCLUSION AND RECOMMENDATION

The scale of pruritus experienced by patients with chronic kidney disease who undergo hemodialysis therapy in the treatment group and the comparison group before the intervention is given by the percentage scale of pruritus was 80.0%.

Scale pruritus experienced by patients with chronic kidney disease who undergo hemodialysis therapy in the treatment group after a given intervention into mild pruritus scale with a percentage of 50.0%. However, there is still experiencing moderate pruritus scale with a percentage of 3.3%.

There is a change of pruritus in the group of patients treated with smeared VCO and the comparison group of patients with lotion smeared when the emergence of pruritus. Evident from the p-value at the time before the intervention in the treatment group and the comparison obtained p value 1.000; and at the time after the intervention in the treatment group and the comparison was obtained p-value of 0.000.

Provision of VCO is more effective than the administration of lotion in patients with chronic kidney disease who undergo hemodialysis at Hospital dr. Adhyatma, MPH to reduce the severity of pruritus.

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