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Red Betel Leaf (Piper crocatum) Tea Efication in Overcoming Leucorhea

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Abstract—

Background: *Woman's reproductive health can not be separated with its intimate organ. If not carefully maintained, it can be disturbed the balance, one symptoms of the disruption isleucorrhea. More than 75% of adult women have experienced leucorrhea throughout their life cycle, and 45% of them may experience leukorrhea 2 times or more.According to WHO, 65% population of developed countries and 80% population of developing countries have been using herbal medicine as traditional medicine. WHO's support towards the concept back to nature is proved by the existence recommendation of using traditional medicine, including herbs. Red Betel Leaf (Piper crocatum)) is one of the traditional ingredient that has been already long used.*

Purpose: *The purpose of this research is to analyze the efficacy of Red Betel Leaf (Piper crocatum)) tea to resolve the symptoms of leuchorea.*

Methods: *This research is a quantitative research with quasi experimental study design. The design used is two-group comparison posttest. The population of this research is all fertile women who experiencedleuchorrhea with a total sampling technique. It obtained a sample of 30 respondents. The data analysis test is using Chi Square.*

Results: *The results showed p 0.006 (<0.05), and the value of OR 1.667 with a confidence interval 95%, it can be concluded that the H_0 is rejected, it means that sitz bath with Red Betel Leaf (Piper crocatum)) is effective in treating leuchorrhea. So, the combination of standart therapy and sitz bath with Red Betel Leaf (Piper crocatum) on fertile women with leuchorrhea is twice more effective to resolve leuchorrhea.*

Conclusion: *This researchis expected that sitz bath of Red Betel Leaf (Piper crocatum)) can be used as a complementary therapy to resolve leuchorrhea in fertile women.*

Keywords--*Red Betel Leaf (Piper crocatum)), Leuchorea*

I. INTRODUCTION

Women's reproductive health can not be separated from their sex organs. We need to realize that maintaining reproductive health is very important. One thing we can do is maintaining cleanliness or hygiene, especially in the genital area. In the vagina, there are microorganisms (normal flora) - if not maintained can be disturbing the balance. Ifthis happens, it will cause disorder and complaints in the area, one of the symptoms of the genitalia disorder is leucorrhea.

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Leucorrhea can be divided into two types, namely normal leucorrhea and abnormal leucorrhea. Normal leucorrhea can occur before and after menstruation period, around the secretion phase between 10-16 days of menstruation, and also through sexual stimulation. Abnormal leucorrhea can occur in all genital infections (infections of the labia, vagina, cervix, and supporting tissues as well as sex-related diseases) (Manuaba, 2008).

The symptoms and signs of normal leucorrhea are mostly related to the menstrual cycle. Usually in the form of a sticky liquid which is yellowish-white or grayish-white from the vaginal canal. This liquid can be runny or thick, not itching, and it will disappear by itself. Meanwhile, the symptoms and the signs of the abnormal leucorrhea can be various in colors, smell and the common symptoms such as itching, pain or burning sensation around the vagina. This infection can spread and cause inflammation of the urinary tract (Sallika, 2010).

Usually, leucorrhoea can occur in: women of childbearing age, pregnant, overweight, sufferers of diabetes, women who suffer from venereal disorders, contraceptive acceptors and certain drugs, often dress in very tight clothing, using vaginal rinsing (chemistry)really often (Manuaba, 2008).

Leucorrhea can be prevented by always washing the female area with clean water after defecating, don't just wipe it off with a tissue. Keep the female area dry, avoid exchanging underwear with friends or relatives, periodically trim the hair around the genitals (Sallika, 2010).

The treatment can be used such as chemicals / drugs - Betadine vaginal kit, Intima, Dettol - which simply removes vaginal discharge from the copulation, but they do not kill the germs. Besides, radioactive irradiation or injection of cytostatics can be applied.Whereas the drugs such as vaccinations, tetracycline, penicillin, thiamphenicol, doxycycline, erythromycin, fluconazole, metronidazole, nystatin (Manuaba, 2008).

The use of traditional medicine has long been practiced throughout the world, both in developing and developed countries. According to WHO, 65% population of developed countries and 80% of the population of developing countrieshave used herbal medicine as traditional medicine. WHO’s support to the concept back to nature is proved by the recommendation to use traditional medicine, including herbs in the maintenance of public health and disease prevention, especially for chronic diseases, degenerative diseases ,and cancer (Widyawati T, 2007).

Sudewo B (2007) Red Betel Leaf (Piper crocatum)) is one of the traditional ingredients that has been long used empirically to treat various diseases including diabetes mellitus, hemorrhoids, inflammation, cancer, increased uric acid levels, hypertension, hepatitis ,and gastritis. Red betel leaf (Piper crocatum))has an antiseptic potentials, twice higher than green betel leaf. The chemical ingredients in red betel extract include essential oils, hydroxicavikol, kavikol, cavibetol, alylprokatekol, carvacrol, eugenol, p-cymene, cineole, cariofelen, estragol regimen, terpene and phenyl propada. Carvacrol works as disinfectant and antifungal so it is used as an antiseptic drug for mouth’s unpleasant smell and leucorrhea (Manoi, 2007).

Usually, women are not interested in consuming medicinal plants, especially red betel (Piper crocatum)) due to the unpleasant taste and unattractive appearance. Therefore, herbal teas are made in order to get around this. Herbal teas are a term for the decoction of leaves, flowers, fruit, seeds, and roots. Even though it is called "tea", herbal tea does not contain leaves from the tea plant (Camellia sinesis). In order to get the benefits that

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have been explained above, then the red betel(piper crocatum))can be consumed in the form of a drink called herbal tea.

Based on the description above, the authors are interested in sought to find out about the "Efficacy Red Betel Leaf (Piper crocatum) in Overcoming Leucorrhea".

II. METHODOLOGY

The study design is a study design that arranged to require researchers to obtain answers to the research questions and as the instrument for researchers to control various variables that influence a study. This research is a quantitative research with Quasi Experimental study design. The design used is a two-group comparison posttest. In this study, the fertile womantreated by the vaginal cultures examination to the intervention and control groups. When the results of the vaginal cultures positive, the next step is given nonpharmacologic therapy (sitz bath with red betel(Piper crocatum) towards the intervention groups for 10 minutes to overcome leucorrhea.

III. RESULTS AND DISCUSSION

This research was conducted in Magelang starting from September 4 to November 6, 2018. The number of samples were 30 fertile women divided into 2 groups: 15 people in the control group (standard treatment with metronidazole 2 x 500 mg) anda another 15 people in the intervention group (standard treatment plus sitz bath with red betel leaf (piper crocatum)

Table 1. Characteristics distribution of intervention in the control group and intervention group

variables	Control	Intervention	Statistic test (Levene test)
	Mean ± SD	Mean ± SD	
Age (years)	26.67 ± 4.082	27.13 ± 5.139	1,227
Profession	1.53 ± 0.743	1.93 ± 0.884	.574
Anxiety	19.67 ± 6.067	16.27 ± 7.015	.360

From Table 1, it can be seen that the characteristics of respondents in the control group and the intervention group are homogeneous (level test> 0.05). The age of the mothers in the control group with an average age of 26.67 years, while in the intervention group with an average age of 27.13 years. Profession in the control group averaged 1.53 and in the intervention group 1.93. The average anxiety in the control group 19.67 and in the intervention group 16.27. After statistical testing with leven's test, there were no significant differences between the two groups (p value> 0.05).

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Table 2. Distribution of respondents based on the results observed in the control group

scoring	**Observation day (f /%)**						
	1	2	3	4	5	6	7
No	0	0	0	0	3	8	9
Light	0	5	10	13	12	7	6
Weight	15	10	5	2	0	0	0
Total	15	15	15	15	15	15	15

The table shows that the score of leuchorreain control group before standard treatment was entirelyall of respondents (100%) with severeleuchorrea and with the provision of standard therapy. On 3rd days,respondents with severe leuchorrea decreased to 33%, on the 4th day it decreased again to 13%, and on day 5 no one respondent with severe leuchorrea. On the 5th day, respondents with no leuchorrea by 20%, on the 6th day became 53%, and on the 7th day to 60%.

Table 3. Distribution of respondents based on vaginal culture examination in the control group

Examination of the vagina Culture	Before Percentage (%)		After Percentage (%)	
	f	%	f	%
positive	15	100	6	40.00
negative	0	0	9	60.00
Total	15	100	15	100

According to data in Table 3 shows that the results of the vaginal cultures examination in the control group before given a provision standard drug of metronidazole 2 x 500 mg, all respondents (100%) with leuchorrea from the results positive vaginal cultures, while after given the standard therapy for 7 days in a row, the majority of respondents (60%) had no experience leuchorrea shown by negative results from vaginal culture.

Table 4. Distribution of respondents based on the observation in the intervention group (soak sit / sitz bath with Red Betel Leaf (Piper crocatum)

Examination of the vagina Culture	**Before Percentage (%)**		**After Percentage (%)**	
	f	%	f	%
positive	15	100	0	0
negative	0	0	15	100
Total	15	100	15	100

Table 4 shows that the leucorrhea's score of all respondents with severe leucorrhea in the intervention group before giving sitz bath soak with Red Betel Leaf (Piper crocatum) (100%). After treatment with soak sit / sitz bath with Red Betel Leaf (Piper crocatum) ,On the third days anda fourth daysall of respondents (100%) had mild leucorrhea. On the seven day (100%) they had no leucorrhea.

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Table 5. Distribution of respondents by vaginal cultures examination in the intervention group (sitz bath soak with Red Betel Leaf (Piper crocatum)

score Leucorrhe	Observation day (f /%)						
	1	2	3	4	5	6	7
Not	0	0	0	0	3	10	15
Light	0	12	15	15	12	5	0
Severe	15	3	0	0	0	0	0
Total	15	15	15	15	15	15	15

The table shows the results of the vaginal culture examination in the intervention group before giving standard therapy and sitz bath soaking with Red Betel Leaf (Piper crocatum) for twice a day for 10 minutes, all of respondents (100%) indicated 100% leucorrhea positive with severe leucorrhea. On day 2, by giving standard therapy and sitz bath soak with Red Betel Leaf (Piper crocatum) decreased in severe leucorrhea to 20%, and on day 5, all of respondents (100%) had not severe leucorrhea, and 80% only have light leucorrhea. On day 6 respondents with mild leucorrhea decreased to 33%, and on day 7 all of respondents had not leucorrhea.

Table .6 The results of the cross-tabulation analysis of efficacy sitz bath soak of Red Betel Leaf (Piper crocatum) on the fertile women control group and intervention

Group	**result**		**The p-value**	**OR (CI 95%)**
	leucorrhea	not leucorrhea	0,006	1.667 (1.10 - 2.52)
Control	9	6		
Intervention	15	0		
Total	24	6		

The table shows the significance of giving sitz bath soak of Red Betel Leaf (Piper crocatum) on fertile women with leucorrhea, indicated with p-value of 0.006 (<0.05), and the value of OR 1.667 with a confidence interval of 95%, it can be concluded that the H_0 is rejected, it means sitz bath soak with Red Betel Leaf (Piper crocatum) effective in treating leucorrhea. So, giving the standard therapy and sitz bath soak of Red Betel Leaf (Piper crocatum) on fertile women with leucorrhea twice as effective in resolve leucorrhea.

IV. DISCUSSION

Respondents in this study were fertile woman with leucorrhea. According to Aghe (2009), leucorrhoea is a liquid that comes out white such as stale milk, greenish-yellow, with excessive itching, sometimes smells fishy or rotten, in large quantities, continuously. Causes of leucorrhea

According to Saraswati (2010) include use of vaginal tampons, too tight underpants, contraception, hair that accidentally enters the vagina, consuming foods with high sugar, obesity can cause genital regionssweat or moist and causing bacteria to develop.

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This study shows that the score of leucorrhea in control group (standard treatment) and intervention (standard treatment and sitz bath soak with Red Betel Leaf (Piper crocatum)) all of respondents with severe (100%) leucorrhea. The treatment was undertaken for 7 days and the results all decreased. In the standard treatment group, respondents were given metronidazole 2 x 500 mg,this is in accordance with the opinion of Schalkwyk (2008) first-line therapy is metronidazole 500 mg per oral, twice a day for 1 week with a cure rate ranging from 75% to 85% and no difference between oral and vaginal metronidazole. In this study, leucorrhea incidence will reduce occurred by giving standard therapy on third days, woman with severe leucorrhea decreased to 33%, on 4th day it decreased again to 13%, and on 5th day, none woman with severe leucorrhea. On the 5th day respondents with no leucorrhea by 20%, on the 6th day became 53%, and on the 7th day to 60%.

Metronidazole is an antimicrobial used in the treatment of several types of infections caused by anaerobic bacteria and protozoa such as urethritis and vaginitis due to Trichomonas vaginalis, amoebiasis in the intestine and liver. Metronidazole is an antimicrobial that belongs to the class nitroimidazole. The reduced form and free radicals of this drug can interact with DNA causing degradation and inhibition of nucleic acid synthesis which causes microbial death.

This study shows that the score of leucorrhea in the intervention group before given sitz bath soak with Red Betel Leaf (Piper crocatum) all of respondents (100%) with severe leucorrhea and become mild leuchorrea on 3rd day after given the treatment of sitz bath soak with Red Betel Leaf (Piper crocatum) . On the 7th day, a number of 2 respondents (13%) had entered mild leucorrhea and 13 respondents (87%) were not leucorrhea. Red Betel Leaf (Piper crocatum) leaf is classified as a plant that has many therapeutic effects. Among the Red Betel Leaf (Piper crocatum) leaf consist of essential oils, hydroxychavicol, chavicol, cavibetol, allylpyrokatekol, cyneole, caryophyllene, cadinene, estragol, terpennene, sesquiterpene, phenyl propane, tannins, dilyase, sugar, and starch. Among these ingredients, Red Betel Leaf (Piper crocatum) has an antibiotic effect, based on the effect of this therapy, Red Betel Leaf (Piper crocatum) also can be used as an ingredient for the treatment of leucorrhoea which is usually used by means of cleansing and soaking (Zubier F, 2010).

This is also supported by the results of the study stating that the ethanol extract of Red Betel Leaf (Piper crocatum) leaf has an antibacterial ability against staphylococcus aureus ATCC 25923 and Eschericia Coli. In addition, red betel leaves also contain phytochemical compounds namely alkoloid, saponin, tannin, and flavonoids. In addition, other chemical ingredients are essential oils, hydroxicavicol, cavicol, cavibetol, allyprokatekol, carvacrol, eugenol, pcymene, cineole, caryofelen, estragol cadiment, terpene, and phenyl propada. Carvacrol is an antifungal disinfectant so it can be used as an antiseptic to eliminate unpleasant smell and leucorrhea. Eugenol can reduce pain, besides that most essential oils are antibacterial and strong antifungal. Other researchers about the isolation of endophytic fungi from Red Betel Leaf (Piper crocatum) leaves (Piper betle L.) results suggest that as antimicrobials against Escherichia coli, Staphylococcus aureus and Candida albicans. Essential oil from Red Betel Leaf (Piper crocatum) leaf (P. betle L.) is one of the essential oils that are antibacterial. This oil can inhibit the growth of several types of harmful bacteria such as Escherichia coli, Salmonella sp, Staphylococcus aureus, Klebsiella and Pasteurella (Haniah M, 2008). Red Betel Leaf (Piper crocatum) also contains are coline in all parts of the plant. This substance is useful for stimulating the central nervous and thinking power, increasing peristalsis. Thus, blood circulation to the wound becomes smooth, oxygen becomes more, this can affect wound healing more quickly (Shahida, 2011). The results of his research,

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Juliantina RF (2011) showed that Red Betel Leaf (Piper crocatum) ethanol extract has antibacterial ability against red gram-positive bacteria and gram-negative bacteria, especially against Staphylococcus aureus ATCC 25923 and Escherichia coli ATCC 35218 and Minimal Inhibitory Concentration (MIC) of ethanol extract of Red Betel Leaf (Piper crocatum) bacteria against Staphylococcus aureus ATCC 25923 and Escherichia coli ATCC 35218 and Minimum Inhibitory Concentration (MIC) of ethanol extract of Red Betel Leaf (Piper crocatum) bacteria against Staphylococcus aureus ATCC 25923 and Escherichia coli ATCC 35218 positive) tends to be at 25%.

The provision of Red Betel Leaf (Piper crocatum) in this study was carried out by means of Sitz Bath by dissolving 4 grams of red betel powder into 1000 cc warm water, then the respondents soaked up their vagina. Sitz Bath soak is a soak to improve circulation in the local area (soaking area) which is carried out specifically on the perineum in warm or cold water. This action also helps relax the local muscles. The effect of warmth on the skin especially the external genitalia causes a temperature sensation at the nerve ending on the skin surface. This sensation activates dopaminergic transmission in the mesolimbic pathway of the central nervous system. Warm therapy has aeffect "crowding process" on the nervous system because it causes pain to be inhibited by the temperature sensation received by nerve endings (Ruffini and Krause) so that it gives the effect of suppression or reduction of pain (Hasmita, M., 2011).

REFERENCES

1. Blankast, Ariev. (2008). Overcoming Leucorrhoea with Herbs, http://gealgeol.com/2008/08/27/agar-keputihan-tak-repulang.html. accessed 20 May 2017
2. Clayton, Carolin. (2008). Leucorrhoea and other Candida Fungal infections. Subtitles by Adji Darma & FX. Budiyanto. Jakarta: Arcan
3. Haniah M. Isolation of endophytic fungi from betel leaves (Piper Betle L) as an antimicrobial against Escherichia coli, Staphylococus aureus and Candida albicans [thesis] [accessed on 17 February 2011]. 2008. P 56-70. Downloaded at: http://lib.uin-malang.ac.id/files/thesis/fullahrpter/0352005.
4. Juliantina R, Citra DA, Nirwani B, Nurmasitoh T, Bowo ET. (2009) Benefits of red betel (Red Betel Leaf (Piper crocatum)) as an antibacterial agent against gram-positive and gram-negative bacteria. J Health Medicine Ind.; 1 (1): 15-30.
5. Koes Irianto. (2012) Exploring the World of Microorganisms volume 1, Bandung: Yrama Widya ..
6. Lockhart, Anita L. & Lyndon S. (2014).Nursing Midwifery Physiological and PathologicalChildhood. Tangerang: Binarupa Aksara
7. Manoi F. (2007) Betel Red As A Multi-Functional Plant. Warta Puslitbangbun.; 13 (2).
8. Manuaba, IBG 2008. Capita Selekta Routine Management of Gynecological Obstetrics and Family Planning. Jakarta: EGC
9. Manuaba, et al. 2009. Understanding Women's Reproductive Health, EGC, Jakarta
10. Oktaviani.D (2012) Comparative Test of the Effectiveness of Red Betel Leaf Extract with 1% Zinc Pyrithione Against Growth of Pityrisporum ovale in Dandruff Patients. Diponegoro University's Faculty of Medicine Undergraduate Medical Education Program.
11. Prawirohardjo, Sarwono. (2010). Gynecology, Jakarta, Bina Pustaka Sarwono PrawirohardjoFoundation
12. Purwantiastuti, (2004). Therapeutic illness and its cure Digest Mediatama.
13. Safihtri M, Fahma F,, (2008) Potency of Red Betel Leaf (Piper crocatum) decoction as antihyperglycemia in rat strain of Sprague Dawley. Hayati J Biosci ...
14. Sallika, NS. 2010. Sundries of Women's Health. 2nd printing, Sirait, M. 2007. Guide to Fitok imia in Pharmacy. Bandung: Institut Teknologi Bandung.
15. Saraswati, S. 2010. 52 Women's Diseases. Jogjakarta: Heart Word.
16. Soetan, Oyekunie MA, Aaiyelaagbe OO, Fafunsi MA (2006) Evaluation of the antimicrobial activity of saponins extract of Sorghum bicolor L. Moench. African J Biotech. Sudewo B. (2007) Eradicate disease with red betel. PT Agromedia Pustaka, Jakarta.
17. Sulistyawati, D. & Mulyati, S. (2009). Antifungal Activity Test of Cashew Leaf Infusion (Anacardium occidentale, L.) against Candida albicans. Biomedica. 2 (1): 47-51.
18. Syahidah. Various properties of betel leaf for health [online]. 2011 [accessed November 13, 2017].

DOI: 10.37200/IJPR/V24I2/PR200439
Received: 20 Dec 2019 | Revised: 05 Jan 2020 | Accepted: 18 Jan 2020

Downloaded at: http: //www.voa-islam, com / news / voice of Islam healthy-nabawi / 2011/07/21/15623 / .2011.

19. Tintasia, Natosba, J., & Girsang, BM (2015). The Effect of Sitz Bath Training on Pain Intensity in Postpartum Episiotomy Postpartum Mothers. Proceeding
20. National Nursing Seminar: Complementary Therapy from Research to Practice. PP: 192-197. Palembang: Sriwijaya University. Available Online:Accessed January 5, 2017

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