

Comparison between The Administration of Betel Leaves (*Piper Betle L.*) and Binahong Leaf (*Anredera Cordifolia*) on Flour Albus in Women of Reliable Age in Serua Ciputat Regional Region in 2022

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ABSTRACT

In Indonesia, women who have experienced vaginal discharge are very high as much as 75%, of which 50% occur in adolescents and 25% occur in women of childbearing age (WUS). Vaginal discharge is discharge except for blood from the vaginal canal, whether smelly or not, accompanied by itching around it. The objective of this study is knowing the Comparison Between Decoction of Betel Leaves (*Piper Betle L.*) and Binahong Leaves (*Anredera cordifolia*) against vaginal discharge in women of childbearing age in Serua Ciputat Village in 2022. This quasi-experimental research using a two group pre-test and post-test design. The population in this study were women of childbearing age who were married in the Serua Ciputat Village, South Tangerang City, totaling 30 respondents. The results of the univariate analysis mean that the pretest of betel leaf decoction is 14.93 and the posttest average value is 7.80, while the pretest average of binahong leaf decoction is 14.80 and the posttest average value is 8.33. Conclusions: Based on the research that has been done on the comparison between giving betel leaf decoction (*Piper Betle L.*) and Binahong leaf (*Anredera cordifolia*), it can be concluded that there is no difference in the effect before and after administration of betel leaf stew and binahong leaf decoction on vaginal discharge in women of childbearing age. in the village area of Serua. Hopefully the results of this study can provide information about flour albus and make green betel leaf boiled water and binahong leaf stew as alternatives that can be used to prevent the occurrence of flour albus.

Keywords: vaginal discharge; women of childbearing age (WUS); betel leaf; leaf binahong

INTRODUCTION

In Indonesia, women who have experienced vaginal discharge are very high as much as 75%, of which 50% occur in adolescents and 25% occur in women of childbearing age (WUS). Vaginal discharge is discharge except for blood from the vaginal canal, whether smelly or not, accompanied by itching around it. The definition of reproductive health has been regulated in the Republic of Indonesia Law Number 36 of 2009 concerning Health, which is a state of complete physical, mental and social health, not merely free from disease or disability related to reproductive systems, functions, and processes. duction in both men and women. The government's seriousness in paying attention to the handling of reproductive health problems is also stated in other policies, such as Government Regulation Number 61 of 2014 concerning Reproductive Health, which guarantees the fulfillment of reproductive health rights for everyone. In addition, through the Minister of Health Regulation Number 97 of 2014, the government also guarantees maternal health, reduces maternal and newborn morbidity and mortality, ensures the achievement of quality of life and fulfillment of reproductive rights, and maintains and improves the quality of maternal health services. and quality, safe and useful newborns in accordance with the development of science and technology (Indonesian Ministry of Health, 2017).

Data from the World Health Organization (2017) shows that problems with poor female reproductive health have reached 33% of the total burden of disease that attacks women worldwide. Almost all women experience vaginal discharge at least once in their lifetime, 60% in adolescents and 40% in women of childbearing age (WUS). In Europe, women who experience vaginal discharge are 25% (WHO, 2016).

This is different from the Indonesian state, women who have experienced very high vaginal discharge, as many as 75%, of which 50% occur in adolescents and 25% occur in women of childbearing age (WUS) (Indonesian Ministry of

Health, 2017). According to statistical data, the population in Banten Province reaches 11,358,740 people or women who experience vaginal discharge amounting to 27.60% of the total population in Banten at 10.8% of adolescents and 16.2% of women of reproductive age-aged 10-14. year. people or women who experienced vaginal discharge amounting to 29.48% of the total population (Banten Provincial Health Office, 2014).

Flour Albus is accompanied by itching around it. This discharge is physiological (normal) and pathological (abnormal) depending on variations in color, odor, and consistency. Vaginal discharge is said to be pathological (abnormal) if it is followed by changes in smell and color that show abnormal signs. In general, other complaints are accompanied by itching, dysuria, genital edema, and others (Irianto, 2014). Leucorrhoea is caused by several factors, namely, fungal, bacterial, or viral infections. In addition, vaginal discharge can also be caused by hormonal problems and sexually transmitted diseases. Behavioral factors also influence in increasing the occurrence of vaginal discharge, namely poor knowledge, negative attitudes, and inappropriate actions in the treatment of reproductive organs. If not treated immediately, it will have an impact spreading to reproductive organs such as cervical cancer so that the mucus in the vaginal discharge will change color, have an unpleasant smell or smell, and change the texture and consistency of vaginal discharge. Then if it continues in the long term, it will disrupt the function of other female reproductive organs and can even cause infertility (Eny, K, 2012).

Treating vaginal discharge can be done by pharmacological and non-pharmacological. The pharmacological method is using modern medicine, including the provision of analgesic drugs, while non-pharmacological methods using herbal plants include betel leaf and binahong leaf. One of the plants that is often used as an alternative to reduce vaginal discharge is betel leaf, besides many around the home environment, betel leaf is an herbal plant that has often been used for generations by the community. Because betel leaf is useful as a natural antiseptic that is very effective in killing fungi, bacteria, parasites and microorganisms which are considered the main cause of vaginal discharge, not only that, betel leaf also contains anti-oxidants so that it can prevent inflammation. In general, betel leaf contains essential oils that contain chemical compounds such as phenols and their derivatives, including kavikol, cavibetol, eugenol, karvacol, and allpyrocatechol. Other content of betel leaf is carotene, nicotinic acid, riboflavin, thiamine, vitamin C, sugar, tannin, catfish and amino acids. Betel leaf has a distinctive taste and aroma, namely a spicy taste and a sharp smell. This taste and aroma is caused by kavikol and bethelphenol in the essential oil contained in betel leaves (Intarina, 2014).

According to research conducted by Ula (2018) in his research, researchers gave boiled water of green betel leaves to women of childbearing age who experienced pathological flour albus as many as 12 respondents for 10 days with the aim of reducing flour albus experienced by respondents. 250cc of boiled water of betel leaf was prepared by the researcher in advance according to the manufacturing procedure, then boiled water of green betel leaf was given to women of childbearing age by visiting the respondent's house to be used in the morning. The results showed that women of childbearing age before using boiled water of green betel leaf all experienced flour albus (100%). Women of childbearing age after using boiled water of betel leaf most of the flour albus decreased (91.7%) and a small portion of flour albus did not decrease (8.3%).

Binahong (*Bassela rubra* linn) contains compounds of alkaloids, polyphenols, flavonoids, saponins, and anthraquinones (Katno, 2014). Binahong plant parts that are useful as medicine in general are rhizomes, roots and leaves. The results showed that binahong leaves contain alkaloids, saponins and flavonoids or phenolic compounds which are equivalent to betel leaves. The effect of binahong leaves to prevent vaginal discharge is a substance that has the ability to be easily oxidized. Flavonoids are said to be natural antioxidants because they can capture free radicals by freeing bacteria (Susetya, 2012).

According to Sagita's research (2019) regarding the effect of giving binahong leaf (*Bassela rubra* linn) decoction to excess vaginal discharge in adolescent girls at MTS Darus Sholichin Malang. The study was conducted for 6 consecutive days and the results showed that there was an effect of giving binahong leaf (*Bassela rubra* inn) decoction of cebokan on the whiteness of adolescent girls.

Based on this study, because of the importance of maintaining the health of reproductive organs in women of childbearing age (WUS) to prevent the increasing incidence of vaginal discharge, one of which can be done with herbal treatment, the researchers are interested in providing innovations about betel leaf and binahong leaf decoction therapy to women aged fertile soil (WUS) to treat vaginal discharge, so researchers will conduct research on "Comparison Between Giving Decoction of Betel Leaves (*Piper Belle* L) and Binahong Leaves (*Anredera cordifolia*) Against Leucorrhoea in Women of Childbearing Age in the Kelurahan Serua Ciputat in 2022.

METHOD

Type of research this is a quasi-experimental research. Quasi-experimental research was conducted to determine the effect of a treatment on the characteristics of the subjects studied. In quasi-experimental research it is not possible to control all relevant variables (Sugiyono, 2014). The aim is to find out a symptom or effect that arises, as a result of the treatment of giving betel leaf and binahong leaf to flour albus. The design used two groups pre test and post test. The population of this study were 30 women of childbearing age. The sample used is each group of 15 respondents. Determination of the sample in this study using the purposive sampling technique. Giving 250cc of betel leaf decoction which is done 1 time a day for 6 consecutive days and 250cc of binahong leaf decoction which is done 1 time a day for 6 consecutive days. The data were analyzed using Independent T-test which had previously been tested for normality and homogeneity.

RESULT

Univariate Analysis

Table 1. Average vaginal discharge between the Betel Leaf Decoction Group and the Binahong Leaf Decoction Group in the Serua Village Area

Group	N	Min	Max	Mean	Std. Deviation
Betel leaf					
Pretest	15	12	18	14.93	1.710
Posttest	15	3	14	7.80	3.005
Binahong leaf					
Pretest	15	11	17	14.80	1.521
Posttest	15	1	12	8.33	2.845

From table 1, the average initial whiteness of the betel leaf stew group was 14.93 which was classified as white on a medium scale. Meanwhile, the average final whiteness in the betel leaf decoction group was 7.80 which was classified as normal vaginal discharge. Meanwhile, from the control group, the average initial whiteness in the binahong leaf decoction group was 14.80 which was classified as white on a medium scale. And the average final whiteness in the binahong leaf decoction group was 8.33 which was classified as normal vaginal discharge. From these data, it can be concluded that there is a significant change in the whiteness scale in the betel leaf stew and binahong leaf stew groups.

Normality test was carried out first to determine whether the data obtained were in a normal distribution or not or. Normalization can be done by looking descriptively from the data. The rule used to test for normality is the score that is the result of Shapiro Wilk's linking is considered more accurate when the number of subjects we study is less than 50. If the Sig. greater than or with 0.05 then the data is normally distributed but if it is less than 0.05 then the data is not normally distributed (Ghazali, 2011). The following is a normality test table using Shapiro-Wilk.

Table 2. Results of the Shapiro-Wilk Normality Test

Group	Sig	=0.05	Decision
Betel leaf			
Pretest	0.731	> 0.05	Normal
Posttest	0.820	> 0.05	Normal
Binahong leaf			
Pretest	0.124	>0.05	Normal
Posttest	0.163	>0.05	Normal

Based on Table 2, the results show that overall normality test results are more than 0.05. Knowing whether or not it is normal is sig > 0.05 then it is normal and if sig < 0.05 it can be said to be abnormal. Based on these results, the data is normally distributed.

The homogeneity test was carried out after knowing the results of the normality test. The homogeneity test was carried out to accept or reject the hypothesis by comparing the sig number with 0.05 (sig>0.05).

Table 3. Results of the Homogeneity

Vaginal Discharge	Homogeneous
Pretest	0.622
Posttest	0.823

The results of the homogeneity test of pretest data on vaginal discharge in women of childbearing age showed that the results were significantly greater than 0.05. The posttest data for vaginal discharge in women of childbearing age showed that the results were significantly greater than 0.05, thus it can be concluded that the data had the same variance or were homogeneous. The existence of normal and homogeneous data, the method used is the parametric statistical method using paired sample T-test and Independent T-test test.

Bivariate Analysis

The decrease in the whiteness scale after the intervention of betel leaf stew and binahong leaf decoction is presented in the following table:

Table 4. Test the Effect of Betel Leaf Decoction and Binahong Leaf Decoction on Decrease in WUS Whitish Scale

WUS	Pretest	Posttest	Difference	P-Value
	Mean	Mean		
Betel Leaf Decoction	14.93	7.80	7.13	0.000
Binahong Leaf Decoction	14.80	8.33	6.47	0.000

Based on the results of the analysis using the Paired Sample T-Test, the Asymp value was obtained. Sig. (2-tailed) the betel group is $0.000 < (0.05)$ meaning H_0 is rejected and H_a is accepted, namely the effect of betel leaf stew on decreasing the whiteness scale in WUS. The value of Asymp.Sig. (2-tailed) in the binahong group was $0.000 < (0.05)$ meaning H_0 was rejected and H_a was accepted, namely the effect of boiled binahong leaves on decreasing the whiteness scale in WUS.

The calculation of the difference in the mean (average) pretest of vaginal discharge in women of childbearing age on betel leaf stew and binahong leaf stew is 0.13. The results of the Independent T-test showed that the significance value was $0.823 > 0.05$, so it was concluded that before being given treatment there was no difference in the effect of betel leaf stew and binahong leaf decoction on vaginal discharge in women of childbearing age in the Serua village area.

DISCUSSION

The results showed that from the statistical test the average initial vaginal discharge in the betel leaf stew group was 14.93 which was classified as white on a medium scale. Meanwhile, the average final whiteness in the betel leaf decoction group was 7.80 which was classified as normal vaginal discharge. While in the group of Binahong leaf decoction, the average initial whiteness was 14.80 which was classified as white on a medium scale. And the average final whiteness in the binahong leaf decoction group was 8.33 which was classified as normal vaginal discharge. From these data, it can be concluded that there is a significant change in the whiteness scale in the betel leaf stew and binahong leaf stew groups.

The results of the data analysis are in line with the research conducted by Ethnic (2021) which showed the results of the pretest respondents who were carried out on the case group (15 respondents) and control (15 respondents) before being given the intervention as much as 100% experienced pathological vaginal discharge. Meanwhile, the results of the posttest of respondents who had been carried out by giving boiled water of green betel leaf to respondents who experienced a decrease in symptoms of pathological vaginal discharge were 14 respondents (93.3%), and those who still had vaginal discharge were 1 respondent (6.7%). While respondents who experienced pathological vaginal discharge, who had been given the placebo were 4 respondents (26.7%) experienced a decrease in symptoms of pathological vaginal discharge and 11 respondents (73.3%) had permanent vaginal discharge symptoms. This is also in line with Puspita's research (2016) explaining that many respondents who experienced vaginal discharge before being given treatment included in criterion 4, namely 12 respondents (75%), and after treatment, which became criterion 2 as many as 10 respondents (62.5). While the respondents in the control group who experienced vaginal discharge before who entered criteria 4 were 11 respondents (68.8%), and after treatment, it was still criteria 4 as many as 11 respondents (68.8%).

According to the assumption of the researcher, from the results of the research above, betel leaf and binahong leaf can both reduce the vaginal discharge. Overcoming vaginal discharge can indeed be done by using a decoction of betel leaf and binahong leaf, but it is better if women of childbearing age maintain cleanliness or personal hygiene

. Based on the calculation of the difference mean (average) pretest of vaginal discharge in women of childbearing age on betel leaf stew and binahong leaf stew was 0.13. The results of the Independent T-test showed that the significance value was $0.823 > 0.05$, so it was concluded that before being given treatment there was no difference in the effect of betel leaf stew and binahong leaf decoction on vaginal discharge in women of childbearing age in the Serua village area. While the calculation of the difference in the mean (average) post-test regarding the problem of vaginal discharge in women of childbearing age in white turmeric stew and soursop leaf stew is 0.53. The results of the Independent T-test showed a significance value of $0.622 > 0.05$, so it can be concluded that there is no difference in the effect of betel leaf stew and binahong leaf decoction on vaginal discharge in women of childbearing age in the Serua village area.

The results of this study are in line with Sagita's research (2019) using the T-Test test. It was found that in testing the difference in vaginal discharge before and after treatment, the p-value (Asymp. Sig-tailed) was 0.00 or the significance value was < 0.05 significance level. H_0 is rejected or H_a is accepted, meaning that there is an effect of giving binahong leaf (*Bassela rubra* inn)

decoction to vaginal discharge. Other studies are also in line with betel leaf decoction for vaginal discharge. According to Baety et al., (2019) The results of pre and post-administration of boiled water betel leaf with the Wilcoxon test statistical test obtained p-value = 0.000, then $p < 0.05$). This shows that there is an effect of giving betel leaf boiled water to decrease the symptoms of pathological vaginal discharge at the Sorong Timur Health Center, Sorong City.

In the opinion of the researcher, basically pathological vaginal discharge can be reduced if it is supported by good behavior to maintain feminine hygiene. But the vaginal discharge can be reduced in a longer period of time and will definitely increase the feeling of discomfort in carrying out daily activities, so there is a need for other alternatives to overcome the vaginal discharge. Furthermore, in this study, it was seen that green betel leaf and binahong leaf were effective in reducing the symptoms of vaginal discharge that had been carried out for 2 weeks.

CONCLUSION

Based on the research that has been done on the Comparison Between Giving Decoction of Betel Leaves (*Piper betle* L.) and Binahong Leaves (*Anredera cordifolia*) on Leucorrhoea in Women of Childbearing Age that there is no difference in the effect of giving boiled betel leaf and decoction of Binahong leaves on vaginal discharge in women aged fertile in the Serua village area.

For clinical nurse It is hoped that it will provide information about fluor albus and make green betel leaf boiled water and binahong leaf stew as alternative that can be used to prevent the occurrence of fluor albus. you can use betel leaves and binahong leaves as non-pharmacological alternative to treat pathological flour albus.

REFERENCES

- Anggraini, E., & Wulandari, P. (2020). Effectiveness of Giving Betel Leaves in Overcoming Flour Albus Teenagers. *Proceedings of the International Conference on Nursing and Health Sciences*, 1.
- Aulia. (2012). *Serangan Penyakit-penyakit Khas Wanita Paling Sering Terjadi*. Yogyakarta: Buku Biru.
- Baety, D. N. (2019). Efektifitas Air Rebusan Daun Sirih Hijau dalam Mengatasi Keputihan Kelas XI SMA Muhammadiyah 1 Gombang. *ERECOL: Seri MIPA dan Kesehatan*.
- Bagus. (n.d.). Gambaran pengetahuan, sikap, dan perilaku tentang vaginal hygiene terhadap kejadian keputihan patologis pada siswi kelas 1 di SMA Negeri 1 Denpasar. doi:<https://doi.org/10.1556/ism.v10i1>.
- Dinkes Provinsi Banten. (2014). *Profil Kesehatan Provinsi Banten*. Tangerang: Dinas Kesehatan Provinsi Banten.
- Eny, K. (2012). *Kesehatan Reproduksi Remaja dan Wanita*. Jakarta: Salemba Medika.
- Etha. (2015). Pengaruh Pemberian Ekstrak Daun Binahong Dalam Air Minum Terhadap Performa Broiler. *Jurnal Peternakan Terpadu*.
- Etnis, B. R., & Maay, A. G. (2021). Pengaruh Rebusan Daun Sirih Hijau terhadap Penurunan Keputihan Patologis Wanita Usia Subur. *Jurnal Kesehatan*, 307-313.
- Firmanila, F., Dewi, Y.I., & Kristiani, D. (2016). Pengaruh Penggunaan Air Rebusan Daun Sirih Merah terhadap Keputihan pada Wanita Usia Subur (WUS) di Wilayah Kerja Puskesmas Rawat Inap Tenayan Raya. *Jurnal Ners Indonesia*.
- Fitria, L., Shahib, M. N., & Sastramihardja, H. (2020). Perbedaan Penurunan Jumlah Koloni Candida Albicans Antara Pemberian Cebokan Rebusan Biji Manjakani Dan Daun Sirih Merah Pada Wanita Usia Subur (WUS) Yang Mengalami Keputihan. *Jurnal Medikes*.

- Fuadi, S. (2014). *Efektivitas Ekstrak Daun Sirih Hijau (Piper betle L.) Terhadap Pertumbuhan Bakteri Streptococcus pyogenes*. Jakarta: UIN Syarif Hidayatullah.
- Garmana, A.N. (2019). *Kajian Mekanisme Kerja Daun Binahong Sebagai Anti Hipertensi*. Bandung: ITB.
- Harman, D.T.A. (2013). *Efektifitas Antibakteri Ekstrak Daun Sirih (Piper betle L) erhadap Bakteri Enterococcus faecali*. Makasar: Fakultas Kedokteran Gigi Universitas Hasanuddin.
- Intarina, H. (2014). *Sehat alami dengan herbal*. Jakarta: Gramedia Pustaka Utama.
- Irianto. (2014). *Biologi Reproduksi, Reproductive Biology*. Bandung: Alfabeta.
- Kemenkes, RI. (2017). *Pusat data infomasi Kementrian Kesehatan RI*. Jakarta: Kemenkes.
- Lusiana. (2020). *Fakta Tentang Binahong*. Retrieved from: <http://www.iiknutuban.ac.id/fakta-tentang-binahong/>
- Manuaba, I.A.C., Manuaba, I.B.G., & Manuaba, I.B. (2009). *Memahami Kesehatan Reproduksi Wanita Edisi 2*. Jakarta: EGC.
- Mubarak, W.I., Lilis, I., & Joko, S. (2015). *Buku Ajar Ilmu Keperawatan Dasar*. Jakarta: Salemba Medika.
- Murni, S. (2017). Skringing Fitokimia dan Uji Aktivitas Antibiotika Ekstrak Etanol Daun, Batang, Bunga, dan Umbi Tanaman Binahong. *Jurnal BBPMSOH*.
- Nikmah, U.S. (2018). Personal Hygiene Habits dan Kejadian Flour Albus Patologis pada Santriwati PP AL-Munawwir, Yogyakarta. *URNAL MKMI*, 14(1).
- Nlsa, J. (2014). Gambaran Pengetahuan Siswi Tentang Keputihan Di SMA Negeri 4 Tegal. *SIKLUS*, 2(1).
- Notoatmodjo, S. (2015). *Promosi Kesehatan Dan Perilaku Kesehatan*. Jakarta: Rineka Cipta.
- Nursalam. (2017). *Metodologi Penelitian Ilmu Keperawatan*. Jakarta: Salemba Medika.
- Passe, R., Sampara, N., & Lestari, A. (2021). Pengaruh Penggunaan Air Rebusan Daun Sirih Merah (Piper Crocatum) Terhadap Keputihan Pada Wanita Usi Subur (WUS) Di Wilayah Kerja Puskesmas Antang Perumnas Makassar. *Jurnal Antara Kebidanan*.
- Patria, A. (2014). Kadar hemoglobin dan jumlah eritrosit puyuh (*Coturnix coturnix japonica linn.*) setelah pemberian larutan kombinasi mikromineral (Cu, Fe, Zn, Co) dan vitamin (A, B1, B12, C) dalam air minum. *Buletin Anatomi Fisiologi*.
- Putri, Z. F. (2010). Uji Aktivitas Antibakteri Ekstrak Etanol Daun Sirih (*Piper betle L.*) Terhadap Propionibacterium acne dan Staphylococcus aureus Multiresisten. Surakarta: Universitas Muhammadiyah Surakarta.
- Saparinto. (2016). *Grow Your Own Medical Plant Panduan Praktis Menanam 51 Tanaman Obat Populer di Pekarangan*. Yogyakarta: Lily Publisher.
- Sari, W.K. (2012). *Identifikasi Faktor Penyebab Keputihan Pada Remaja Putri*. Jambi: Universitas Adiwangsa Jambi.
- Sugiyono. (2014). *Statistik Untuk Penelitian*. Bandung: Alfabeta.
- Susetya, D. (2012). *Khasiat dan Manfaat Daun Ajaib Binahong, Solusi Sehat dengan Daun Ajaib Binahong untuk Menangkal Berbagai Penyakit*. Jakarta: Pustaka Baru Press.
- WHO. (2016). *Medical Eligibility Criteria For Contraceptive Use*. Geneva: Departement of Reproduction and Research World Health Organization.
- Wijayanti, D. (2016). *Fakta Penting Sekitar Reproduksi Wanita*. Yogyakarta: Diglosa Printika.