

The Effect of Green Betel Leaf Decoction on Treating Vaginal Discharge in All Female Students at STIKes Al-Ma'arif Baturaja

Eichi Septiani

Bachelor of Public Health Study Program, Sekolah Tinggi Kesehatan Al-Ma'arif, South Sumatra, Indonesia

*Corresponding Author: eichiseptiani18@gmail.com

ABSTRAK

Article History:

Submitted : May 28, 2025

Revised : June 12, 2025

Accepted : June 26, 2025

Kata kunci:

Daun Sirih Hijau, Keputihan, Remaja

Pengaruh Rebusan Daun Sirih Hijau Dalam Mengatasi Keputihan Pada Seluruh Mahasiswa Yang Mengalami Keputihan Di STIKes Alma'arif Baturaja Tahun 2023. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh rebusan daun sirih hijau dalam mengatasi keputihan pada seluruh mahasiswa yang mengalami keputihan di STIKes Al-Ma'arif Baturaja Tahun 2023. Metode penelitian ini menggunakan Pretest - posttest terhadap 45 responden yang mengalami keputihan. Setelah 6 hari diobservasi gejala keputihannya berkurang atau tidak untuk kelompok intervensi. Uji statistik yang digunakan non parametik (uji wilcoxon). Ada perbedaan signifikan antara pre dan post-test sesudah diberikan intervensi air rebusan daun sirih hijau.

ABSTRACT

Kata kunci:

Green Betel Leaves, Vaginal Discharge, Teenagers

The effect of green betel leaf decoction in treating vaginal discharge in all students experiencing vaginal discharge at STIKes Al-Ma'arif Baturaja in 2023. The purpose of this study was to determine the effect of green betel leaf decoction in treating vaginal discharge in all students experiencing vaginal discharge at STIKes Al-Ma'arif Baturaja in 2023. This research method used a pretest-posttest on 45 respondents experiencing vaginal discharge. After 7 days of observation, the symptoms of vaginal discharge decreased or not for the intervention group. The statistical test used was non-parametric (Wilcoxon test). The significance value of the relationship between maternal age (LBW) was $p\text{-value} = 0.001$ ($\alpha < 0.005$), while the significance value of the relationship between parity and LBW was $p\text{-value} = 0.001$ ($\alpha < 0.005$). Furthermore, there was a relationship between maternal age, and there was no relationship between maternal parity and the incidence of low birth weight babies (LBW).

INTRODUCTION

Reproductive health begins with maintaining personal hygiene, including vaginal hygiene, which aims to keep the vagina clean, healthy, normal, and free from disease. One reproductive health issue among adolescents is vaginal discharge, or Flour Albus (Astuti dkk., 2018). Vaginal discharge, or flour albus, is a condition characterized by excess fluid coming from the vagina (Yuriah dkk., 2024). Vaginal discharge is divided into two types: normal (physiological) and abnormal (pathological) discharge (Oriza & Yulianty, 2018). Vaginal discharge is a condition often experienced by women throughout their life cycle, from adolescence through the reproductive years, to menopause (Baety dkk., 2019).

Vaginal discharge (leukorrhea, Flour Albus) is an early symptom of a disease characterized by the presence of fluid released from the genitals that is not blood (Sukanto dkk., 2018). The most

common symptom of vaginal discharge in gynecological patients is the presence of this symptom because the discharge stains their pants (Ruslan dkk., 2019). The World Health Organization (WHO) reported in 2018 (July 2022) that approximately 75% of women worldwide will experience vaginal discharge at least once in their lifetime, and 45% will experience it twice or more. Meanwhile, the prevalence of vaginal discharge in European women is 25%. Research in India shows a high prevalence of vaginal discharge (95%) among adolescent girls (Maysaroh & Mariza, 2021).

According to Awaliyah & Yuriah, (2025), green betel leaves are believed to have various health benefits. One of these is for vaginal discharge and maintaining vaginal hygiene. Betel leaves are known to contain a chemical compound called eugenol. This compound has antifungal properties. This compound can ward off the fungus *Candida albicans*, which is known to be one of the causes of vaginal discharge. In addition to its antifungal properties, betel leaves also have antibacterial properties. One such bacteria is called *Neisseria gonorrhoeae*. This antibacterial property is believed to be due to the polyphenol and flavonoid content in them. The results of research conducted by Kustanti, (2017) showed that the use of boiled green betel leaves is effective in reducing the incidence of vaginal discharge. Some of the contents contained in the essential oil from betel leaves are produced by volatile oils (betyephenol), sesquiterpenes, starch, diastase, sugar, tannins, and alcohol, which have anti-bacterial, antioxidant, fungicidal, and anti-fungal properties. The purpose of this study was to determine the effect of green betel leaf decoction in treating vaginal discharge in all students experiencing vaginal discharge at STIKes Al-Ma'arif, Baturaja in 2023.

METHOD

The type of research used is quantitative research with a pre-experimental design type one group pretest-posttest (initial test final test single group) namely research activities that provide an initial test (pretest) before being given treatment, after being given treatment then giving a final test (posttest). This research was conducted in December 2023 at STIKes Al-Ma'arif Baturaja. The sample in this study were all female students who experienced vaginal discharge at STIKes Al-Ma'arif Baturaja as many as 45 respondents 41 respondents experienced physiological vaginal discharge and 4 respondents experienced pathological vaginal discharge using the Simple Random Sampling technique. The instrument used in this study was a questionnaire sheet. And the analysis used was the Wilcoxon Signed Rank Test.

RESULTS AND DISCUSSION

RESULTS

Table 1. Vaginal discharge experienced by students at Al-Ma'arif Health College, Baturaja

| No | vaginal discharge | Frequency | % |
|---------------|-------------------|-----------|--------------|
| 1 | Physiological | 41 | 93.2 |
| 2 | Pathological | 4 | 6.8 |
| Amount | | 45 | 100.0 |

Based on Table 1, it can be seen that 41 respondents (93.2%) experienced physiological vaginal discharge, and 4 respondents (6.8%) experienced pathological vaginal discharge.

Table 2. Vaginal discharge experienced by students based on age characteristics in female students at Al-Ma'arif Health College, Baturaja

| Age | Boiled Betel Leaf Water | |
|--------------|-------------------------|------------|
| | (Case) | |
| | N | % |
| 23 | 1 | 2.23 |
| 22 | 2 | 4.45 |
| 21 | 1 | 2.22 |
| 20 | 11 | 24.44 |
| 19 | 13 | 28.88 |
| 18 | 16 | 35.55 |
| 17 | 1 | 2.23 |
| Total | 45 | 100 |

Based on Table 2, it shows that the respondents based on the most age were 18 years old, with 16 respondents (35.6%), and the lowest age was 23 years old, with 1 respondent (2.2%) and 21 years old, with 1 respondent (2.2%).

Table 3. Distribution of Respondents on the Effect of Giving Green Betel Leaf Boiled Water on Efforts to Reduce Symptoms of Vaginal Discharge in all female students who experienced vaginal discharge at STIKes Al-Ma'arif Baturaja

| Characteristics | Boiled betel leaf water (case) | |
|-----------------|--------------------------------|------------|
| | N | % |
| Pretest | | |
| Still | 45 | 100 |
| Decrease | 0 | 0 |
| Posttest | | |
| Still | 1 | 6.7 |
| Decrease | 44 | 93.3 |
| Total | 45 | 100 |

Table 3 shows the results of the pretest conducted on 45 respondents before the intervention, 100% of whom experienced vaginal discharge. Meanwhile, the results of the posttest conducted on respondents who were given boiled green betel leaf water showed a decrease in pathological vaginal discharge symptoms of 44 respondents (93.3%), and 1 respondent (6.7%) still experienced vaginal discharge.

Table 4. The Effect of Green Betel Leaf Decoction on Reducing Vaginal Discharge Symptoms to all female students who experience vaginal discharge at Al-Ma'arif Health College, Baturaja

| Giving Vaginal Discharge | Pathological | | Physiological | | <i>p-value (Asymp.Sig)</i> |
|--------------------------|--------------|-----|---------------|------|----------------------------|
| | (f) | % | (f) | % | |
| Before | 4 | 100 | 41 | 100 | 0.001 |
| After | 1 | 25 | 3 | 7.31 | |

From table 4. shows the results there were changes in vaginal discharge before the intervention was given, showing pathological vaginal discharge as many as 4 respondents (100%) and after the intervention was given the number of pathological vaginal discharge decreased to 20 respondents (80%). Changes in vaginal discharge before the intervention showed physiological

vaginal discharge as many as 41 respondents (100%) and after the intervention was given the number of physiological vaginal discharge decreased to 3 respondents (7.31%).

The results of *the Wilcoxon test analysis* of vaginal discharge in cases before and after being given green betel leaf boiled water showed a *p-value* = 0.001 which means ($p < 0.05$) so it can be concluded that there is an effect of green betel leaf boiled water on reducing the symptoms of vaginal discharge in female students who experienced vaginal discharge at STIKes Al-Ma'arif Baturaja .

DISCUSSION

The Effect of Green Betel Leaf Boiled Water in Overcoming Vaginal Discharge in All Female Students at Al Ma'Arif Health College, Baturaja in 2023 Based on table 1, it can be seen that the value of those who experienced vaginal discharge was 45 respondents, and those who experienced physiological vaginal discharge were 41 respondents, and those who often experienced pathological vaginal discharge were 4 respondents. Vaginal discharge is divided into two types, namely normal vaginal discharge (physiological), and abnormal vaginal discharge (pathological) (Oriza & Yulianty, 2018). Based on table 2, it shows that the respondents based on the most age were 18 years old, with 16 respondents (35.6%), and the lowest age was 23 years old, with 1 respondent (2.2%) and 21 years old, with 1 respondent (2.2%). Based on Table 3, it shows the results of the pretest of respondents conducted on 45 respondents before being given the intervention, as many as 100% experienced vaginal discharge. Meanwhile, the results of the posttest of respondents who had been conducted by giving boiled green betel leaf water to respondents who experienced a decrease in pathological vaginal discharge symptoms were 44 respondents (93.3%), and those who still had vaginal discharge were 1 respondent (6.7%). Based on Table 4, the results of the Wilcoxon test analysis of vaginal discharge in cases before and after being given green betel leaf boiled water show a *p-value* = 0.001 which means ($p < 0.05$) so it can be concluded that there is an effect of green betel leaf boiled water on reducing the symptoms of vaginal discharge in female students who experience vaginal discharge at STIKes Al-Ma'arif Baturaja.

Green betel leaves are believed to have various health benefits. One of these is for vaginal discharge and maintaining vaginal hygiene (Putra Pratama dkk., 2022). Betel leaves are known to contain a chemical compound called eugenol. This compound has antifungal properties. This compound can ward off *Candida albicans* fungus, which is known to be one of the causes of vaginal discharge. In addition to its antifungal properties, betel leaves also have antibacterial properties (Pradnyandari dkk., 2019). One such bacteria is called *Neisseria gonorrhoeae*. This antibacterial property is believed to be due to the polyphenol and flavonoid content in it. The results of research conducted by Kustanti, (2017) showed that the use of boiled green betel leaves is effective in reducing the incidence of vaginal discharge. Some of the contents contained in the essential oil from betel leaves are produced by volatile oils (betyephenol), sesquiterpenes, starch, diastase, sugar, tannins, and alcohol, which have anti-bacterial, antioxidant, fungicidal, and anti-fungal properties (Kusdiyah dkk., 2022).

In line with research conducted Baety dkk., (2019), there is a significant relationship in overcoming vaginal discharge if the water boiled green betel leaves that have been processed by rinsing the genital area for 6 days continuously in the morning and evening. This study showed that 94.1% experienced a decrease in fluor albus symptoms after administering the green betel leaf decoction. Based on research conducted by Maryanti & Wuryani, (2019) which was conducted to determine the antifungal activity of green betel leaves (*Piper betle* Linn.) against *Candida albicans* fungus. The type of research used in this study was an analytical experiment with a posttest only control group design. The samples in this study were green betel leaf extract (*Piper betle* Linn) with concentrations of 25%, 50%, 75%, 100%, fluconazole as a positive control, and distilled water as a negative control. The object of this study was a *Candida albicans* fungal culture. From this study, the results obtained that each concentration of green betel leaf extract (*Piper betle* L.) has a significant value which means that green betel leaf extract has antifungal activity against *Candida albicans* fungus. The diameter of the inhibition zone formed from the concentration of green betel leaf extract of 25%, 50%, 75%, and 100% respectively is 11.7 mm, 12.2 mm, 13.4 mm, and 13.8 mm which is

categorized as strong in inhibiting *Candida albicans* fungus, so it can be concluded that the concentration of green betel leaf extract (*Piper betle* L.) which is most active in inhibiting *Candida albicans* fungus is a concentration of 100%.

The effect of green betel leaf decoction can overcome vaginal discharge because green betel leaves have antibacterial properties. Betel leaves are known to contain a chemical compound called eugenol, this compound is anti-fungal, this compound can ward off the *Candida albicans* fungus which is known as one of the causes of vaginal discharge. By boiling green betel leaves then waiting until cool, wiping with boiled betel leaf water 2 times a day for 7 days can overcome vaginal discharge. In this study, the results of the Wilcoxon test analysis of vaginal discharge in cases before and after being given boiled green betel leaf water showed a p -value = 0.001 which means ($p < 0.05$) so it can be concluded that there is an effect of boiled green betel leaf water in overcoming vaginal discharge in all female students who experience vaginal discharge at STIKes Al-Ma'arif Baturaja. Based on Anderson's taxonomy which complements Bloom's taxonomy, the learning stages start from remembering, understanding, applying, analyzing, assessing, and creating. This is in line with the results of this study. Most of the 12th grade students of SMKS IP Yakin want the PIK-R program to be held at their school after receiving education about PIK-R. Not only that, they also want to play an active role in managing the PIK-R program to become peer educators (Ruslan dkk., 2019).

CONCLUSION

Based on the research in the previous chapters, the author draws several conclusions that there is a significant relationship between the Effect of Green Betel Leaf Boiled Water in Overcoming Vaginal Discharge in all Female Students at STIKes Al Ma'Arif Baturaja in 2023. This is proven by the results of statistical tests, namely a p value of 0.01.

Acknowledgments

I express my gratitude to Allah SWT, who has bestowed the most blessed grace and guidance, enabling me to complete this small work smoothly and according to my expectations. May my fellow students from the 2021 class of the Al-Ma'arif College of Midwifery, as we move towards success together. To my roommates, who have always supported me through thick and thin in the creation of this small work.

REFERENCES

- Astuti, H., Wiyono, J., & Candrawati, E. (2018). Hubungan Perilaku Vaginal Hygiene Dengan Kejadian Keputihan Pada Mahasiswi Di Asrama Putri Psik Unitri Malang. *Nursing News*, 3(1).
- Awaliyah, H. F., & Yuriah, S. (2025). Empowering families to support pregnant women to routinely consume iron-enriching tablets: Scoping review. *International Journal of Health Sciences*, 9(S1), 312–325. <https://doi.org/10.53730/ijhs.v9ns1.15719>
- Baety, D. N., Riyanti, E., & Astutiningrum, D. (2019). Efektifitas Air Rebusan Daun Sirih Hijau dalam Mengatasi Keputihan Kelas XI SMA Muhammadiyah 1 Gombong. *The 10th University Research Colloquium 2019*
- Kusdiyah, E., Darmawan, A., Aurora, W. I. D., & Irbah, M. (2022). Efektifitas Antimikroba Hand Sanitizer Berbahan Dasar Alami Piper betle L. DAN Aloe vera. *Jurnal Kesehatan Masyarakat Indonesia*, 17(3).
- Kustanti, C. (2017). Pengaruh Pemberian Air Rebusan Daun Sirih Hijau Terhadap Kejadian Keputihan. *Jurnal Keperawatan Notokusumo*, 5(1).
- Maryanti, S., & Wuryani, M. (2019). Persepsi dan Perilaku Remaja Putri dalam Mencegah Keputihan di SMK 1 Lambuya Kabupaten Konawe. *Jurnal SMART Kebidanan*, 6(2), 65. <https://doi.org/10.34310/sjkb.v6i2.267>
- Maysaroh, S., & Mariza, A. (2021). Pengetahuan Tentang Keputihan Pada Remaja Putri. *Jurnal Kebidanan Malahayati*, 7(1), 104–108. <https://doi.org/10.33024/jkm.v7i1.3582>

- Oriza, N., & Yulianty, R. (2018). Faktor yang Berhubungan dengan Kejadian Keputihan Pada Remaja Putri di SMA Darussalam Medan. *Jurnal Bidan Komunitas*, 1(3), 142. <https://doi.org/10.33085/jbk.v1i3.3954>
- Pradnyandari, I. A. C., Surya, I. G. N. H. W., & Aryana, M. B. D. (2019). Gambaran pengetahuan, sikap, dan perilaku tentang vaginal hygiene terhadap kejadian keputihan patologis pada siswi kelas 1 di SMA Negeri 1 Denpasar periode Juli 2018. *Intisari Sains Medis*, 10(1). <https://doi.org/10.15562/ism.v10i1.357>
- Putra Pratama, R. S., Dasuki, M. S., Agustina, T., & Soekiswati, S. (2022). ASI Eksklusif Sebagai Faktor Protektif Terhadap Kejadian Stunting Pada Balita 24-59 Bulan. *Jurnal Ilmiah Kesehatan Sandi Husada*, 11(1), 262–270. <https://doi.org/10.35816/jiskh.v11i1.748>
- Ruslan, H., Budiarti, L. Y., & Heriyani, F. (2019). Perbedaan Jumlah Bakteri Tangan Pada Siswa Sekolah Dasar Di Sekitar Bantaran Sungai Lulut Banjarmasin Berdasarkan Tehnik Mencuci Tangan. *Homeostasis*, 2(1).
- Sukamto, N. R., Yahya, Y. F., Handayani, D., & Liberty, I. A. (2018). Hubungan Pengetahuan, Sikap, Dan Perilaku Perawatan Vagina Terhadap Kejadian Keputihan Patologis Pada Mahasiswi Program Studi Pendidikan Dokter Fakultas Kedokteran Universitas Sriwijaya. *Majalah Kedokteran Sriwijaya*, 1(4).
- Yuriah, S., Ananti, Y., & Nurjayanti, D. (2024). Dynamics of the experience of sexual violence and its impact on girls in Ogan Komering Ulu Regency. *International Journal of Health Sciences*, 8(S1), 579–592. <https://doi.org/10.53730/ijhs.v8ns1.14860>