

Differences In The Effectiveness Of Green Belt Leaf Boiled Water And Soursop Leaves On Which White In Adolescent Girls At SMAN 4 Serang City, Banten, 2023

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Abstract.

In Indonesia, the problem most often experienced by young women is vaginal discharge. In medical circles, vaginal discharge is known as leukorrhea or fluor albus, which is a discharge from the vagina. Vaginal discharge is a candida fungal infection in female genitalia and is caused by organisms such as yeast, namely candida albicans. Under normal circumstances, the vagina produces fluid that is clear, odorless, colorless, not excessive in quantity and not accompanied by itching. Vaginal discharge is the most common complaint found in women. Vaginal discharge can occur in normal circumstances (physiological), but can also be a symptom of a disorder that must be treated (pathological). The research used was a Quasy Experiment type of research to determine the difference in the effectiveness of giving boiled water from green betel leaves and soursop leaves on vaginal discharge in young women at SMA Negeri 4 Serang Banten with a Two Group Pretest - Posttest research design. Respondents were divided into 2 groups, namely the betel leaf group and the soursop leaf group, each group numbering 45 people. With univariate and bivariate analysis. With the results of the Wilcoxon test, which obtained a significance value of 0.001 ($p < 0.05$), it can be concluded "there is a significant difference in the effect of boiled green betel leaf water on vaginal discharge" and the results of the Wilcoxon test obtained a significance value of 0.000 ($p < 0.05$), it can be concluded "there is a significant difference in the effect of boiled soursop water on vaginal discharge".

Keywords: Green betel leaf decoction, soursop leaf decoction and vaginal discharge.

I. INTRODUCTION

Adolescence begins at the age of 10-19 years, transitioning between childhood and adulthood until entering the early stages of puberty when the reproductive system reaches maturity. (Rosyida., 2020). According to (WHO) in 2018, of the 6.7 billion women in the world, around 75% will experience vaginal discharge at least once in their lifetime, and as many as 45% will experience it twice or more, while women in Europe experience vaginal discharge as many as 25 % (Anggraini, 2018). Based on the Minister of Health's 2017 regulations, the number of adolescent population in Indonesia in 2017 was around 66,629,381. The population of female teenagers is 32,616,231 or around 12.5% of the entire population of Indonesia (Ministry of Health of the Republic of Indonesia, 2018). BBKN said that in 2020, the population of female teenagers aged 10-24 years would be around 32.6 million. According to BPS Central Java, in 2020, there were 4.1 million young women aged 10-24 years. In Indonesia alone, around 90% of women have the potential to experience vaginal discharge and as many as 60% are experienced by young women. Adolescent girls who practice poor vulva hygiene will experience abnormal vaginal discharge. In Indonesia, the problem most often experienced by young women is vaginal discharge. In medical circles, vaginal discharge is known as leukorrhea or fluor albus, which is a discharge from the vagina. Vaginal discharge is a candida fungal infection in female genitalia and is caused by organisms such as yeast, namely candida albicans. Under normal circumstances, the vagina produces fluid that is clear, odorless, colorless, not excessive in quantity and not accompanied by itching.

Vaginal discharge is the most common complaint found in women. Vaginal discharge can occur in normal circumstances (physiological), but can also be a symptom of an disorder that must be treated (pathological) (Clayton, 2018). Based on research conducted (Ninsah et al., 2023) there are several factors that cause vaginal discharge among teenagers, one of which is the result of incorrect personal hygiene and

the use of moist internal genitals, which causes teenagers to experience vaginal discharge, even resulting in vaginal discharge that smells and changes color. However, many women in Indonesia consider vaginal discharge to be normal and nothing to worry about. In fact, vaginal discharge is an early symptom of more serious diseases such as vaginal candidiasis, gonorrhoea, chlamydia and can cause infertility. Vaginal discharge is also an early symptom of cervical cancer which can lead to death if it is not treated immediately. Pathological vaginal discharge is more at risk in adolescent girls than in adult women. Research conducted by Nikmah (2018) on female students at PP Al-Munawwir reported that 52% of female students had poor personal genital hygiene behavior and as many as 75.5% of female students experienced pathological vaginal discharge. Factors that cause vaginal discharge in teenagers are due to the lack of knowledge of teenagers about genital hygiene. According to research conducted by (Nursini., 2022), green betel leaves contain the active chemical compounds paphenol, alkaloids, steroids, saponins and tannins. Green betel leaves function as an antiseptic and anti-Vaginal Bacteria (BV), having an inhibitory effect on bacterial growth.

Research results (Nursini., 2022), have proven that green betel leaves used by cutting them can cure vaginal discharge because green betel leaves contain polyphenol compounds which can kill bacteria that cause vaginal discharge, while tannin compounds can reduce excess fluid in the vaginal canal. Processing green betel leaves by drinking them can help reduce the risk of cancer, therefore crushed green betel leaves help reduce vaginal discharge. Based on research conducted by (Hidayati, 2020), soursop leaves contain flavonoids. The mechanism of action of the flavonoids itself is to disrupt the process of food diffusion into cells so that fungal growth stops or the fungus dies. Other ingredients in soursop leaves include polyphenolic compounds, steroids, alkaloids, and tannins which have anti-bacterial properties and can inhibit the growth of vaginal bacteria (BV). The results of research proven by (Hidayati, 2020), that soursop leaves used by cutting them can help reduce vaginal discharge. Based on research conducted by (Kustanti., 2018), green betel leaves contain essential oils produced by sesquiterpene oils, starch, diastase, sugar and tannins which can kill germs, are anti-oxidants and fungicides and are anti-fungal. The results of the research that has been carried out show that the use of boiled water from green betel leaves is effective in reducing the incidence of vaginal discharge. Research conducted by (Sampara et al., 2021), soursop leaves contain the compounds acetogenesis, asimisin, rondeasin, and squamosin contain antiseptic substances that can kill germs, the phenolic content and ethanol extract in soursop leaves can inhibit the growth of *Candida albicans*, and it has been proven that soursop leaves are effective in reducing vaginal discharge. From research conducted (Deasastri., 2020) it is known that the results of Univariate Analysis found that young women who experienced vaginal discharge in Bojong Jaya Village in 2020 can be concluded that of the 66 respondents, 57 people experienced vaginal discharge (86.36%), while those who did not 9 people (13.63%) had experienced vaginal discharge, it can be said that respondents experienced vaginal discharge more than respondents who did not experience vaginal discharge.

Research (Ratna., 2020) states that the essential oil content in green betel leaves functions to kill germs, eliminate body odor, cure digestive tract disorders, and also heal wounds on the skin. The flavonoid compounds in green betel leaves function as antioxidants, anti-inflammatory and anti-bacterial and the tannins in green betel leaves function as anti-diarrhea, antiseptic and anti-fungal. This is confirmed by research (Hidayati, Hanifah and Hastiyani, 2020) which states that soursop leaves contain anti-bacterial properties and contain steroid, alkaloid, flavonoid and tannin compounds which can inhibit the growth of *E. Coli*, *Proteus vulgaris*, *Salmonella typhimurium*, *Klebsiella* bacteria, *Candida albicans*, and it has been proven that soursop leaves are effective in reducing vaginal discharge. From the results of this research, it was proven that boiled water from green betel leaves and boiled water from soursop leaves were proven to be effective in reducing vaginal discharge in teenagers. A preliminary study was conducted by researchers on teenagers at SMAN 4, Serang City, from 15 female students, 35% of teenage girls who had used boiled water from green betel leaves to prevent vaginal discharge and 20% who had used boiled water from soursop leaves to prevent vaginal discharge. Researchers also conducted a study on the differences in the effectiveness of boiled water from green betel leaves and soursop leaves on vaginal discharge in young women at SMAN 4, Serang City, Banten by administering a questionnaire about the effectiveness of boiled water from green betel leaves and soursop leaves on reducing vaginal discharge. So, based on the

background description above, the author is interested in conducting research "The effectiveness of boiled water from green betel leaves and soursop leaves on vaginal discharge in young women at SMAN 4, Serang City, Banten".

II. METHODS

The research used was a Quasy Experiment type of research to determine the difference in the effectiveness of giving boiled water from green betel leaves and soursop leaves on vaginal discharge in young women at SMA Negeri 4 Serang Banten with a Two Group Pretest - Posttest research design. The design was carried out on two different groups which were evaluated using a questionnaire sheet. With a sample of 90 respondents. Respondents were divided into 2 groups, namely the betel leaf group and the soursop leaf group, each group numbering 45 people. Data collection was carried out using primary data, namely data obtained directly from respondents through interviews and filling out questionnaires.

By first providing a brief explanation about the questionnaire, how to fill out the questionnaire and asking respondents if there are things they do not understand, the questionnaire is given to respondents according to the inquiry (Notoadmojo, 2018). By using univariate analysis and bivariate analysis. Data collection was carried out using primary data, namely data obtained directly from respondents through interviews and filling out questionnaires. By first providing a brief explanation about the questionnaire, how to fill out the questionnaire and asking respondents if there are things they do not understand, the questionnaire is given to respondents according to the inquiry (Notoadmojo, 2018). By using univariate analysis and bivariate analysis.

III. RESULTS AND DISCUSSION

A. Univariate Analysis

1) Respondent Characteristics

Respondent characteristics are defined as characteristics inherent in research subjects that differentiate one subject from another and provide an overview of the characteristics of the subject as the target of the research.

Table 3.1. Frequency Distribution of Respondent Characteristics

Characteristics	F	%
Age		
14 - 15 years	64	64,4
16 - 18 years	36	25,6
TOTAL	90	100

Source: Respondent data in Kasemen Village, Serang City.

Table 3.1 shows that of the 90 respondents, those aged 14 - 15 years were 64 respondents (64.4%), and 16 - 18 years old were 36 respondents (25.6%).

2) Level of Vaginal Discharge

Table 3.2. Level of Vaginal Discharge

Variable	F	%
Green Betel Leaf Boiled Water Before		
Yes	39	86,7
No	6	13,3
TOTAL	45	100
After		
Yes	9	20,0
No	36	80,0
TOTAL	45	100
Soursop Leaf Boiled Water Before		
Yes	27	60,0
No	18	40,0

TOTAL	45	100
After		
Yes	11	21,4
No	34	78,6
TOTAL	45	100

Table 3.2 shows 90 respondents, divided into 2 groups. One group used water boiled with green betel leaves and another group used water boiled with soursop leaves. Each group consisted of 45 respondents. Of the 45 respondents who used boiled green betel leaf water, it was shown that those who experienced vaginal discharge before using it were 39 respondents (86.7%) and those who did not experience vaginal discharge were 6 respondents (13.3%). After using boiled water, green betel leaves experienced a decrease in vaginal discharge. The number of respondents who experienced vaginal discharge after using boiled water was 9 respondents (20%) and those who did not experience vaginal discharge were 36 respondents (80%). For respondents who before using soursop leaf boiled water experienced vaginal discharge, there were 27 respondents (60%), and those who did not experience vaginal discharge were 18 respondents (40%). After using boiled ginger water, 11 respondents (21.4%) experienced vaginal discharge, and 34 respondents (78.6%) did not experience vaginal discharge.

B. Bivariate Analysis

1) Difference in Mean Vaginal Discharge Score After and Before Using Green Betel Leaf Boiled Water

The analysis used to differentiate the average vaginal discharge score before and after using boiled green betel leaf water was the Wilcoxon test.

Table 3.3. Difference in Mean Vaginal Discharge Score After and Before Using Green Betel Leaf Boiled Water

Intervention	N	Mean	STD Deviasi	MIN-MAX
Score Vaginal discharge Pres - test	45	24,429	18,735	6 – 39
Score Vaginal discharge Post-test	45	21,918	17,407	9 – 36

Table 3.3 shows the difference in the mean vaginal discharge scores of respondents in the pre-test and post-test using boiled green betel leaf water. The pre-test vaginal discharge score using green betel leaf boiled water had a mean value of 24.429 and then decreased after intervention with the mean value of the post-test vaginal discharge score using green betel leaf boiled water was 21.918. Thus it can be concluded that there is a decrease in the level of vaginal discharge before and after using boiled green betel leaf water.

2) The effect of boiled green betel leaf water on vaginal discharge

Table 3.4. The Effect of Green Betel Leaf Boiled Water on Vaginal Discharge

Score Vaginal discharge Pre Test - Post Test	
Z	157 ^b
Asymp Sig (2-tailed)	0,001

Table 3.4 shows the effect of boiled water from green betel leaves on vaginal discharge using the Wilcoxon test analysis, namely a significance value of 0.001 ($p < 0.05$), it can be concluded that "there is a significant difference in the effect of boiled water from green betel leaves on vaginal discharge." The results of this research are strengthened by research by Kustanti (2017) which states that giving boiled water from green betel leaves to adolescent girls is effective in reducing the incidence of vaginal discharge. Aisyah (2022) added that green betel leaves and soursop leaves have an effect on healing vaginal discharge. There is no difference in the effectiveness of boiled water from green betel leaves and soursop leaves against vaginal discharge.

3) Difference in Mean Vaginal Discharge Score After and Before Using Soursop Leaf Water

The analysis used to differentiate the average vaginal discharge score before and after using soursop leaf boiled water was the Wilcoxon test.

Table 3.5. Difference in Mean Vaginal Discharge Score After and Before Using Soursop Leaf Boiled Water

Intervention	N	Mean	STD Deviasi	MIN-MAX
Score Vaginal discharge Pres - test	45	20,353		18 – 27
			17,349	
Score Vaginal discharge Post-test	45	13,747	13,747	11 – 34

Table 3.5 shows the difference in the mean vaginal discharge scores of respondents in the pre-test and post-test using boiled water from soursop leaves. The pre-test vaginal discharge score using soursop leaf boiled water had a mean value of 20.353 and then decreased after intervention with the mean value of the post-test vaginal discharge score using soursop leaf boiled water was 13.747. Thus it can be concluded that there is a decrease in the level of vaginal discharge before and after using boiled water from soursop leaves.

4) The effect of boiled soursop leaf water on vaginal discharge

Table 3.6. The Effect of Soursop Leaf Boiled Water on Vaginal Discharge

	Score Vaginal discharge Pre Test - Post Test
Z	431 ^b
Asymp Sig (2-tailed)	0,000

Table 3.6 shows the effect of boiled water from soursop leaves on vaginal discharge using the Wilcoxon test analysis, namely a significance value of 0.000 ($p < 0.05$), it can be concluded "there is a significant difference in the effect of boiled water from soursop leaves on vaginal discharge." This is confirmed by the results of research by Sampara et al (2021) with research results that soursop leaves are effective in treating vaginal discharge. Ekasari et al (2017) also emphasized that women of childbearing age can overcome the problem of pathological vaginal discharge without using chemical drugs, but with a decoction of soursop leaves. Novia et al (2022) also added that soursop leaf decoction is effective against vaginal discharge in fertile women.

5) Comparison of the Effects of Green Betel Leaf Boiled Water and Soursop Leaf Boiled Water on Vaginal Discharge

Table 3.7. Comparison of the Effects of Boiled Water from Green Betel Leaves and Ginger Boiled Water Against Vaginal Discharge

DATA	N	PRES TEST	POST TEST	Sig. (1-tailed)
Green Betel Leaf Boiled Water	45	24,429	21,918	2,00
Soursop Leaf Boiled Water	45	20,353	13,747	4,00

From table 3.7 it can be seen that the comparison of the effects of boiled green betel leaf water reduces vaginal discharge by 2 times and soursop leaf boiled water reduces vaginal discharge by 4 times. So the comparison of the effect of boiled green betel leaf water and soursop leaf boiled water on vaginal discharge is 2 to 4 (2 : 4). Aisyah (2022) strengthens this research with the results that green betel leaves and soursop leaves have an effect on healing vaginal discharge. There is no difference in the effectiveness of boiled water from green betel leaves and soursop leaves against vaginal discharge. Fatmawati et al (2023) also added that betel leaves and soursop leaves can be an alternative medicine for vaginal discharge in women of childbearing age. On the basis of the description above, the researchers assume that green citrih

leaf decoction and soursop leaf decoction are alternative and non-chemical medicines for vaginal discharge. For this reason, knowledge and information about the benefits of betel leaves and soursop leaves must be disseminated widely by health workers, especially midwives. Dissemination of this information is very useful for women of childbearing age. By providing information and knowledge about the benefits of betel leaves and soursop leaves, we can prevent vaginal discharge in young women who have just had their first menstruation.

IV. CONCLUSION

From the results of the discussion in the previous chapter, it can be concluded:

1. The effect of boiled green betel leaf water on vaginal discharge using the Wilcoxon test analysis, namely a significance value of 0.001 ($p < 0.05$), it can be concluded that "there is a significant difference in the effect of boiled green betel leaf water on vaginal discharge."
2. The effect of boiled water from soursop leaves on vaginal discharge using the Wilcoxon test analysis, namely a significance value of 0.000 ($p < 0.05$), it can be concluded that "there is a significant difference in the effect of boiled water from soursop leaves on vaginal discharge."
3. Comparison of the effect between boiled water from green betel leaves reducing vaginal discharge by 2 times and boiled water from soursop leaves reducing vaginal discharge by 4 times. So the comparison of the effect of boiled green betel leaf water and soursop leaf boiled water on vaginal discharge is 2 to 4 (2 : 4).

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