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THE EFFECTIVINESS OF SOURSOP (ANNONA MURICATAL) LEAVES DECORTION WATER ON THE LEUCORRHEA

Santi Yulianti, Vivi Silawati, Febry Mutiariami Dahlan, Putri Azzahroh*
Faculty of Health Sciences, Universitas Nasional, Jl. Sawo Manila No.61, Pejaten Barat, Ps. Minggu, Jakarta Selatan, Jakarta 12520, Indonesia
*Putriazzahroh@civitas.unas.ac.id

ABSTRACT

Garut Regency in 2021, women who experienced vaginal discharge were 318,976 or 29.73%. The high number of cases of vaginal discharge in women of childbearing age and the frequent occurrence of less serious treatment when vaginal discharge occurs are of particular concern among women. One way that can be done to treat vaginal discharge is to use a decoction of soursop leaves because they contain antiseptic substances that can kill germs, namely phenol, which has antiseptic properties 5 times more effective than ordinary phenol. Objective: To determine the effectiveness of soursop leaf decoction (Annona muricata L) on vaginal discharge in women of childbearing age in the Karangmulya Health Center Working Area, Garut Regency. Methodology: This study used a quasi-experimental pre-test-post-test with control design. The population in the study were all those who experienced leucorrhea with a score of >5 or 50 people. The sample in the study used total sampling which was divided into two groups, 25 respondents in the experimental group and 25 respondents in the control group. The instruments used were observation sheets and technical instructions about the use of soursop leaf decoction. Data analysis used the Wilcoxon and Mann Whitney tests. Results: The average score of vaginal discharge in the experimental group before the intervention was 10.32 and after the intervention was 6.84, while the average score in the control group in the first measurement was 10.36 and in the second measurement was 9.04. The bivariate results showed a p-value in the experimental group of 0.000, a p-value in the control group of 0.000 and a p-value comparison of the experimental and control groups of 0.000. Conclusion: Soursop leaf decoction has been proven effective in treating vaginal discharge in women of childbearing age, so there is a difference in vaginal discharge experienced by women of childbearing age after being given soursop leaf decoction between the experimental and control groups. Suggestion: It is hoped that women of childbearing age can handle or treat vaginal discharge independently by using soursop leaf decoction.

Keywords: soursop leaf decoction; vaginal discharge; women of childbearing age

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INTRODUCTION

Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity in all matters relating to the reproductive system and its functions and processes. Caring for the reproductive organs is essential to avoid disorders such as urinary tract infections, reproductive tract infections, scabies, cervical cancer and vaginal discharge. One of the reproductive health problems often experienced by women is vaginal discharge. In fact, vaginal discharge can often be disturbing and cause discomfort in carrying out daily activities. Vaginal discharge is often found in women of childbearing age who pay less attention to cleanliness and care of the genital area (Sebayang, 2018). Vaginal discharge is a secretion or fluid that comes out other than excessive blood from the vagina (Suwanti, 2016).Globally, based on data from the World Health Organization (WHO) in Ardayani (2022), the prevalence of women in the world who have experienced vaginal discharge is 75%. Meanwhile, the incidence of vaginal discharge experienced by women in Europe is only 25% (Bahari, H 2012). Still based on data obtained from WHO in 2021 in Wijayanti (2022) stated that the prevalence rate of women in Indonesia who

experience vaginal discharge is 75% with vaginal discharge occurring at least once in their life (Wijayanti, 2022).

Based on the annual report of the Health Service in West Java, 27,60% of 11.36 million women experienced fluor albus and the majority of those who experienced vaginal discharge were teenagers and women of childbearing age aged 10-24 years (Trisnawati, 2021). Based on the annual report of Garut Regency in 2021, 318.976 women or 29,73% experienced vaginal discharge (Garut Regency Health Service, 2021).Vaginal discharge can occur normally (physiologically) or abnormally (pathologically). In physiological conditions, the vagina produces a lot of fluid, as long as the discharge is odorless and does not itch, it indicates normal fluor albus, and usually this physiological fluor albus occurs before and after menstruation. In pathological conditions, the fluid contains a lot of leukocytes (white blood cells). Usually the fluid that comes out is yellow, green or grayish, thicker and smells fishy or rotten, in large quantities and causes a burning sensation in the intimate area (Muftadiyah, 2022).

The cause of vaginal discharge is common in Indonesia, one of which is because the area in Indonesia has a tropical climate so that fungi, viruses, and bacteria can easily grow and develop which results in bacterial vaginosis. Other causes of leucorrhea are hormonal imbalance, stress, chronic fatigue, inflammation of the genitals, strange objects in the vagina, and diseases in the reproductive organs such as cervical cancer (Fadilla et al., 2012). According to Trisnawati 2021, factors causing vaginal discharge can be caused by unhygienic behavior such as unclean washing water, underwear that does not absorb sweat, and use of poor quality sanitary napkins (Trisnawati, 2021).According to Swetha Venugopal's research (2017) in Epidemiology and clinico-investigative study of organisms causing vaginal discharge. It is known that out of 100 patients examined, 77 women (77%) were positive cases of organisms. Among the positive cases, BV (27%) was the most common microbiological cause of vaginal discharge, followed by trichomoniasis (25%), vaginal candidiasis (22%), combined infection (Candida and BV) (3%), and nonspecific cases (23%) (Venugopal, S et al., 2017).

The impact of vaginal discharge that is not handled properly can cause psychological disorders to physical disorders. Short-term impacts usually when vaginal discharge occurs can cause itching that makes a person feel uncomfortable which can later cause infection due to scratching behavior to relieve itching besides that there are also psychological disorders due to fluor albus which will cause excessive anxiety and make a person become unconfident in carrying out activities. Long-term impacts can cause infertility and ectopic pregnancy. Early symptoms of uterine cancer usually also begin with vaginal discharge. In addition, it can cause physical problems such as infertility, endometritis, pelvic inflammatory disease, chlamydia and salpingitis (Darmala, 2018).Pharmacological treatment of vaginal discharge depends on the cause of the fungal, bacterial or parasitic infection. Generally, drugs are given to treat complaints and stop the infection process according to the cause. Drugs used to treat vaginal discharge usually come from the fluconazole group to treat candida infections and the metronidazole group to treat bacterial and parasitic infections such as Acyclovir, Podoflin 25%, antiseptic solutions are used to rinse vaginal discharge that comes out of the vagina (Sampara, 2021 ; Suwanti, 2016).

In addition to modern treatment methods, there are also other ways that can be done to treat vaginal discharge, which is using traditional methods using soursop leaf decoction. Soursop leaves are very easy to obtain because there are many soursop trees in the yard or in residents' gardens. The use of soursop leaves which are believed to be traditional medicine has actually

been used frequently by the community in the Karangmulya Health Center area because it is like treating high blood pressure, gout and cholesterol by boiling and drinking the water. People consume without knowing the content in soursop leaves, only hearing from other people about its benefits. However, for external use, there are not many found such as for treating vaginal discharge or treating external wounds.Soursop leaves contain tannin compounds, phytosterols, calcium oxalate and murisine alkaloids which are classified as phenol compounds so that they can cause denaturation of membrane proteins and can penetrate the nucleus which causes damage to the nuclear protein which continues to cause cell death. Tannins in these leaves are thought to be effective in killing candida albicans fungi which cause leukorrhea (Rustanti E, 2020).

Apinen oil, attire, cineol, apinen limonene and dipentene contain acetogenin compounds, asimisin bulatasin and squamosin which in high concentrations have the advantage of being anti-feedent and contain annonaceous acetogenins which are capable of killing cancer cells 10,000 times more than adriamycin which is commonly used for chemotherapy. Soursop leaf decoction extract can be an alternative treatment for leukorrhea in women because it contains antiseptic substances that can kill germs, namely phenol, which has antiseptic properties 5 times more effective than ordinary phenol. To treat vaginal discharge, boil 10 grams of soursop leaves in 500 cc of water, then the still warm decoction is used to wash the vagina (Rustanti E, 2020).Research conducted by Rustanti and Fatmawati (2020) showed that there was a statistically significant effect after vaginal douching on hormonal contraceptive acceptors who experienced leukorrhea. Boiled soursop leaf extract (Annona muricata L) can be an effective alternative medicine to treat vaginal discharge in women.

A preliminary study conducted in the Karangmulya Health Center Working Area, Karangpawitan District, Garut Regency on May 14, 2023, on 8 women of childbearing age who visited said that they had experienced vaginal discharge, and 5 of them were currently experiencing it and complained that their vaginal discharge felt disturbing because it felt like a lot so that their underwear often got wet. Based on the results of interviews regarding the use of soursop leaves to treat vaginal discharge, all WUS said they had never used and did not know the benefits of soursop leaves to treat vaginal discharge.Considering the large number of women of childbearing age experiencing vaginal discharge and the frequent occurrence of unserious treatment when vaginal discharge occurs, it is a special concern among women. This is due to the lack of information obtained by women of childbearing age regarding the importance of handling and preventing vaginal discharge.Based on the description above, the author is interested in knowing more about the treatment of vaginal discharge in a non-pharmacological way using soursop leaf decoction, so the author is interested in researching the effectiveness of soursop leaf decoction (Annona muricata L) on vaginal discharge in women of childbearing age in the Karangmulya Health Center Work Area, Garut Regency in 2023.

METHOD

This type of research is a quasi-experimental research with pre-test-post-test with control design. This research is divided into two groups, namely the control group and the experimental group. In the experimental group, vaginal discharge observations will be carried out and interventions using soursop leaf decoction will be given and will then be re-observed according to the research period. While in the control group, vaginal discharge observations will be carried out and will not be given soursop leaf decoction intervention and will then be re-observed according to the research period. The sample in this study were all women of childbearing age who experienced vaginal discharge with a score of more than 5 in the Karangmulya Health Center Working Area, Garut Regency in July 2023, as many as 50

people and divided into two groups with a ratio of 1: 1, 25 people in the experimental group and 25 people in the control group. Data analysis using the Wilcoxon and Mann Whitney tests.

RESULT

Table 1.
Average Score of Vaginal Discharge in Women Given Soursop Leaf Boiled Water

	Experimental Group					
	N	Min	Max	Mean	SD	Mean Difference
Pre-Test	25	8	12	10,32	1,215	3,48
Post-Test	25	6	9	6,84	0,898	

Table 2.
Average Score of Vaginal Discharge in the Control Group

	Control Group					
	N	Min	Max	Mean	SD	Mean Difference
Pre-Test	25	7	13	10,36	1,630	1,32
Post-Test	25	6	11	9,04	1,791	

Table 3.
Normality Test Results

Result	Experimental Group		Control Group		Explanation
	N	*P-Value*	N	*P-Value*	
Pre-Tes	25	0,022	25	0,037	Abnormal
Post-Tes	25	0,000	25	0,000	Abnormal

Table 4.
Effectiveness of Soursop Leaf Decoction (Annona muricata L) on Vaginal Discharge in Women of Childbearing Age

	Experimental Group				
	N	Mean	Std. Dev	Mean Difference	*P-Value*
Pre-Test	25	10,32	1,215	3,48	0,000
Post-Test	25	6,84	0,898		

Table 5.
Effectiveness of Soursop Leaf Decoction (Annona muricata L) on Vaginal Discharge in the Control Group

	Control Group				
	N	Mean	Std. Dev	Mean Difference	*P-Value*
Pre-Test	25	10,36	1,630	1,32	0,009
Post-Test	25	9,04	1,791		

Table 6.
Differences in Vaginal Discharge Experienced by Women of Childbearing Age After Being Given Intervention Between the Experimental Group and the Control Group

Group	*Post-Test*		*P-Value*	*N*
	Mean	Std. Dev		
Experimental	6,84	0,898	0,000	50

DISCUSSION

Effectiveness of Soursop Leaf Decoction (Annona muricata L) on Vaginal Discharge in the Experimental Group

Based on the research results, a p-value of 0.000 was obtained, meaning <0.05 with an average score of vaginal discharge before being given soursop leaf decoction of 10.32 and an average score of vaginal discharge after being given soursop leaf decoction of 6.84, so it can be said that giving soursop leaf decoction has been proven effective in treating vaginal discharge in women of childbearing age.The emergence of fluor albus in addition to the

presence of fungus that occurs in adolescents can also be caused by a lack of care for the cleanliness of female organs which can cause the Candida Albican fungus to grow. In relation to this, it is possible that bad things may occur in women of childbearing age, so it can be seen from the use of soursop leaves (Annona Muricata. L) which are effective in treating vaginal discharge in women of childbearing age (Sampara, 2021).Soursop (Annona muricata L) can be an alternative medicine for fungal infections caused by candida albicans. Soursop leaves also have many uses, including as antibacterial, antifungal, antitumor, anticonvulsant, sedative, antiparasitic, and cardiodepressant. Soursop leaves contain alkaloids, polyphenols, terpenes, acetogenins, flavonoids and lectins and terpenoids (Rohadi, 2016). The mechanism action of terpenoid compounds in inhibiting fungal growth is damage to the cell membrane by the active antifungal substance. Damage to the cell membrane will disrupt the integrity of cellular components and cause the fungal respiration process not to occur. Ultimately resulting in insufficient energy for active transport of nutrients so that fungal growth is disrupted.

The mechanism of phenol as an antibacterial agent acts as a toxin in protoplasm, damaging and penetrating the walls and precipitating bacterial cell proteins. Large molecular phenolic compounds are able to inactivate essential enzymes in bacterial cells even in a very low concentrations. Phenol can cause damage to bacterial cells, protein denaturation, inactivate enzymes and cause leakage. Previous research results related to soursop leaves by Putri MR, (2021) on the effect of giving soursop leaf extract on the occurrence of vaginal discharge in women of childbearing age. Soursop leaves, in addition to being used as alternative medicines, can also be used as a way to prevent excessive vaginal discharge because soursop leaves contain ingredients (substances) that have benefits that can eradicate the causes of vaginal discharge. The results of this study are in line with research conducted by Novia (2022) regarding the Effectiveness of Using Soursop Leaves on Vaginal Discharge in Women of Childbearing Age in Belambangan Village, South Lampung Regency in 2022. From the results of the study, it can be concluded that there is an effectiveness of soursop leaf decoction on vaginal discharge in women of childbearing age in Belambangan Village, South Lampung Regency. In line with the results of research conducted by Rustanti and Fatmawati (2020) stated that soursop leaf decoction (Annona muricata L) based on statistical test results was significant with a P value <0.001 and 70% effective can be used as an alternative to cure vaginal discharge in women.

Researchers assume that when conducting research on women of childbearing age who were respondents in the intervention group, they were very enthusiastic because almost all women of childbearing age had just learned about the benefits of soursop leaf decoction which can treat vaginal discharge and they really wanted their vaginal discharge to be cured, so that awareness arose and they were willing to follow the procedure to the end. Soursop leaf decoction can be used to treat vaginal discharge in women because it contains antiseptic substances that can kill germs, especially phenol. In addition, success in curing vaginal discharge is also supported by good personal hygiene and changing underwear at least 3 times a day.

Effectiveness of Vaginal Discharge Treatment on Vaginal Discharge in the Control Group

Based on the research results, a p-value of 0.009 was obtained, meaning <0.05 with an average vaginal discharge score during the first observation of 10.36 and an average vaginal discharge score during the second observation of 9.04, so it can be said that there is a difference in vaginal discharge scores between the first and second observations.Vaginal discharge is often associated with the acidity level of the area around the vagina, because

vaginal discharge can occur due to an unbalanced vaginal pH. Classification of vaginal discharge is divided into 3, which are mild with characteristics of a small volume of fluid, clear color, no itching, no odor, change underwear 3x a day; moderate with characteristics of moderate fluid volume, white color, slightly itchy, slightly smelly, change underwear 3x a day; severe with characteristics of large fluid volume, greenish yellow color, itching, smelly, change underwear >3x a day. A value of 1-5 is classified as mild vaginal discharge, a value of 6-10 is classified as moderate vaginal discharge and a value of 11-15 is classified as severe vaginal discharge (Safitri, 2020).

How to handle and prevent vaginal discharge according to Anggaraini (2016) in Munaaya (2021) is to keep intimate organs from being damp after urinating or defecating, rinse thoroughly, then dry before wearing underwear; When cleaning the vagina, rinsing is done from front to back to avoid germs from the anus to the vagina. Avoid tight underwear; During menstruation, change pads several times a day; If necessary use vaginal cleaning fluid. The purpose of vulva hygiene is to care for the reproductive system and prevent infection and irritation, because infection can occur in all women, vaginal infections occur due to fungi, bacteria and viruses.According to Siti (2021) Maintaining the health of reproductive organs in women begins with maintaining the cleanliness of female organs. Vulva hygiene is a self-care for the external genitalia consisting of the mons veneris located in front of the symphysis pubis, labia majora, labia minora, clitoris, perineum and anus. Vulva hygiene is the act of maintaining the cleanliness of a woman's external genitalia, such as rinsing the external genitalia with boiled water and soap after urinating or defecating and daily care in maintaining the genitalia.

The results of this study are in line with the results of Fitri's (2018) study on the Relationship between Vulva Hygiene in Adolescent Girls and Vaginal Discharge at SMA Negeri 1 Teunom, Aceh Jaya Regency in 2018. It was found that out of 64 respondents, 47 performed vulva hygiene well and 17 respondents performed vulva hygiene poorly. Research conducted by Putri (2018) concluded that there was a relationship between vulva hygiene behavior and the occurrence of vaginal discharge with a p-value of 0,000 ($p < 0.05$).Based on the results of research, theories and related studies, researchers assume that vaginal discharge experienced by women of childbearing age is a normal condition experienced by every woman in general to maintain vaginal moisture. The liquid is clear, not too thick, not accompanied by pain or itching, and the amount of discharge is not excessive. However, if not handled or not treated properly, vaginal discharge can become abnormal. Providing education about vulva hygiene to respondents as an effort to maintain the cleanliness of the feminine area with the hope that the vaginal discharge experienced by respondents can be reduced. This education is considered successful, marked by the majority of respondents after being given vulva hygiene education, the condition of vaginal discharge experienced by respondents gradually improved, this is known from the decrease in vaginal discharge scores in respondents, this is likely because respondents also carry out hygiene care for the feminine area even without using soursop leaf decoction.

Differences in Vaginal Discharge Experienced by Women of Childbearing Age After Being Given Intervention Between the Experimental Group and the Control Group

Based on the research results, it was shown that from 50 women of childbearing age, a p-value of $0.000 < 0.05$ was obtained, so it can be said that there is a difference in vaginal discharge experienced by women of childbearing age after being given soursop leaf boiled water between the group given soursop leaf boiled water and the group not given it.Soursop leaves can be used to treat vaginal discharge in women because they contain acetogenic compounds, including asimisin, bolasin, and squamosin. They contain antiseptic substances

that can kill germs, especially phenol, where the phenol content in soursop leaves is 5 times more effective than regular phenol (Sampara et al., 2021). Based on research conducted by Didi Rohadi (2016) Antispasmodic activity of ethanol from soursop leaves (Annona muricata L), ethanol extract from soursop leaves can inhibit the growth of Candida albicans ATCC fungus at concentrations of 15%, 30% and 60%, which is indicated by the formation of an inhibition/clear zone in the soil around the polish containing ethanol extract of soursop leaves. Ethanol extract of soursop leaves shows antifungal activity, especially against Candida albicans fungus. In the concentration range of 15% to 60%, the higher the concentration of the extract, the higher the activity (Sampara et al., 2021).

This is in accordance with the research by Ekasari et al., (2019) that the results of the sample-dependent T-test statistical test obtained a p-value of 0.000 <α (0.05) which means that there is effectiveness of soursop leaf decoction on WUS with vaginal discharge problems with an effectiveness value of the average change in vaginal discharge problems of 1.78 which means that soursop leaf decoction is effective in reducing vaginal discharge problems (Ekasari et al., 2019). In line with research conducted by Novia (2022) which stated that soursop leaf decoction is effective against vaginal discharge problems in women of childbearing age with a significance level of 0.000, meaning that soursop leaf decoction is effective against vaginal discharge in women of childbearing age.The researcher assumed that from the research results, all participants experienced changes seen from the decrease in vaginal discharge scores, which means there was a change after using soursop leaf decoction with a decrease in score of 3.48, likewise in the group that was not given soursop leaf decoction, there was also a decrease in vaginal discharge score of 1.32. Although there was a decrease in the vaginal discharge score, the group that was given soursop leaf boiled water experienced a greater decrease in the score compared to the group that was not given it, meaning that the healing process for vaginal discharge in the group that was given soursop leaf boiled water was faster when compared to the group that did not receive soursop leaf boiled water with the same duration of time.

CONCLUSION

The average vaginal discharge experienced by women of childbearing age in the experimental group before being given soursop leaf decoction was 10.32 and after being given soursop leaf decoction was 6.84.The average vaginal discharge experienced by women of childbearing age in the control group without being given soursop leaf decoction during the first observation was 10.36 and during the second observation was 9.04.Giving boiled soursop leaves (Annona muricata L) has been proven effective in treating vaginal discharge in women of childbearing age with a p value of 0,000.There was a difference in vaginal discharge scores in the group that was not given soursop leaf decoction between the first and second observations with a p value of 0,009.There is a difference in vaginal discharge experienced by women of childbearing age after being given boiled soursop leaf water between the group given boiled soursop leaf water and the group not given it with a p value of 0,000.

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