



COMBINATION OF ADMINISTRATION OF PIPPER BETLE AND CURCUMA LONGA AGAINST ALBUS FLUOR IN ADOLESCENT GIRLS IN TAMBAK MAYOR NORTH SURABAYA CITY

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Research Report

ABSTRACT

Introduction: Young women often experience Fluor Albus or vaginal discharge, due to a lack of understanding of reproductive health, especially knowledge of how to handle it. Giving a decoction of Piper Betle and Curcuma Longa is a non-pharmacological measure to treat Fluor Albus. This study aims to determine the effectiveness of giving a decoction of Piper Betle and Curcuma Longa on the occurrence of vaginal discharge.

Methods: The research used Quasy Experimental with a two-group pre-test post-test approach. This research was conducted with a sample size of 40 respondents who were selected using a quota sampling technique using a questionnaire. The statistical test used is the Wilcoxon Test with Pvalue = 0.05. **Results:** After intervention for 7 days, the results of the Wilcoxon Piper statistical test were obtained Betle p value = <0.001, while the results of boiling Curcuma Longa obtained p value = 0.001, and Mann-Whitney test with a value of p = 0.26. So it was concluded that there was the effectiveness of giving Piper Betle and Curcuma Longa against the occurrence of vaginal discharge. **Conclusions:** It is hoped that the results of this research will increase insight and become a reference for young women who experience Fluor Albus to be motivated to consume Curcuma Longa and Piper Betle decoctions effectively.

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INTRODUCTION

At the age of adolescent girls, their reproductive organs have started to function which results in these adolescents needing knowledge about how to maintain their reproductive health. For young women, it is necessary to maintain and pay attention to cleanliness in the area of their reproductive organs, otherwise, they may experience infection. One of the signs of infection that is easy to recognize and which often occurs in young women is Fluor Albus. Fluor Albus or what is known as leucorrhoea is a fluid from the female organs (vagina), both relatively mild (hormonal changes) and mild (due to infection) (WK Sari, 2019). Since the reproductive organs in women function, of course, often these reproductive organs easily become a place for microorganisms to develop because the reproductive organs have a moist nature which can cause Fluor Albus to occur. In addition, excessive and abnormal Fluor Albus is an early symptom of cervical cancer which can lead to death. Young women do not understand Fluor Albus and how to handle it so the incidence of Fluor Albus in adolescents is high.

Based on Nana Aldriana's research (2018) on "Description of Young Girls' Knowledge of Leucorrhoea at the Hasanatul Barokah Islamic Boarding School, Tambusai District", it was found that the majority of young women's knowledge about Fluor Albus had insufficient knowledge, namely 48 respondents (74.9%) (Nana Aldriana, 2018). Meanwhile, according to Rina Sari (2018) obtained from 113 respondents, 58 young women (51.3%) did not manage and prevent leucorrhoea, this is in line with the results carried out by Mokodongan in 2015 which showed that 52% of adolescents had bad behavior in preventing leucorrhoea, such as frequently using feminine area cleaning products, not drying the female area with a tissue or towel after urinating or defecating, often using tight underwear and does not absorb sweat, and so on (Rina Sari, 2018).

In Indonesia, 75% of teenagers have experienced at least one pathological vaginal discharge and as many as 45% have experienced vaginal discharge 2 or more times. As many as 90% of women experience vaginal discharge and 60% of it is experienced by young women. The number of cases of vaginal discharge in East Java is 77% due to vaginal infections occurring in adolescent



girls. According to one study entitled "An Overview of Young Women's Knowledge About Vaginal Discharge " in East Java, the number of women in 2013 was 37.4 million, with 75% of teenagers experiencing Fluor Albus (Nana Aldriana, 2018). The high incidence of vaginal discharge in Indonesia is because Indonesia has a tropical climate, so fungi easily grow and reproduce in damp places such as the female organs and cause Fluor Albus (Ilmiawati & Kuntoro, 2017).

The lack of knowledge and handling of young women regarding Fluor Albus results in them often using negative things that can cause vaginal discharge and when they experience Fluor Albus, many of them allow this, even though leaving Fluor Albus for a long time can cause problems with the reproductive organs.

Fluor Albus is caused due to inflammation and infection of the *Candida Albicans* fungus in the vaginal canal. If vaginal discharge occurs for a long time and is not treated immediately, women who experience Fluor Albus may experience other infections and become chronic. Apart from infection, the causes that often occur can be fatigue, a hygienic lifestyle such as the water used to rinse the female organs is not clean, wearing underwear after exercise, using poor sanitary napkins (not changing them when they are wet or dirty) (Tan, Firmansyah, Elizabeth, & Dinda, 2020). The effects that occur if Fluor Albus is not treated properly will become chronic, such as diabetic vaginal infections (Vulvitis), specific vaginal infections, acute and chronic cervicitis, and pelvic inflammatory disease (Rahayu, Damayanti, & Purwanti, 2015). And can cause psychological disorders in the form of discomfort and lack of confidence that is felt when experiencing vaginal discharge.

Albus fluorine that occurs can be treated by anticipating it using non-pharmacological techniques. Non-pharmacological techniques use traditional ingredients using natural resources owned by Indonesia because the ingredients needed are easy to obtain. Non-pharmacological techniques can be used to reduce or prevent the occurrence of Fluor Albus by consuming a decoction of Piper Betle and Curcuma Longa. Both types of decoction contain compounds that are useful as antibacterial, namely the presence of phenols and alkaloid compounds which are useful for eliminating bacteria or fungi that cause vaginal discharge. These two types of decoction are useful for reducing the occurrence of vaginal discharge, but it is not yet known with certainty the difference in the level of effectiveness of consuming Piper Betle and Curcuma Longa on Fluor Albus in adolescent girls.

Based on the above phenomena accompanied by related research, and supported by the results of preliminary studies, researchers are interested in conducting research with the title " Combination Of Administration Of Piper Betle And Curcuma Longa Against Albus Fluor In Adolescent Girls In Tambak Mayor North Surabaya City"

MATERIALS AND METHODS

The research carried out was a Quasy Experimental Design with a two-group pre-test post-test approach, namely research activities carried out by giving an initial test (pre-test) before the treatment was carried out and giving a final test after the treatment was carried out. This research was conducted at Balai Tambak Mayor North RW 008, Asemrowo Village, Asemrowo District, Surabaya City. The sampling method in this study used Non-Probability Sampling with the Quota Sampling technique, which is a technique for collecting by selecting samples that meet the criteria. In this research, the researcher used a questionnaire that had previously been filled out by respondents and then the researcher chose according to the specified criteria and quota. After the intervention, the data will be managed and data analyzed using the Wilcoxon Signed Rank Test and Mann-Whitney Statistical Test with a significance level of 95% ($\alpha = 0.05$) to be able to determine whether there are differences in the research variables and present the result of research that has been carried out.

The stages of the data collection process will be divided into 3 stages including:

1. First stage (Preparation)

At this stage, the researcher conducted preliminary examinations and determined the study population, female adolescents with Fluor Albus in Tambak Mayor North RW 008, Asemrowo Village, Asemrowo District, Surabaya City.

2. Second stage (Selection of respondents)

The research was conducted by selecting samples from among the population according to the research. The research sample was determined by selecting respondents according to the inclusion and exclusion criteria set by the researcher. The sample in this study were female adolescents in Tambak Mayor North RW 008, who experienced Fluor Albus totaling 40 people who met the criteria determined by the researcher namely: currently experiencing vaginal discharge or Fluor Albus, not currently receiving pharmacotherapy to treat vaginal discharge or Fluor Albus, not having dysmenorrhea and vaginal discharge due to stress, fatigue and age. The number of samples was divided into 2 groups with different treatments. The first sample group with

Pipper Betle intervention, while the second sample group Curcuma Longa intervention. The researcher asked for the respondent's consent to participate in counseling activities by filling out an informed consent form.

3. The third stage (Implementation of research)

The research was started by filling out the pre-test with the help of the researcher who explained how to fill out the questionnaire to the respondents. Researchers asked respondents to fill out a questionnaire that had been given

completely and honestly. After filling out the questionnaire, the researcher gave interventions to the respondents. The researcher asked the respondent to carry out the intervention that had been given during the specified time limit. After that, the researcher conducted a post-test to find out the changes after being given the intervention. Researchers must pay attention to the completeness of filling out the questionnaire, incomplete answers must be clarified back to the respondent to be completed.

RESULTS

The results of the research were 40 respondents who experienced Fluor Albus, which were carried out at Balai Tambak Mayor North RW 008 Asemrowo Village, Asemrowo District,

Surabaya City. Research media in the form of education, demonstrations, and questionnaires for adolescents who experience Fluor Albus.

Table 1. Characteristics of respondents who experienced Fluor Albus

Characteristics	Frequency (f)	Percentage (%)
Age		
17-20 years old	23	58%
>20 years	17	42%
Total	40	100%
Ever received education about health		
Yes	12	30%
No	28	70%
Total	40	100%
Causes of Vaginal Discharge		
Rarely change underwear (at least 3 times a day)	14	35%
Rarely change pads during menstruation (at least 4-6 hours)	6	15%
Often wear tight pants that do not absorb sweat	7	18%
Clean the genital area with dirty water	3	7%
Use soap in the feminine area	6	15%
Fatigue	4	10%
Total	40	100%

Based on table 1, it shows that of the total respondents of 40 people, 23 people (58%) were aged 17-20 years and 17 people (42%) were >20 years old. The number of respondents who received counseling about vaginal discharge and

answered "Yes" was 12 (30%) and answered "No" was 28 people (70%). On average, 14 respondents (35%) experienced vaginal discharge caused by rarely changing their underwear.

Table 2. Categories of vaginal discharge before and after those who experienced the intervention of Piper Betle Decoction and Curcuma Longa.

Category	Pipper Bethle Stew				Curcuma Longa Decoction			
	Pre		Post		Pre		Post	
	f	P (%)	f	P (%)	f	P (%)	f	P (%)
Light	6	30%	15	75%	11	55%	16	80%
Currently	14	70%	5	25%	8	45%	4	20%
Total	20	100%	20	100%	20	100%	20	100%

Based on Table 2, shows that 20 respondents were given Piper Betle and 20

respondents were given Curcuma Longa, before being given the Piper Betle decoction

intervention, 6 people (30%) experienced Fluor Albus in the mild category, and 14 people (70%) in the moderate category. After the Pipper Betle intervention, the changes that occurred were 15 people (75%) in the mild category and 5 people (25%) in the moderate category.

In the group of respondents before being given the Curcuma Longa decoction intervention,

11 people experienced Fluor Albus in the mild category (55%) and 8 people (45%) in the moderate category. After the Curcuma Longa intervention, the changes that occurred were 16 people (80%) in the mild category and 4 people (20%) in the moderate category.

Table 3. Distribution of Wilcoxon Test Results in Pipper Betle Decoction and Curcuma Longa Decoction Before and After Intervention

Category	Young Women with Pipper Betle Stew		Teenage girl with Curcuma Longa Stew	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Light	15	75%	16	80%
Currently	5	25%	4	20%
Total	20	100%	20	100%
Wilcoxon Test Results	$\rho < 0.001$		$\rho = 0.001$	
Mann Whitney Test	$\rho = 0.26$			

Based on Table 3, the Wilcoxon test in young women who experience Fluor Albus after being given the Pipper Betle stew intervention $\rho < 0.001$ which states that the p value is lower than H1 is accepted and Curcuma Longa $\rho = 0.001$ is lower than H1 is accepted. In addition, the table

above shows the results of the Mann-Whitney test with a value of $\rho = 0.26$ stating that there is a difference in the level of effectiveness of giving Pipper Betle and Curcuma Longa decoction to Fluor Albus in female adolescents.

DISCUSSION

The average number of young women who experience fluoride Albus in Tambak Mayor North is caused by rarely changing their underwear, namely 14 people (35%). This is what causes young women to often experience vaginal discharge, where underwear that is often not changed is a source of bacteria or fungus. Providing non-pharmacological techniques in the form of consuming Pipper Betle and Curcuma Longa decoctions is effective for treating leucorrhoea. Following the research objectives, the following matters will be discussed:

1. Identifying the Fluor Albus category before and after the Pipper Betle stew intervention in young women

Based on Table 3, the results of research on groups of adolescents who experienced Fluor Albus in Tambak Mayor North Surabaya after consuming Pipper Betle stew for 7 days found that there was a decrease in signs and symptoms of vaginal discharge, as well as a category of vaginal discharge from moderate to mild. From the results of the post-test, it was found that the mild category increased to 15 people (75%) and the moderate category decreased to 5 people (25%). Statistically, the results of this study were significant between

before and after consuming Pipper Betle showing a value of ρ value = < 0.001 , which means that there is effectiveness of giving Pipper Betle on the incidence of vaginal discharge in young women.

The results of this study are following the results of previous research conducted by (Lena, 2017) which showed a significant difference in the incidence of vaginal discharge before and after being given the betel leaf decoction intervention with ρ value = < 0.001 ($\alpha = 0.005$).

Pipper Betle or what is called betel leaf is a plant that has benefits as an anti-bacterial. Betel leaf is very rich in nutrients, one of which contains vitamins A, B, and C. In addition to vitamins, it is also equipped with minerals, iodine, calcium, potassium, and iron. Betel leaves are used to treat leucorrhoea by grinding the leaves in sufficient portions, and then the boiled water can be drunk directly or to wash the female area (Nidya Juninsy Pinatik, Woodford BS Joseph, 2016).

2. Identifying Albus Fluorine categories before and after Curcuma Longa decoction intervention in adolescent girls

Based on Table 3, the results of research on a group of teenagers who experienced Fluor

Albus in Tambak Mayor North Surabaya after consuming Curcuma Longa decoction for 7 days showed that there was a decrease in the signs and symptoms of vaginal discharge, as well as the category of vaginal discharge from moderate to light. From the post-test results, it was found that the mild category increased to 16 people (80%) and the moderate category decreased to 4 people (20%). Statistically, the results of this study are significant between before and after consuming Curcuma Longa, showing a value of p value=0.001, which means that there is effectiveness of giving Curcuma Longa on the incidence of vaginal discharge in young women.

The results of this study are following the results of previous research conducted by (Rina Sari, 2018) which showed a significant difference in the incidence of vaginal discharge before and after being given the Curcuma Longa decoction intervention with p value = 0.001 ($\alpha = 0.005$) (Abdy & Lestary, 2019).

Curcuma Longa known as turmeric has a variety of ingredients that are important for the health of the body. One of the ingredients is called Curcumin which is useful for inhibiting and killing the growth of the *Candida Albicans* fungus and bacteria that can cause vaginal infections (Chu Yuan Shan, 2021).

3. Analysis of the Effectiveness of Giving Decoction of Piper Betle and Curcuma Longa on the Incidence of Fluor Albus in Adolescent Girls

Based on Table 3, the p value obtained for the Piper Betle decoction is $= < 0.001$ and for the Curcuma Longa decoction, the p value = 0.001 is obtained, which states that the p value is greater than 0.005 and it can be concluded that the Piper Betle decoction and the Curcuma Longa decoction are effective in treating Fluor Albus. This can be seen from the pre-test and post-test data of respondents before and after being given the intervention.

CONCLUSIONS

The results of the research and test results in the discussion conducted by the researcher can be concluded as follows: Piper Betle decoction is effective in overcoming Fluor Albus in young women seen from the results of the pre-test and post-test with the result p value = < 0.001 (p value = < 0.05). Curcuma Longa decoction in overcoming Fluor Albus, seen from the results of the pre-test and post-test results p value = 0.001 (p value = < 0.05). So there is no significant difference between Piper Betle Decoction and Curcuma

Longa Decoction on the Fluor Albus problem in young girls.

The results of this study are expected to add insight and become a reference for young women who experience Fluor Albus so that they are motivated to consume Curcuma Longa and Piper Betle decoctions effectively.

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