

## EFFECTIVENESS OF VAGINAL HYGIENE EDUCATION AND RED BETEL LEAF DECORATION IN THE TREATMENT OF FLOUR ALBUS IN ADOLESCENT GIRLS

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### Abstract

Adolescent girls are at high risk of experiencing vaginal discharge. Efforts that can be made to overcome the problem of vaginal discharge in adolescent girls are through vaginal hygiene education and also the provision of red betel leaf decoction. The purpose of this study was to determine the effectiveness of vaginal hygiene education and red betel leaf decoction on the management of vaginal discharge in adolescent girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024. The method used was a pre-experimental design with a one-group pretest-posttest. The population of adolescent girls with vaginal discharge, a sample of 45 people, purposive sampling technique, statistical test paired t test. The study showed that the incidence of vaginal discharge in adolescent girls before being given vaginal hygiene education and red betel leaf decoction was found that all 45 people (100%) experienced vaginal discharge, and after being given vaginal hygiene education and red betel leaf decoction, the majority did not experience vaginal discharge, 42 people (93.3%). There was effectiveness of vaginal hygiene education and red betel leaf decoction on the management of vaginal discharge with a p-value of 0.001. Red betel leaf decoction can treat vaginal discharge (fluor albus) because it contains flavonoids, saponins, tannins, and alkaloids, which act as antiseptics and anti-inflammatories, suppressing bacterial and fungal growth and relieving itching, irritation, and discomfort. Vaginal hygiene education and red betel leaf decoction are effective treatments for vaginal discharge in adolescent girls.

**Keywords:** Vaginal Hygiene Education, Flour Albus, Red Betel Leaf Decoction

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### 1. Introduction

Reproductive organ health is an important issue and is a focus in health development, especially reproductive organ health in adolescents. Problems with reproductive organs are still widely found in adolescents due to lack of

information about reproductive health . Adolescents also often ignore problems with their reproductive organs [1].

Problems with reproductive organs include paying attention to vaginal hygiene . If someone does not pay attention to their vaginal hygiene ,

bacteria will grow in the body and can cause disease. The impact of not doing *vaginal hygiene*, especially in the genitals, properly is the occurrence of *flour albus* [2,3].

The incidence of *flour albus* is not mentioned nationally because there is no data on *flour albus complaints* recorded at health service locations such as independent midwives or health centers. However, it is estimated that 75% of adolescent girls experience *flour albus* [4,5]. Even so, the incidence of *flour albus* will still have a negative impact on the health of sufferers, such as causing irritation, infection, and more severe diseases [6,7].

Adolescent actions in managing *flour albus* are a behavior. In general, people's behavior is influenced by several factors as stated in Lawrence Green's theory [8,9], that behavior is determined by three factors, namely predisposing factors which are manifested in knowledge, attitudes and perceptions. Furthermore, supporting factors (*enabling factors*), such as the physical environment, information media and health facilities. Finally, there are reinforcing factors which are manifested in the attitudes and behavior of health workers, family and peers. Knowledge is one of the main factors in behavioral change. Factors that influence increased knowledge include age, education, environment, information: health education, socio-culture and economy, experience [10,11].

The adolescent reproductive health program is one of the studies of the reproductive health program. This causes reproductive health services and care for adolescents to have a very important role in realizing healthy and competitive adolescents so that they can become superior components in national development. In an effort to overcome reproductive health problems in adolescents, the government has created a program for adolescents, namely by creating a program on adolescent reproductive health services (KRR). Adolescent reproductive health is a

condition or state of overall health, both physical, mental and social well-being that is intact in all matters relating to the functions, roles and reproductive processes possessed by adolescents [5].

One of the efforts to maintain the health of the reproductive organs of adolescent girls is through *vaginal hygiene*. Preventive and promotive efforts are needed so that adolescent girls have good knowledge, attitudes, and actions so that their reproductive organs remain healthy or in other words, adolescent girls can do *vaginal hygiene* [12]. *Vaginal hygiene* health education as an educational effort for adolescent girls can increase the knowledge and understanding of adolescent girls regarding the management of *flour albus*. Apart from that, there are also interventions that can be carried out in the form of giving boiled red betel leaves which can prevent and reduce the occurrence of *flour albus*.

Research conducted by Novita [13] regarding the effect of vulva hygiene education video media on the knowledge level and attitude of adolescent women with *flour albus*. with *p value results*  $0.000 < 0.05$ . Research conducted by Novemi on the effect of giving boiled red betel leaf water on the incidence of pathological vaginal discharge in adolescents at Dayah, Kuta Baro District, Aceh Besar Regency, found that giving boiled red betel leaf water had a significant effect on the incidence of vaginal discharge with a *p-value of*  $0.001 < 0.05$ .

A preliminary study conducted by researchers at the Harapan Bunda Sejahtera Clinic in Bekasi Regency was obtained from 10 young women who were being treated at the clinic, 8 people said they often experienced *flour albus*. *The flour albus* experienced often feels itchy, has an unpleasant odor so that it is uncomfortable when carrying out daily activities. And the 10 young women said that they had never received education on *vaginal hygiene* and boiled red betel leaves to overcome the problem of *flour albus*.

## 2. Methods

The research design used in this study is a *pre-experiment study*. The research approach is in the form of a *one group pretest-posttest*, namely an experiment that does not use a control group, namely only one treatment group before and after treatment.

## 3. Results and Discussion

The study was conducted at the Harapan Bunda Sejahtera Clinic, located at Jalan Cempaka Sirnajaya, Serang Baru District, Bekasi Regency. This clinic provides emergency services, inpatient care, laboratory, obgyn, obstetrics and KIA, and general practitioners.

This chapter presents the results of a study on the effectiveness of *vaginal hygiene education* and red betel leaf decoction on the management of *flour albus* in adolescent girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024. The study was conducted from August 5 to October 20, 2024 with a sample size of 45 people. The data obtained were analyzed using univariate and bivariate analysis.

The table below presents the characteristics of adolescent girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024 based on age, education, sources of information and medical history.

**Table 1.** Frequency Distribution of Female Adolescent Characteristics

Characteristics	Frequency	%
Age		
11-14 Years	14	31.1
15-17 Years	18	40
18-21 Years	13	28.9
Education		
Junior High School	16	35.6
Senior High School	29	64.4
Source Of Information Of <i>Flour Albus</i>		
Social Media	6	13.3
Power Health Parent	0	0
Parent	1	2.2

Characteristics	Frequency	%
No Once	38	84.5
History Disease Reproduction		
Yes	0	0
No	45	100
Total	45	100

Source: Results of Computerized Data Processing Ijah, December 2024

Based on table 1 above, it shows that the age of most female adolescents is 15-17 years old, as many as 18 people (40%). The most education is high school, as many as 29 people (64.4%). The most information sources about *flour albus* have never received information about *flour albus*, as many as 38 people (84.5%). A total of 45 people (100%) have never had a history of reproductive system disease.

*The incidence of flour albus* in adolescent girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024 before *vaginal hygiene education* and red betel leaf decoction were carried out can be seen in the table below:

**Table 2.** Incidence of Flour Albus in Adolescent Girls before Education on Vaginal Hygiene and Red Betel Leaf Herbal Remedies

The Flour Albus Incident	Before	
	Frequency	Percentage
Experience	45	100
No Experience	0	0
<b>Total Respondents</b>		<b>100</b>

Source: Results of Computerized Data Processing Ijah, December 2024

Based on table 2, it shows that *the incidence of flour albus* in adolescent girls before *vaginal hygiene education* and red betel leaf decoction was carried out, all 45 people (100%) experienced *flour albus*. The incidence of *flour albus* in adolescent girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024 after *vaginal hygiene education* and red betel leaf decoction can be seen in the table below:

**Table 3.** Incidence of Flour Albus in Adolescent Girls after Education on Vaginal Hygiene and Red Betel Leaf Herbal Remedies

The Flour Albus Incident	After	
	Frequency	Percentage
Experience	3	6.7
No Experience	42	93.3
<b>Total Respondents</b>		<b>100</b>

Source: Results of Computerized Data Processing Ijah, December 2024

Based on table 3, it shows that *the incidence of flour albus* in adolescent girls after *vaginal hygiene education* and red betel leaf decoction, the majority did not experience *flour albus*, as many as 42 people (93.3%).

The results of the study on the effectiveness of *vaginal hygiene education* and boiled red betel leaves on the management of *flour albus* in adolescent girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024.

1. The incidence of *Flour Albus* in Adolescent Girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024 before *Vaginal Hygiene Education* and Red Betel Leaf Decoction.

The results of the study showed that *the incidence of flour albus* in adolescent girls before *vaginal hygiene education* and red betel leaf decoction was carried out, all of whom experienced *flour albus* as many as 45 people (100%).

Adolescence is a transition period from childhood to adulthood which experience development all aspects or functions for enter time mature. *Flour albus* or vaginal discharge is the discharge of fluid other than blood from the vagina outside the norm, whether it is smelly or not, and is accompanied by local itching. The cause of vaginal discharge can be normal (physiological) which is influenced by certain hormones. The fluid is white,

odorless, and if laboratory examination is carried out, it does not show any abnormalities [13].

The results of Hernita's [14] study on the effectiveness of health education in increasing the knowledge of adolescent girls about flour albus showed that 89% of adolescent girls experienced *flour albus*, this was due to the lack of information received by adolescent girls about flour albus so that adolescent girls did not know how to do *vaginal hygiene*.

Based on the theory and research results above, it was found that the incidence of flour albus is often experienced by adolescent girls. Researchers took samples of all adolescent girls who experienced *flour albus* so that 45 people (100%) of the samples experienced *flour albus*.

According to researchers during puberty, the adolescent body experiences hormonal changes, the hormone estrogen stimulates the production of vaginal fluid, which functions to clean and protect the vaginal area, but with a lack of genital hygiene it can trigger an increase in *flour albus*. Wearing underwear that is too tight, synthetic, or damp can also affect the production of vaginal fluid.

2. The incidence of *Flour Albus* in Adolescent Girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024 after *Vaginal Hygiene Education* and Red Betel Leaf Decoction.

The results of the study showed that *the incidence of flour albus* in adolescent girls after *vaginal hygiene education* and red betel leaf decoction, the majority of whom did not experience *flour albus*, as many as 42 people (93.3%).

The content of the red betel plant contains secondary metabolites that store active compounds such as alkali, flavonoids, polyphenols, tannins, essential oils, saponins, hydroxykaficol, kavicol, kavibetol, carbavacrol, cyanogenic, eugenol, cineole, kadimen, glucoside,

isoprenoid, nonprotein amino acid, terpenes, and phenols. Because red betel contains many beneficial chemical compounds, red betel has very broad benefits as a medicinal ingredient (915).

Novemi's (13) research on the effect of giving boiled red betel leaf water on the incidence of vaginal discharge in adolescents at Dayah, Kuta Baro District, Aceh Besar Regency, found that giving boiled red betel leaf water had a significant effect on the incidence of pathological vaginal discharge with a *p-value* of  $0.001 < 0.05$ .

Based on the theory and research results above, it shows that red betel leaves can experience a period of vaginal discharge (*flour albus*). This is because betel leaves contain active compounds such as essential oils with high phenol content. These compounds have antibacterial, antifungal, antiseptic, and antioxidant properties that can help treat *flour albus*.

### 3. Effectiveness of *Vaginal Hygiene Education* and Red Betel Leaf Decoction on the Management of *Flour Albus* in Adolescent Girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024.

The results of the study showed that the results of the bivariate analysis using the *Paired T-Test* obtained a *p-value* of  $0.001 < 0.05$ , so  $H_a$  was accepted and  $H_o$  was rejected, meaning that there was effectiveness of *vaginal hygiene education* and boiled red betel leaves on the management of *flour albus* in adolescent girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024.

The content of red betel leaves is a phytochemical compound, namely essential oils, alkaloids, saponins, tannins, and flavonoids where the chemical content is thought to have the potential as an antimicrobial power. Flavonoids work by forming complex compounds against extracellular

proteins that disrupt the integrity of bacterial cell membranes. Likewise, alkaloids have the ability as antibacterials. The mechanism is by disrupting the components of peptidoglycan in bacterial cells, so that the cell wall layer is not formed completely and causes the death of the bacterial cells (16).

Harahap's research on the effect of boiled red betel leaf water on reducing *fluor albus* symptoms in women of childbearing age found that there was an effect of red betel leaf on vaginal discharge based on the results of statistical tests with a *p-value* of  $0.000 < 0.05$ .

Based on the theory and research results above, it shows that red betel leaves are effective in reducing the incidence of *flour albus*. Red betel leaves contain compounds such as flavonoids, saponins, tannins, and alkaloids. These substances can fight bacteria, fungi, and other microorganisms that cause abnormal vaginal discharge, such as *Candida albicans* (fungus) and bacteria that cause bacterial vaginosis. In addition, the essential oil content in red betel leaves, such as eugenol and kavikol, has antiseptic properties that help clean the genital area and prevent excessive microbial growth. Flavonoids and polyphenols in red betel leaves have antioxidant properties, which can help reduce inflammation and speed up the healing process of infections in the vaginal area and the anti-inflammatory properties of red betel leaves can help relieve itching, irritation, or uncomfortable sensations due to *flour albus*.

### 4. Conclusion

Based on the results of research and discussion regarding the effectiveness of *vaginal hygiene education* and boiled red betel leaves on the management of *flour albus* in adolescent girls at the Harapan Bunda Sejahtera Clinic, Bekasi Regency in 2024, the following conclusions were

obtained: The incidence of *flour albus* in *Puri teenagers before vaginal hygiene education and red betel leaf decoction* was found that all 45 people (100%) experienced *flour albus*. The incidence of *flour albus* in *Puri teenagers after vaginal hygiene education and red betel leaf decoction* was found that the majority did not experience *flour albus*, as many as 42 people (93.3%). There is effectiveness of *vaginal hygiene education and red betel leaf decoction* on the management of *flour albus* in adolescent girls with a *p-value* of  $0.001 < 0.05$ . Red betel leaf decoction can overcome the problem of *flour albus* because it contains flavonoids, saponins, tannins, and alkaloids as antiseptic and anti-inflammatory substances so as to reduce the growth of bacteria and fungi and relieve itching, irritation and uncomfortable sensations.

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