Jurnal Maternitas Kebidanan, Vol 10, No. 2, Oktober 2025
ISSN 2599-1841

The Effect of Red Betel Leaves and Turmeric and Tamarind on Flour Albus in Adolescent Girls

Ria Susanti[1], Fenni Valianda Amelia Ramadhan[2], Hidayani[3]

[1,2,3] Univeristas Indonesia Maju

Email: riasusantimfp1331@gmail.com[1]

ABSTRACT

Vaginal discharge or flour albus is a reproductive health problem frequently experienced by adolescent girls. Non-pharmacological treatment using herbal ingredients such as red betel leaf (Piper crocatum) and tamarind turmeric has been widely used traditionally, but scientific evidence is still limited. This study aims to determine the effect of administering boiled water of red betel leaf and tamarind turmeric on flour albus in adolescent girls. The study used a qualitative method with a case study approach, conducted at TPMB S South Tangerang City in July 2025 with two respondents aged 19–22 years who experienced physiological vaginal discharge. The first respondent was given an intervention in the form of a red betel leaf boiled water twice a day, while the second respondent was given a turmeric tamarind drink twice a day, both for 10 days accompanied by counseling. The results showed that both interventions were equally effective in reducing flour albus symptoms. The symptom score in the first respondent decreased from 12 (moderate) to 8 (mild) and 5 (normal), while in the second respondent decreased from 12 (moderate) to 8 (mild) and 6 (normal). A comparison of the two interventions showed equal effectiveness, although red betel leaf decoction reduced vaginal discharge more quickly. These findings support the use of red betel leaf and tamarind turmeric as a safe, effective, and accessible non-pharmacological treatment alternative for reducing vaginal discharge in adolescent girls.

Keywords: red betel leaves, turmeric and tamarind, flour albus, vaginal discharge, adolescent girls.

INTRODUCTION

Adolescents are individuals aged 10-18 years, and according to the Population and Family Planning Agency (BKKBN), the age range for adolescents is 10-24 years and unmarried. Vaginal discharge typically occurs during active reproduction, as opposed to puberty. The Indonesian Ministry of Health (2022) explains that vaginal discharge in healthy individuals is clear, has a faint color, is odorless, and has a slightly sticky mucus. Normally, the vagina produces little or

no discharge at all. This vaginal secretion is secreted by glands within the vaginal cavity and helps protect the vaginal walls and keep them moist (Judha & Tjatjo, 2019). Because the vagina is a female reproductive organ that is easily infected, vaginal discharge can occur. Germs such as bacteria, fungi, viruses, and parasites can cause vaginal discharge. easily enter the genital tract, which causes vaginal discharge (Oktaviana et al., 2020).

*World Health Organization*The World Health Organization (WHO) reports that vaginal discharge contributes 33% to various diseases experienced by women worldwide (WHO, 2022). Reproductive Health Survey data shows that in 2021, 50% of women experienced vaginal discharge in Indonesia. In 2022, 60% of women experienced vaginal bleeding, while in 2023, almost 70% experienced vaginal bleeding (RISKESDAS, 2023). According to a 2023 report from the Banten Province Health Service, 27.60% of women experienced fluor albus.

11.36 million women, the majority of whom experience vaginal discharge are teenagers and women of childbearing age aged 10-24 (Banten Provincial Health Office, 2023). Based on the annual report of Tangerang City in 2023, 318,976 women or 29.73% experienced vaginal discharge (Tangerang City Health Office, 2023). Research in Banten Province, the number of women in 2022 was 37.4 million, showing that 75% of adolescents experienced vaginal discharge. In Tangerang City, the number of women in 2022 was 905,341, and 45% could experience physiological vaginal discharge. Data from the 2024 PMB Emi from data on visits by 91 adolescent girls, 53 of whom (58%) had complaints of vaginal discharge after menstruation (Baety et al., 2019)

Based on a preliminary study conducted by researchers at TPMB S, South Tangerang City, many adolescents and women of childbearing age come to TPMB for routine checkups, counseling, or initial treatment for reproductive complaints. Vaginal discharge, menstrual pain (dysmenorrhea), irregular menstrual cycles, and anemia are common complaints reported by patients during visits to TPMB, including adolescents, married women, and pregnant women. Data from visits from January to June 2025 showed that 60 adolescents complained of vaginal discharge and feminine hygiene issues. Interviews with 10 female adolescent respondents seeking treatment at TPMB S, South Tangerang City, in 2025 revealed that 7 respondents reported experiencing vaginal discharge.

Due to Indonesia's tropical climate, where fungus thrives and vaginal discharge is common, approximately 90% of women are likely to experience vaginal discharge. Approximately 31.8% of unmarried women and young women aged 15 to 24 also experience vaginal discharge

(Meliana, 2021). Normal (physiological) vaginal discharge usually occurs due to hormonal changes and is harmless. Normal vaginal discharge is typically clear or milky white in color, has a thin or slightly thick consistency, and does not have a strong odorNot accompanied by itching, pain, or irritation. Vaginal discharge can become abnormal (pathological) if there is a fungal, bacterial, or parasitic infection such as Candida albicans, Gardnerella vaginalis, and Trichomonas vaginalis. Causes include poor hygiene of the feminine area, wearing underwear that is too tight or doesn't absorb sweat, using cleansing soaps or antiseptics that disrupt vaginal pH, stress, fatigue, or a decreased immune system, and sexually transmitted diseases (STDs). Characteristics of abnormal vaginal discharge include yellow, green, gray, or blood-tinged color, a very thick, cheesy or frothy consistency, a fishy, foul, or pungent odor, and itching, pain during urination, pain during intercourse, and irritation. The impact of vaginal discharge is that women will feel uncomfortable and self-conscious because of it. Prolonged pathological vaginal discharge can cause infertility because it disrupts the function of the female reproductive organs, especially the ovarian ducts. Vaginal discharge is an early sign of cervical cancer (Baety et al., 2019).

Young women's lack of knowledge about vaginal discharge causes them to ignore it and dismiss it as trivial. Furthermore, they often feel embarrassed when experiencing vaginal discharge, making them reluctant to consult and seek treatment from health services. One way to treat vaginal discharge is through the use of scientifically proven herbal remedies. Red betel (Piper crocatum) is a multifunctional plant. Red betel differs from green betel primarily in its color; red betel is silvery red and grows abundantly in Indonesia. Red betel contains alkaloids that function as antimicrobials and have twice the antiseptic power of green betel leaves. A decoction of red betel also contains carvacrol, which has disinfectant and antifungal properties, making it an antiseptic to maintain oral hygiene and treat vaginal discharge and unpleasant odors. Applying boiled red betel leaves to the skin can reduce pathological vaginal discharge. Betel leaves contain essential oils consisting of estragol, eugenol, hydroxychavicol, cavibetol, betlephenol, chavicol, sesquiterpene, and carvacrol. Other literature states that betel leaves also contain tannins, the enzyme diastase, and sugars. Young betel leaves contain more diastase, sugar, and essential oils than older betel leaves. Meanwhile, the tannin content is relatively the same. The eugenol compound in betel leaves has been shown to kill the Candida albicans fungus that causes vaginal discharge, while tannins act as an astringent, reducing vaginal secretions.

Turmeric and tamarind have antimicrobial properties that inhibit the growth of fungi, bacteria, and viruses. The vitamin C content in tamarind can also support immunity.

The body is protected from fungal, bacterial, and viral attacks (Trisnaningsih & Isnugroho, 2022). This opinion is supported by several studies. The results of a study by Nurmaliza (2023) stated that a study using a turmeric and tamarind drink on a sample of 28 adolescents showed an effect of the turmeric and tamarind drink on vaginal discharge. Furthermore, maintaining proper personal hygiene can prevent and treat vaginal discharge. Based on research conducted by Desi Hidayanti and Riana Pascawati,2021 research results showed that using boiled betel leaves can reduce physiological fluor albus. The content of leaf betel red contains oil essential oils Which consists of from betlephenol,kavikol,sesquiterpan,hydroxychavicol, cavibetol, estragol, eugenol, carvacol, diastase enzyme, sugar, andTannin. The eugenol compound in betel leaves has been proven to kill the Candida albicans fungus that causes vaginal discharge. Meanwhile, tannin is an astringent, which reduces fluid secretion in the vaginal canal. Hearty Efifania Ose Payon, Ngaisah Tri Rahayu 2024, in her research, stated that red betel leaf decoction has benefits and properties in reducing vaginal discharge in adolescent women by inhibiting the growth of bacteria and fungi that trigger vaginal discharge. Therefore, using red betel leaf decoction regularly for 10 days is recommended. Red betel leaf decoction has been proven to help young women in dealing with pathological vaginal discharge naturally.

Research conducted by Ervin Hariyani, Siti Mudlikah, Endah Mulyani, Diani Octaviyanti Handajan 2024 on turmeric and tamarind concluded that the results of this study indicate the effect of giving turmeric and tamarind to female students of Muhammadiyah 1 Gresik Middle School, boiled turmeric and tamarind has an effect on reproductive organs in adolescents, the content of turmeric and tamarind essential oils and curcumin can kill bacteria around the vagina, so it can prevent vaginal infections.

Based on this background, the researcher intends to conduct a study on the effect of administering red betel leaves and tamarind turmeric to reduce flour albus in adolescents at TPMB S in 2025. This study will be conducted on late adolescents aged 18-22 years because at this age adolescents have experienced full sexual maturation, begin to think more maturely and realistically, increase independence and prepare for adulthood. This study will be conducted for 10 days by taking a sample of 2 respondents who have moderate vaginal discharge criteria who will be given education and given boiled red betel leaves and tamarind turmeric.

METHOD

This study uses a qualitative method with a case study approach, which describes the phenomenon in depth in real conditions based on the experiences of the research subjects. The study was conducted at TPMB Siluh Made Sukawati, South Tangerang City, on July 21–30, 2025. The research subjects were determined using a purposive sampling technique, namely two young women aged 19–22 years who experienced physiological vaginal discharge according to the results of the examination at TPMB. Inclusion criteria included adolescents who experienced pathological vaginal discharge, were willing to be respondents by signing an informed consent, and were not yet aware of the benefits of red betel leaf and turmeric tamarind decoction. Meanwhile, exclusion criteria were adolescents who were unwilling, had allergies to the intervention, or already knew the benefits of red betel leaf and turmeric tamarind decoction.

Data collection was conducted through observation and interviews to assess the effectiveness of the intervention. The first respondent received counseling and an intervention consisting of boiled red betel leaves used for wiping twice daily for 10 days. The second respondent received counseling and a turmeric and tamarind drink consumed twice daily for 10 days. The decoction was prepared according to standards, namely by boiling 3–5 red betel leaves in 300 ml of water until boiling for 10–15 minutes, while the turmeric and tamarind drink was made from fresh turmeric and tamarind, which were boiled until ready to consume. Evaluations were conducted on days 1, 3, and 6 to monitor the development of vaginal discharge in both respondents.

RESULTS

Midwifery Care Results

Table 1. Comparison of Midwifery Care Results between Respondents 1 and 2

	Given boiled betel leaf water			Given Turmeric and Tamarind Boiled Water		
	Red					
Visit	Day 1	Day 3	Day 6	Day 1	Day 3	Day 6
Complaint vaginal discharge	Still	Reduce	Is lost	Still	Reduce	is lost

Score	12	8	5	12	8	6

After midwifery care was provided to young women, Ms. A, aged 21 years, and Ms. I, aged 22 years, over a period of 6 days, Respondent 1 followed the advice using red betel leaf boiled water used twice a day every morning and evening and respondent 2 followed the advice to consume turmeric and tamarind consumed twice a day in the morning and evening. In Respondent 1 who was given the intervention of red betel leaf boiled water, the evaluation on day 1 showed no change in vaginal discharge complaints with a score of 12, the evaluation on day 3 showed reduced vaginal discharge complaints with a score of 8 and the evaluation on day 6 showed disappeared vaginal discharge complaints with a score of 5. While for Respondent 2 who was given the intervention of turmeric and tamarind boiled water, the evaluation on day 1 showed vaginal discharge complaints remained with a score of 12. On day 3, an evaluation was carried out, vaginal discharge complaints decreased with a score of 8 and the evaluation on day 6 showed disappeared vaginal discharge complaints with a score of 6. It can be concluded that adolescents who were given the intervention of red betel leaf boiled water on day 6 had vaginal discharge complaints disappeared while in adolescents who were given the intervention of turmeric and tamarind boiled water, vaginal discharge complaints on day 6 also disappeared. This means that there is a balance between intervention 1 and intervention 2 given to adolescents who experience pathological vaginal discharge.

The process of administering red betel leaf and turmeric and tamarind to clients. The researcher provided red betel leaf and turmeric and tamarind for clients to use at home for the intervention. The researcher brought the red betel leaf and turmeric and gave them to clients at each visit. If the client ran out of supplies before the visit, they could contact the researcher via WhatsApp, and the researcher would deliver them to their home. The researcher also reminded clients about the proper use of the red betel leaf and turmeric and tamariDISCUSSION

The Effect of Giving Boiled Betel Leaf Water on Flour Albus in Adolescent Girls

Based on the results of observations on young women who were given red betel leaf intervention by providing therapy with boiled red betel leaf water for 10 days, the results showed that on the 6th day the disappearance of flour albus symptoms in young women who at the initial meeting with Ms. A had a score of 12 (moderate), at the 2nd meeting had a score of 8 (mild) and at the 3rd meeting had a score of 5 (which means normal vaginal discharge).

Red betel leaves (Piper crocatum) contain 1-4.2% essential oil, water, protein, fat, carbohydrates,

calcium, phosphorus, vitamins A, B, and C, iodine, sugar, and starch. Essential oils contain natural phenols, which have antiseptic properties five times stronger than ordinary phenols (bactericidal and fungicidal). Essential oils are volatile and have a distinctive aroma or fragrance. Essential oil from betel leaves contains 30% Phenol and several derivatives. The essential oil consists of hydroxychavicol, chavibetol, estragol, eugenol, methyleugenol, carbachrol, terpenes, sesquiterpenes, phenylpropanes, and tannins. Chavicol is the most abundant component in the essential oil, which gives betel its distinctive odor.

Red betel leaves contain flavonoids, which function as antibacterials by forming complex compounds with extracellular proteins that disrupt the integrity of bacterial cell membranes. Flavonoids are phenolic compounds, while phenolic compounds can act as protein coagulators. This flavonoid content can reduce or even eliminate bacteria that can cause vaginal discharge. Previous research conducted by Desi Hidayanti and Riana Pascawati in 2021 found that using boiled betel leaves can reduce physiological fluor albus. Red betel leaves contain essential oils consisting of betlephenol, kavikol, sesquiterpan, hydroxykavikol, cavibetol, estragol, eugenol, carvacol, the enzyme diastase, sugar, and tannin. Eugenol in betel leaves has been shown to kill the Candida albicans fungus that causes vaginal discharge, while tannin is an astringent, which reduces vaginal fluid secretions.

Based on previous research conducted by Desi Hidayanti and Riana Pascawati in 2021, research results showed that using boiled betel leaves can reduce physiological fluor albus. Red betel leaves contain essential oils consisting of betlephenol, kavikol, sesquiterpan, hydroxykavikol, kavibetol, estragol, eugenol, carvacol, the enzyme diastase, sugar, and tannin. Eugenol in betel leaves has been shown to kill the Candida albicans fungus that causes vaginal discharge, while tannin is an astringent, reducing vaginal fluid secretions.

Hearty Efifania Ose Payon, Ngaisah Tri Rahayu 2024, in her research stated that red betel leaf decoction has benefits and properties in reducing vaginal discharge in adolescent women by inhibiting the growth of bacteria and fungi, which trigger vaginal discharge. Therefore, using red betel leaf decoction regularly for 10 days has been proven to help adolescent women overcome pathological vaginal discharge naturally.

Furthermore, research conducted by Okta Ernawati in 2018 found that 16 respondents (94.1%) experienced a decrease in fluor albus symptoms and 1 respondent (5.9%) did not experience a decrease in fluor albus symptoms. The results of the statistical test ρ value = 0.000 where ρ value < less than 0.005 means H0 is rejected and H1 is accepted. The conclusion from The results of this study suggest that women of childbearing age who experience fluor albus can apply boiled

red betel leaf water as a non-pharmacological treatment. Red betel leaf water has an effect on reducing fluor albus symptoms in women of childbearing age.

Research conducted by Bachriatus Sakina in 2023 found that administering boiled red betel leaf water significantly reduced the incidence of pathological vaginal discharge, with a p-value of <0.000. Based on these findings, it can be concluded that adolescent girls experiencing pathological vaginal discharge can apply boiled red betel leaf water as a non-pharmacological remedy.

In line with research conducted by Novemi (2020), it was found that betel leaves are effective in treating vaginal discharge. This is because regular use of boiled betel leaves with clean, warm water can help treat vaginal discharge. According to research in Indonesia, there is evidence that betel leaves are effective in treating vaginal discharge in women.

Side effects of continuous use of red betel leaves include:

a. Local irritation of the vagina

Using it as a washing/rinsing solution can cause burning or irritation if used too frequently or with too high a concentration. It's recommended to use lukewarm, non-concentrated boiled water.

b. Vaginal pH disorders

Excessive use can alter the natural pH of the vagina, potentially triggering the growth of yeast or other bacteria.

c. Allergy or hypersensitivity reaction

Some teenagers may experience a rash or redness in the genital area due to sensitivity to betel leaves.

d. External skin irritation

Betel leaves used directly on the skin or intimate area without dilution can cause redness, itching, or a burning sensation.

Research by Sumarni and Passe (2024) compared the administration of boiled betel leaves and turmeric to treat vaginal discharge in women of childbearing age. The results showed no significant difference between the administration of boiled betel leaves and turmeric in treating vaginal discharge, with a p-value of $1.000 > \alpha = 0.05$.

Researchers assume that boiled red betel leaves can help the healing process.

Vaginal discharge in adolescents. Furthermore, adolescents generally have stronger immune systems and active metabolisms, so they respond more quickly to natural treatments than older

adults. Furthermore, as a traditional remedy, red betel leaves can be an economical, readily accessible alternative, and have minimal side effects compared to chemical medications. Using boiled red betel leaves does not irritate the vaginal area when used in reasonable doses and for a reasonable duration, making it suitable for adolescents as a natural treatment. Regular use (e.g., once or twice daily for several days) can reduce excess mucus, unpleasant odor, and vaginal itching.

The Effect of Turmeric and Tamarind Water Boiling on Flour Albus in Adolescent Girls

Based on observations of young women who received turmeric and tamarind intervention by consuming boiled turmeric and tamarind water for 10 days, it was found that on the sixth day, the symptoms of flour albus in the young women disappeared. Ms. I, who had a score of 12 (moderate) at the initial meeting, then on the second visit had a score of 8 (mild) and on the third visit had a score of 6 (normal), indicating normal vaginal discharge.

Turmeric is a natural antiseptic and antibacterial agent. Turmeric rhizomes contain essential oils and curcumin. Curcumin in turmeric rhizomes belongs to a group of phenolic compounds. Curcumin's antibacterial mechanism is similar to that of other phenolic compounds: it inhibits bacterial metabolism by damaging the cytoplasmic membrane and denaturing cellular proteins, causing nutrient leakage from the cell membrane, leading to bacterial cell death or stunted growth (Apriliantisyah et al., 2022).

Tamarind contains tannins and alkaloids that act as anti-inflammatory, antioxidant, and antibacterial agents. Tamarind can reduce vaginal discharge by breaking down the peptidoglycan component in bacterial cells, thereby inactivating the cell walls and leading to cell death. (Maulidiyah, 2020). Consuming turmeric and tamarind can improve the body's immune system. Other benefits of turmeric and tamarind are found in the antioxidant, anti-inflammatory, and antibacterial properties contained in turmeric and tamarind herbal medicine. (Selviana, 2022).

Research conducted by Ervin Hariyani, Siti Mudlikah, Endah Mulyani, Diani Octaviyanti Handajan 2024 on turmeric and tamarind concluded that the results This study shows the effect of giving turmeric and tamarind to female students of Muhammadiyah 1 Gresik Middle School. Turmeric and tamarind decoction has an effect on the reproductive organs of adolescents. The content of turmeric and tamarind essential oils and curcumin can kill bacteria around the vagina, so it can prevent vaginal infections.

Research conducted by Oki Oktaviani 2018 has the result that the results of the study that experienced the most vaginal discharge before the administration of turmeric decoction extract

was pathological vaginal discharge (80.0%), while the most vaginal discharge after the administration of turmeric decoction extract was normal vaginal discharge (100%), with the results of the statistical test p value 0.000 ≤ 0.05 and the calculated Z value -4.899. Conclusion: There is an effect of turmeric decoction extract on the incidence of vaginal discharge in women of childbearing age in Karangsari Village, Sulang District, Rembang Regency. Research conducted by Agustina Mara 2024 found that the client's vaginal discharge began to decrease and subside after the application of turmeric water decoction for 3 meetings. Nursing care for FlourAlbous/vaginal discharge with a focus on intervention of the application of turmeric water decoction for 3 consecutive days of meetings
effective in reducing vaginal discharge.

Research conducted by Muchotimah1 in 2024 found that based on the analysis using the Mann-Whitney test, a significance value of 0.005 ($p<0.05$) was obtained, meaning Ha was accepted. Conclusion: There is an effect of turmeric and tamarind drinks and maintaining personal hygiene on reducing vaginal discharge in adolescents.

This research is in line with the research of Abdy & Lestary, (2019) with the title of the effect of Turmeric Tamarind Drink on the Incidence of Vaginal Discharge in Adolescents aged 14-16 years at MTs Nurul Muttaqien Tlogowaru Malang City, with the results of the study showing that respondents before being given the turmeric tamarind drink as many as 47 respondents experienced abnormal vaginal discharge and after being given the turmeric tamarind, most experienced normal vaginal discharge as many as 30 respondents (63.8%) and the rest experienced abnormal vaginal discharge as many as 17 respondents (36.2%). Vaginal discharge can be treated using pharmacological therapy and non-pharmacological therapy. One of the non-pharmacological therapies is using turmeric tamarind drink, turmeric tamarind itself contains curcumin, essential oils, anti-microbials, and vitamin C which are able to maintain moisture and protect reproductive organs from the threat of microorganisms that cause various problems, one of which is vaginal discharge. In addition, efforts that can be made to overcome pathological vaginal discharge are by maintaining cleanliness including cleanliness of reproductive organs (Zainal Arifin, 2020).

Side effects of using turmeric and tamarind if taken continuously

a. Indigestion

Turmeric in high doses can cause nausea, diarrhea, or flatulence in some people.

b. Stomach Problems

The acid content of tamarind can trigger stomach irritation in people who have ulcers or gastritis.

c. Menstrual Disorders

Turmeric contains curcumin, which has emmenagogue properties (stimulates uterine contractions). Excessive consumption can affect the menstrual cycle.

d. Effects on Pregnancy

Consuming turmeric in moderate amounts (as a cooking spice) is generally safe. However, high doses or regular consumption as a herbal remedy are not recommended for pregnant women, as it can stimulate uterine contractions. To date, there is no scientific evidence that turmeric and tamarind cause placenta accreta. Placenta accreta is more often associated with risk factors such as a history of repeated cesarean sections, curettage, or uterine abnormalities, rather than herbal medicine consumption.

e. Drug Interactions

Turmeric can affect the action of blood-thinning drugs (anticoagulants), so caution should be exercised in patients taking them.

Turmeric and tamarind are generally safe when consumed in reasonable amounts, but long-term, routine use can cause digestive or menstrual cycle disorders. High doses are not recommended for pregnant women due to the potential to stimulate uterine contractions. However, there is currently no scientific evidence that turmeric and tamarind cause placental abruption, as placenta accreta is more often influenced by obstetric factors such as a history of cesarean section or uterine abnormalities. (Umma, et al. 2024).

Researchers believe that turmeric and tamarind decoction can also help treat vaginal discharge in adolescents. The combination of turmeric and tamarind can boost the body's natural immunity, allowing a faster recovery from the infection that causes vaginal discharge. Turmeric and tamarind water, when prepared in the correct dosage and without harmful additives, is safe for adolescents to consume and does not cause serious side effects. Regular consumption of turmeric and tamarind water (for example, one glass per day for 5-7 days) can reduce excess mucus, unpleasant odor, and itching, common symptoms of pathological vaginal discharge.

Side effects of using turmeric and tamarind if taken continuously

a. Indigestion

Turmeric in high doses can cause nausea, diarrhea, or flatulence in some people.

b. Stomach Problems

The acid content of tamarind can trigger stomach irritation in people who have ulcers or gastritis.

c. Menstrual Disorders

Turmeric contains curcumin, which has emmenagogue properties (stimulates uterine contractions). Excessive consumption can affect the menstrual cycle.

d. Effects on Pregnancy

Consuming turmeric in moderate amounts (as a cooking spice) is generally safe. However, high doses or regular consumption as a herbal remedy are not recommended for pregnant women, as it can stimulate uterine contractions. To date, there is no scientific evidence that turmeric and tamarind cause placenta accreta. Placenta accreta is more often associated with risk factors such as a history of repeated cesarean sections, curettage, or uterine abnormalities, rather than herbal medicine consumption.

e. Drug Interactions

Turmeric can affect the action of blood-thinning drugs (anticoagulants), so caution should be exercised in patients taking them.

Turmeric and tamarind are generally safe when consumed in reasonable amounts, but long-term, routine use can cause digestive or menstrual cycle disorders. High doses are not recommended for pregnant women due to the potential to stimulate uterine contractions. However, there is currently no scientific evidence that turmeric and tamarind cause placental abruption, as placenta accreta is more often influenced by obstetric factors such as a history of cesarean section or uterine abnormalities. (Umma, et al. 2024).

Researchers believe that turmeric and tamarind decoction can also help treat vaginal discharge in adolescents. The combination of turmeric and tamarind can boost the body's natural immunity, allowing a faster recovery from the infection that causes vaginal discharge. Turmeric and tamarind water, when prepared in the correct dosage and without harmful additives, is safe for adolescents to consume and does not cause serious side effects. Regular consumption of turmeric and tamarind water (for example, one glass per day for 5-7 days) can reduce excess mucus, unpleasant odor, and itching, common symptoms of pathological vaginal discharge.

Comparison of the Effects of Giving Red Betel Leaf Boiled Water and Consuming Turmeric and Tamarind Boiled Water on Flour Albus in Adolescent Girls

Based on the results of observations conducted on young women who were given interventions of red betel leaf boiled water, the results showed that the third visit on the 6th day showed that after the intervention of red betel leaf boiled water, the symptoms of flour albus had disappeared, and the intervention of consuming turmeric and tamarind boiled water after the intervention on the third visit on the 6th day, the respondents said that the results showed that the symptoms of flour albus had disappeared or were normal.

Research conducted by (Miskiyah Tamar, Murbiah, 2024) research obtainedthat the analysis test obtained a median value before and after being given health education, the median value of vaginal discharge before being given boiled betel leaves was 7.00 and the median value after being given boiled betel leaves was 6.00. When carried out using an alternative test, namely the Wilcoxon test, it was found that the p-value was 0.000 (p-value
<0.05) where the null hypothesis (Ho) is rejected (Ha) is accepted, which means that there is an effect of giving boiled betel leaves on the occurrence of vaginal discharge in the IKesT Muhammadiyah Palembang dormitory.

And in further research (Muchotimah, Winarni, 2024) The results of the Mann Whitney statistical test pvalue = 0.005 where less than 0.05 indicates a difference in vaginal discharge complaints in the experimental group given turmeric and tamarind by maintaining personal hygiene genitalia and the control group which was only given directions to maintain personal hygiene genitalia which means that vaginal discharge complaints in the experimental group were lighter than the control group. This proves that there is an effect of turmeric and tamarind drinks by maintaining personal hygiene genitalia which is significant in reducing vaginal discharge in adolescents at MA Nahdlatul Ulama Gondang Sragen.

Based on these data, the researchers assumed that, looking at the overall results, they found that the intervention of using boiled betel leaves and consuming boiled turmeric and tamarind water for flour albus resulted in good results. Both interventions were effective in reducing flour albus in adolescents, using red betel leaves and consuming boiled turmeric and tamarind water. Using red betel leaves can help cure vaginal discharge more quickly, even if the process is only small. It is important to note that red betel leaves require greater caution because their use is important because if used too frequently, it can damage the normal flora or cause irritation.

CONCLUSION

Based on the results of the study on "The Effect of Giving Red Betel Leaves and Tamarind Turmeric on Flour Albus in Adolescent Girls in TPMB S in 2025" it can be concluded that

interventions with boiled water of red betel leaves and tamarind turmeric are both effective in reducing symptoms of flour albus. In respondent Ms. A who was given red betel leaves, the symptom score decreased from 12 (moderate) to 8 (mild) and finally 5 (normal), while in respondent Ms. I who was given tamarind turmeric, the score also decreased from 12 (moderate) to 8 (mild) and 6 (normal). Comparison of the two interventions showed no significant difference, although red betel leaves appeared to be faster in reducing vaginal discharge in adolescents.

BIBLIOGRAPHY

Aini, N., & Huryah, F. (–). The effectiveness of giving boiled red betel leaf water (Piper crocatum) to reduce vaginal discharge in high school students. Putra Jaya Mandiri Midwifery Journal.

Baety, DN, Riyanti, E., & Astutiningrum, D. (2019). The Effectiveness of Green Betel Leaf Boiled Water in Overcoming Leucorrhea in Class XI Students of Muhammadiyah 1 Gombong High School. Proceeding of The URECOL, 2(1)

Central Statistics Agency. 2020. 2020 Population Census. Central Statistics Agency.

Dewi, R. (2023). The effect of using boiled water from red betel leaves (Piper crocatum) and green betel leaves (Piper betle L.) on physiological vaginal discharge in adolescent girls. NASUWAKES: Scientific Health Journal, 13(1), 8–15.

Banten Provincial Health Office (2023). Banten Provincial Health Profile 2023. Banten.
Tangerang City Health Office (2023). Tangerang City Health Profile 2023. Banten.
Diananda, Amita. (2018). Adolescent Psychology and Its Problems. College of Health Sciences

Tarbiyah Islamic Village Tangerang.

Ernawati, O., Prasetyaningati, D., & Rahmawati, A. (202X). The effect of boiled red betel leaf water (Piper crocatum) on reducing fluor albus symptoms in women of childbearing age. Journal of Nursing, 17(2).

Febriyossa, A. and Rahayuningsih, N. 2021. Inhibitory Test of White Ginger, Turmeric, and Javanese Curcuma Rhizome Juice on the Growth of Staphylococcus aureus Bacteria. https://jurnal.healthsains.co.id/index.php/jhs/article/view/97/116.

Hariyani, E., Mudlikah, S., Mulyani, E., & Handajani, DO (2024). The effect of giving turmeric

and tamarind drink on the incidence of vaginal discharge in female adolescents at Muhammadiyah 1 Gresik Middle School. Al-Insyirah Midwifery: Journal of Midwifery, 13(2), 184–189.

Judha, M., & Tjatjo, YY (2019). The Relationship Between Stress Levels and Social Conditions and the Incidence of Physiological Vaginal Discharge. Medika Respati: Scientific Journal of Health.

Marwang, S., & Passe, R. (—). Non-pharmacological intervention using boiled betel leaves and turmeric to treat vaginal discharge in women of childbearing age. Jurnal Midwifery. (Available via Jurnal Midwifery, DOI: 10.24252/jmw.v6i2.47421)

Meliana, F. (2021). Overview of the Level of Knowledge of Young Women About Vaginal Discharge at the Yogyakarta Health Sciences College Fitria Melina 1, Nensi Maria Ringringringulu 2. Yogyakarta Health Sciences College.

Miskiyah Tamar, Murbiah (2024). The Effect of Giving Boiled Betel Leaves on the Incidence of Vaginal Discharge in Adolescents. Journal of Health Inspiration. Palembang Faculty of Health. Vol. 2.

Muchotimah, Winarni (2024). The Effect of Turmeric and Tamarind Drinks on Maintaining Personal Genital Hygiene on Reducing Vaginal Discharge in Adolescents. Faculty of Health Sciences, Aisyiyah University, Surakarta. Vol. 3.

Muchotimah, & Winarni. (2024). The effect of turmeric and tamarind drink on maintaining personal genital hygiene on reducing vaginal discharge in adolescents. Mandira Cendikia Scientific Health Journal, 3(8), 1–10.

Nurmaliza, Yusmaharani, & Hariani Ratih, R. (2023). The relationship between the administration of turmeric and tamarind and the occurrence of vaginal discharge in adolescent girls. Encyclopedia of journals.

Novemi, N., Asriah, A., & Isra, Z. (2022). The effect of giving boiled red betel leaves on the incidence of pathological vaginal discharge in adolescent girls at Dayah, Kuta Baro District, Aceh Besar Regency.

Oriza, N and Yulianty, R. 2018. Factors Associated with the Incidence of Vaginal Discharge in Female Adolescents at Darussalam High School, Medan. Community Midwife Journal.

Payon, HEO, & Rahayu, NT (2024). The effect of red betel leaf decoction (Piper crocatum) on vaginal discharge in female adolescents in Ensalang Village, Sekadau Regency. Journal of Health and Medical Technology (JKTM), 6(3).

Diploma III Midwifery Study Program, Wijaya Kusuma Malang, & Lestary, DI (2021). The

effect of turmeric and tamarind drink on the incidence of vaginal discharge in adolescents aged 14–16 years at MTs Nurul.