

# IMPLEMENTATION OF NURSING INTERVENTIONS IN MS. N USING THE PROVISION OF TAMARIND TURMERIC TO REDUCE PATHOLOGICAL VAGINAL DISCHARGE IN ADOLESCENTS

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## Abstrak

**Backgrounds:** Vaginal discharge was one of the problems that had long been an issue for women. Pathological vaginal discharge was a condition of the vagina that caused fluid, such as pus, and was caused by germs. As a result of bacterial, viral, and parasitic infections, the vaginal discharge could cause itching, a fishy odour, and discolouration. **Objective:** Conducted the administration of Tamarind Turmeric therapy to reduce vaginal discharge in adolescents in Sungai Kitano Village, East Martapura District. **Methods** This research was a case study conducted over 7 days and Turmeric Tamarind was given 2 times a day. The evaluation of vaginal discharge was carried out using an observation sheet conducted daily during the intervention before giving the tamarind turmeric. **Result:** After the therapy was performed for 7 days, the vaginal discharge decreased. Tamarind turmeric drink helps reduce vaginal discharge due to its natural components, such as curcumin in turmeric and tannins and alkaloids in tamarind, which act as anti-inflammatory, antioxidant, and antibacterial agents. **Conclusion:** Tamarind Turmeric therapy has proven effective in helping to reduce pathological vaginal discharge in adolescents.

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**Keyword:** *Turmeric Tamarind Therapy, Adolescent, Vaginal Discharge*

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## INTRODUCTION

Adolescence is a transitional period from childhood to adulthood (Selviana, 2022). Adolescent girls experience various changes, including physical, biological, and even psychological changes. Physical and biological changes occur earlier in the reproductive organs, called puberty (Gainau, 2021). The lack of knowledge and understanding regarding reproductive system changes in adolescents caused feelings of insecurity and low self-confidence. This led to various issues related to the reproductive system in adolescents. One of these was the onset of vaginal discharge in adolescent girls (Nurmaliza et al., 2023).

According to the World Health Organization (WHO), in 2021, the prevalence showed that 75% of women in Indonesia experienced vaginal discharge or leucorrhoea at least once in their lifetime, and 45% of women experienced it two times or more. The incidence of vaginal discharge was estimated to affect 35-42% of individuals aged between 10-18 years

who experienced infections in their reproductive organs, and 27-33% of those aged 18-22 years also experienced infections in their reproductive organs (Juwitasari et al., 2020).

Vaginal discharge or leucorrhoea (white discharge) refers to the sign of non-bloody fluid coming from the vagina. Vaginal discharge was not a specific disease indicating pathology in the female reproductive organs. It occurs in women from adolescence to menopause throughout their lives. Vaginal discharge was a physiological phenomenon. It could happen before or during the menstrual cycle (Azzahra & Aisyah, 2020).

Two types of vaginal discharge could be distinguished. The first was physiological vaginal discharge, which occurred due to physical changes before or during the menstrual cycle, involving the hormones estrogen and progesterone. It was characterized by clear or transparent colour, no odour, no itching, a more watery consistency, and non-excessive fluid (Studi et al., 2023). Meanwhile, the pathological causes included fluid coming from the vagina

with characteristics such as yellowish-green colour, a thicker consistency, and a fishy odour, which caused vaginal itching and could disrupt female reproductive function, particularly in the fallopian tube area, potentially leading to infertility (Anggraini et al., 2019).

The triggering factors for pathological vaginal discharge could be caused by bacteria, viruses, fungi, parasites, or poor hygiene of the genital area, particularly the vagina. This included infrequent changing of underwear, not replacing sanitary pads during menstruation, improper menstrual care, and wearing clothes that did not allow sweat to be absorbed easily (Putri A, Kusumawardhani & Cholifah, 2021). Several factors that influenced vaginal discharge in adolescents included their level of knowledge, consumption habits, personal hygiene, and attitudes or behaviours (Fauziyyah et al., 2021).

Efforts to reduce vaginal discharge could be done through two treatment methods. The first treatment was pharmacological treatment, which could be done using antibiotics, and the second was by maintaining genital hygiene, avoiding tight clothing, and consuming herbal drinks or traditional medicine (Widowati et al., 2020). One non-pharmacological intervention to reduce vaginal discharge was a tamarind turmeric drink (Rachmadiani, 2019).

The tamarind turmeric decoction was one of the herbal drinks that could reduce excessive vaginal discharge. Turmeric (*Curcuma Longa* Linn) is a large-leaved, vigorous plant that contains curcumin and essential oils, which are very helpful in balancing female hormones during menstruation, preventing vaginal discharge, alleviating itching, and reducing excessive fluid. The benefits of turmeric include improving women's reproductive health, balancing female hormones during menstruation, strengthening the muscles of the vagina and uterus, reducing the production of harmful fluids in the female reproductive organs, and preventing vaginal discharge. Turmeric (*Curcuma Longa* Linn) was an effective way to minimize vaginal discharge, balance female hormones during menstruation, and reduce bacteria and fungi that could damage the female intimate organs (Nurmaliza et al., 2023).

The curcumin content in turmeric rhizomes acted as an antibacterial agent similar to other phenolic compounds, which inhibited bacterial metabolism by damaging the cytoplasmic

membrane and denaturing cell proteins, causing leakage of nutrients from the cell membrane, leading to bacterial cell death or growth inhibition (Apriliantisya et al., 2022). Tamarind contained tannins and alkaloids that acted as anti-inflammatory, antioxidant, and antibacterial agents, which reduced vaginal discharge by breaking down the peptidoglycan components of bacterial cells, thus making the cell wall inactive and causing cell death (Maulidiyah, 2020).

The study conducted by Abdy & Lestary (2019) showed that tamarind turmeric could reduce vaginal discharge in adolescents. In addition to tamarind turmeric drink, vaginal discharge could be managed by maintaining proper personal genital hygiene. Efforts to address pathological vaginal discharge included maintaining cleanliness, including reproductive organ hygiene (Arifin, 2020).

Based on the assessment conducted on MS. N, she stated that she was aware of experiencing vaginal discharge, which occurred every day. The discharge was milky white, with a thick/clumpy consistency, an unpleasant odour, and accompanied by itching. MS. N mentioned that after bowel movements/urination, she always rinsed the genital area from front to back and changed her underwear twice a day. MS. N sometimes wore tight clothing or pants. She also mentioned that she smoked 10 times a day and occasionally used an electronic cigarette.

Based on the background above, the author was interested in explaining the nursing care for Nn. Through the administration of tamarind turmeric as an effort to reduce pathological vaginal discharge in adolescents in Sungai Kitano Village, East Martapura District.

## **METHOD**

This study was a nursing case study, which included interviews, assessments, physical examinations, and observations. The research began with assessing the patient, followed by data analysis and nursing planning. It was then implemented according to the previously planned nursing care plan and evaluated after the implementation process using an observation sheet. The respondent, who was the patient in the study, MS. N, stated that she was experiencing vaginal discharge, which she felt every day. The discharge was white and thick, with a clumpy consistency, an unpleasant odour, and itching. MS. N stated that after defecation/urination, she

always rinsed the genital area from front to back and changed her underwear twice a day. MS. N sometimes wore tight clothing or pants. MS. N also mentioned that she smoked 10 times a day and occasionally used an e-cigarette.

Based on the case, the researcher provided an intervention of turmeric tamarind drink to MS. N for 7 days, twice a day, with 200ml of turmeric tamarind given per dose. Before this, the respondent was given health education about leucorrhoea and turmeric tamarind to reduce leucorrhoea.

### Results And Discussion

Based on the data obtained during the assessment, the researcher identified two nursing diagnoses: Ineffective Health Management (00078), with the intervention being the provision of education on vaginal discharge and

The tamarind turmeric given was 200ml, consumed daily with the preparation method of 150 grams of turmeric, 80 grams of tamarind, 130 grams of palm sugar, 80 grams of granulated sugar, a teaspoon of salt, and 1 litre of water, all boiled and strained, then consumed twice a day regularly (Nurul Khopipah, 2024).

This drink could be consumed 1 cup ( $\pm$  200 ml) daily for 7-10 days, but no more than 3 cups daily. The tamarind turmeric drink could last 3 days if stored in the refrigerator (Abdy & Lestary, 2019).

tamarind turmeric drink using a booklet. The diagnosis raised for the issue of vaginal discharge in the patient was Discomfort (00214), and the intervention given to MS. N was tamarind turmeric for 7 days, twice a day, with 200ml of tamarind turmeric given per dose.

Visiting Day	FLOUR ALBUS					
	Colour	Consistency	Total	Feels itchy	Smells	Feels painful
First Day	Milky white	Clumping	1–1.5 teaspoon	Frequent itching	Yes	No
Second Day	Milky white	Clumping	1–1.5 teaspoon	Frequent itching	Yes	No
Third-Day	Milky white	Clumping	1–1.5 teaspoon	Frequent itching	Yes	No
Fourth Day	Milky white	Clumping	<1–1.5 teaspoon	Sometimes itchy	Yes	No
Fifth Day	Milky white	Clumping	<1–1.5 teaspoon	Sometimes itchy	No	No
Sixth Day	Milky white	Liquid watery	or <1–1.5 teaspoon	Not itchy	No	No
Seventh Day	Milky white	Liquid watery	or <1–1.5 teaspoon	Not itchy	No	No

### **Analysis Before Giving of Turmeric Acid on the Reduction of Pathological Vaginal Discharge in Adolescents**

Based on the results of the study conducted on MS. N before the administration of tamarind turmeric, it was found that MS. N experienced vaginal discharge. MS. N stated that the discharge was milky white, had a thick consistency, was often itchy, and had an unpleasant odour, with the amount of discharge being approximately 1 to 1.5 teaspoons.

The results were consistent with the study conducted by Ervin Hariyani et al. (2024), where before the administration of tamarind turmeric to adolescent girls, all 15 adolescents experienced pathological vaginal discharge. Many factors could cause vaginal discharge in adolescents, such as supporting factors, physiological factors, and pathological factors. This study was also supported by the research of Abdy & Lestary (2019), where the results showed that before the administration of tamarind turmeric drink, 47 respondents experienced pathological vaginal discharge.

The supporting factors for the occurrence of vaginal discharge in adolescents were knowledge, attitudes, behaviours (smoking, unhealthy lifestyle), anaemia, poor nutrition, family support, information sources, fatigue, and obesity. The physiological factors of vaginal discharge were more influenced by typical hormonal factors such as during ovulation, before and after menstruation, sexual stimulation, and emotions. The pathological factors that often cause vaginal discharge are bacterial, parasitic, fungal, and viral infections (Nurulizzah, 2021).

The use of tight underwear made of nylon, improper methods for cleaning the genital area, such as not wiping from front to back and not drying the vagina after bowel movements/urination, the use of soaps and vaginal fragrances, and the continuous use of pantyliners outside the menstrual cycle were some personal hygiene practices that could cause vaginal discharge (Wahyuni, 2023).

### **Analysis After Giving of Turmeric Acid on the Reduction of Pathological Vaginal Discharge in Adolescents**

Based on the results of the study conducted on MS. N after the administration of tamarind turmeric for 7 days, it was found that by the seventh day, MS. N's vaginal discharge was

milky white, had a watery consistency without clumping, was no longer itchy, had no odour, and the amount of discharge was approximately less than 1 to 1.5 teaspoons. MS. N stated that her body felt more comfortable after drinking tamarind turmeric.

The results were consistent with the study conducted by Abdy & Lestary (2019), which explained that before the administration of tamarind turmeric drink, 47 respondents experienced pathological vaginal discharge. After the administration of tamarind turmeric, 30 respondents (63.8%) experienced physiological vaginal discharge, and 17 respondents (36.2%) still experienced pathological vaginal discharge. This was also supported by the study conducted by Ervin Hariyani et al. (2024), where before the administration of tamarind turmeric to adolescent girls with pathological vaginal discharge, 100% (15 people) experienced it, which decreased to 20.0% (3 people), indicating that the administration of tamarind turmeric had an impact on the vaginal discharge experienced by adolescent girls.

The curcumin content in turmeric rhizomes acted as an antibacterial agent similar to other phenolic compounds, which inhibited bacterial metabolism by damaging the cytoplasmic membrane and denaturing cell proteins, causing leakage of nutrients from the cell membrane, leading to bacterial cell death or growth inhibition (Apriliantisyah et al., 2022). Tamarind contained tannins and alkaloids that acted as anti-inflammatory, antioxidant, and antibacterial agents, which reduced vaginal discharge by breaking down the peptidoglycan components of bacterial cells, making the cell wall inactive and causing cell death (Maulidiyah, 2020).

### **Intervention Analysis of Giving Turmeric Acid to Reduce Pathological Vaginal Discharge in Adolescents**

Based on the results of the study conducted on MS. N after the administration of tamarind turmeric for 7 days, it was found that by the seventh day, MS. N's vaginal discharge was milky white, had a watery consistency without clumping, was no longer itchy, had no odour, and the amount of discharge was approximately less than 1 to 1.5 teaspoons. MS. N stated that her body felt more comfortable after drinking tamarind turmeric. MS. N no longer wore tight clothing and had reduced her smoking.

Based on the study conducted by Selviana (2022), it was found that the majority of respondents experienced moderate vaginal discharge before consuming tamarind turmeric, with 40 respondents (61.5%) reporting this. After consuming tamarind turmeric, the majority experienced mild vaginal discharge, with 54 respondents (83.1%) out of 65 female students included in the study. Vaginal discharge can be managed using both pharmacological and non-pharmacological therapies. One non-pharmacological therapy is the use of tamarind turmeric drink, which contains curcumin, essential oils, antimicrobial properties, and vitamin C, all of which help maintain moisture and protect the reproductive organs from microorganisms that can cause various issues, including vaginal discharge (Arifin, 2020).

Based on the results of the study conducted by the researcher, it can be concluded that there was a reduction in vaginal discharge among adolescents after the intervention with tamarind turmeric. This aligns with the study conducted by Ervin Hariyani et al. (2024), which found that before the administration of tamarind turmeric, 100% (15 individuals) of adolescent girls experienced pathological vaginal discharge. After the intervention, this was reduced to 20.0% (3 individuals), indicating that the administration of tamarind turmeric affected the vaginal discharge experienced by the adolescent girls. The curcumin content in turmeric rhizomes acted as an antibacterial agent similar to other phenolic compounds, which inhibited bacterial metabolism by damaging the cytoplasmic membrane and denaturing cell proteins, leading to leakage of nutrients from the cell membrane and causing bacterial cell death or growth inhibition (Apriliantisyah et al., 2022).

Turmeric, also known as *\*Curcuma domestica\** Vahl, is an herbal medicine used to treat various ailments, including vaginal discharge and candidiasis. The rhizomes of turmeric contain 3-9% essential oils (including phellandrene, sabinene, seneol, borneol, zingiberene, curcumin, turmerone, camphene, camphor, sesquiterpenes, kafrilate acid, methoxycinnamate acid, and tolylmethyl carbinol). The essential oils and curcumin found in turmeric have been shown to stop the activity of pathogenic fungi and prevent vaginal discharge. Chemical analysis tests indicated that all doses of turmeric ethanol extract exhibited

anti-inflammatory properties. This was attributed to curcumin, one of the active compounds in turmeric, which inhibits the production of prostaglandins and halts the activity of cyclooxygenase enzymes. The benefits of turmeric include helping to maintain women's reproductive health, balancing hormones during menstruation, strengthening the vaginal and uterine muscles, reducing excessive fluid production in the female reproductive organs, and preventing vaginal discharge. Turmeric (*\*Curcuma longa\** Linn) proved to be an effective solution for reducing vaginal discharge, balancing hormones during menstruation, and controlling the growth of bacteria and fungi that could affect the intimate female organs (Oktaviana, Wulandari, & Widyaningsih, 2020).

Tamarind (*Tamarindus indica*) contained chemical compounds such as apple acid, nitric acid, and naging acid, as well as tetrarch, and had active agents that acted as antipyretics and calming or psychotropic pressure reducers, reducing the activity of the nervous system. Tamarind contained two substances, namely ethanol and chlorine, which had antifungal properties and could kill bacteria that caused vaginal discharge (Maulidiyah, 2020).

The mechanism of tamarind turmeric for vaginal discharge, with the content of essential oils acting as a direct agent to stop microbial growth, while curcumin works more systemically by reducing inflammation and enhancing immune function. This combination made turmeric effective as a natural remedy for vaginal discharge, mainly if caused by mild infections. The combination of tannins and alkaloids worked by: limiting the growth of pathogenic microbes in the vaginal area, reducing irritation or inflammation caused by disease, and enhancing tissue strength and aiding in the healing of minor wounds (Wulandari, 2019).

Besides with turmeric tamarind drink, vaginal discharge could be managed by maintaining proper personal hygiene of the genital area. Efforts were made to address pathological discharge by maintaining cleanliness, including the cleanliness of the reproductive organs (Zainal Arifin, 2020). Personal hygiene was maintaining cleanliness, as well as physical and mental health. How women maintained their hygiene, especially their genital

area, often caused abnormal vaginal discharge. The use of tight underwear made of nylon, improper methods for cleaning the genital area, such as not washing from front to back and not drying the vagina after urination or defecation, the use of soap and vaginal fragrances, and the continuous use of pantyliners outside the menstrual cycle were some of the personal hygiene practices that could have caused vaginal discharge (Wahyuni, 2023). The vaginal discharge itself could have caused uncomfortable side effects, such as itching, burning, and pain in the vaginal area. The vaginal discharge could also have been caused by hormonal issues, underwear that did not absorb sweat, and sexually transmitted diseases. Infection or inflammation in the vagina could have occurred due to washing the vagina with unclean water, improper internal examinations, and excessive use of douches (Azizah, 2022).

Moreover, the behaviour of smoking could have reduced the number of *Lactobacillus* bacteria, which are dominant in the vaginal microbiota. *Lactobacillus* helped maintain the vaginal pH at an acidic level, thus preventing the growth of pathogenic bacteria and fungi such as *Gardnerella vaginalis* or *Candida albicans*. This imbalance could have triggered bacterial vaginosis or fungal infections, which caused vaginal discharge (Nurulizzah, 2021).

The research by Nur Ain A, Mikla A, & Agustina S (2024) showed that women of reproductive age who experienced vaginal discharge and were given turmeric tamarind decoction and pineapple juice both experienced recovery from the discharge. However, women who were given turmeric tamarind decoction recovered faster than those who were given pineapple juice. This effectiveness was believed to be due to the turmeric tamarind herbal drink's antioxidant, anti-inflammatory, and antibacterial content. In addition, tamarind's vitamin C protects the body from various bacteria, germs, and viruses that cause diseases. This is because turmeric can treat vaginal discharge in women due to its acetogenic compounds and antiseptic properties, which can kill germs. The phenol content in turmeric is five times more effective compared to regular phenol.

The limitations of this study were that the respondent in this study was only one person, and the variables focused solely on the effectiveness

of turmeric tamarind consumption in treating vaginal discharge. During the study, the researcher visited the respondents' houses, but sometimes, the respondents were challenging to meet as they chatted at a neighbour's house. This caused the researcher to spend extra time searching for the respondent. Due to the limitations of the study, which only involved objective observation, direct observation could not be conducted to assess the vaginal discharge experienced by the respondent.

## Conclusion

Based on the results of the analysis and discussion in this study, it can be concluded that the turmeric tamarind drink given to adolescents for 7 consecutive days can be an alternative non-pharmacological intervention to reduce pathological vaginal discharge.

## Suggestion

Suggestions for future research include extending the intervention period to achieve a more effective reduction of vaginal discharge, and in addition to providing turmeric tamarind intervention, also offering education related to vaginal discharge to enhance the patient's knowledge.

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