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# Factors Associated With The Occurrence Of Vaginal Discharge Among Female Students Living In The Midwifery Student Dormitory

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**Abstract**

**Background:** Adolescence is a transitional period characterized by significant physical, biological, and psychological changes. Failure to adapt to these changes may lead to various reproductive health problems, including vaginal discharge. A preliminary study conducted at the Midwifery Student Dormitory of Pontianak Health Polytechnic, Ministry of Health, Indonesia, revealed that six out of ten students experienced vaginal discharge. **Objective:** This study aimed to determine the association between personal hygiene practices and the use of feminine hygiene products with the occurrence of vaginal discharge among female students. **Methods:** This study employed a descriptive analytical design using a cross-sectional approach. The study population consisted of all female students residing in the Midwifery Student Dormitory of Pontianak Health Polytechnic, Ministry of Health, Indonesia, in 2025. A total of 145 respondents were recruited using a total sampling technique. Data were collected using a structured questionnaire and analyzed through univariate and bivariate statistical analyses. **Results:** The findings demonstrated no statistically significant association between personal hygiene practices and the occurrence of vaginal discharge. Likewise, no significant relationship was found between the use of feminine hygiene products and the occurrence of vaginal discharge among the respondents. **Conclusion:** Although no significant associations were identified, reproductive health education remains essential for improving awareness and promoting appropriate personal hygiene practices to maintain female reproductive health.



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## 1. INTRODUCTION

Adolescence is a transitional stage of life characterized by substantial physical, biological, and psychological changes (Risna Sri Wahyuni *et al*., 2023). During this period, adolescents are expected to adapt successfully to these developmental changes. Failure to do so may contribute to various reproductive health problems, including disorders affecting the female genital organs such as vaginal discharge (Hamidah & Rizal, 2022). Vaginal discharge is not considered a disease itself; rather, it is a clinical sign or symptom indicating potential abnormalities of the female reproductive system that require appropriate attention (Evi Gustia Kesuma, 2023).

Pathological vaginal discharge may result from infections caused by inadequate hygiene and improper care of the genital area, allowing microorganisms, bacteria, and viruses to invade the vagina and trigger infection (Shelly *et al.*, 2024). Previous studies have reported that vulvovaginal candidiasis (VVC), one of the most common fungal infections, predominantly affects young women aged 18–24 years (Diana, 2023). Vaginal

discharge can generally be classified as physiological or pathological (Sukamto *et al*., 2018), Pathological vaginal discharge is commonly characterized by changes in color, odor, consistency, and the presence of inflammation (Intan & Masfiyah, 2023).

The occurrence of vaginal discharge among adolescents is influenced by both internal and external factors. Internal factors include hormonal changes, weakened immune function, and inadequate personal hygiene practices (Sukmawati *et al*., 2024). External factors, such as Indonesia's tropical climate, may also contribute by creating warm and humid conditions that favor the development of vaginal discharge (Sukmawati *et al*., 2024). According to the 2022 Indonesian Demographic and Health Survey (IDHS), approximately 63% of adolescents have experienced vaginal discharge. Furthermore, the World Health Organization (WHO) reported in 2021 that approximately 75% of Indonesian women experience vaginal discharge at least once during their lifetime (Lestari & Frilasari, 2024). These findings indicate that vaginal discharge remains a significant reproductive health concern in Indonesia.

Maintaining good personal hygiene is one of the primary preventive measures against vaginal discharge. Recommended practices include keeping the genital area dry after urination or defecation and avoiding excessive use of antiseptic solutions that may eliminate beneficial vaginal bacteria, particularly *Lactobacillus* species (Silaban *et al*., 2020). In addition, excessive use of feminine hygiene products may disrupt the natural vaginal pH (Winengsih, 2023), which normally ranges between 3.8 and 4.2, thereby promoting the growth of pathogenic microorganisms (Rezita *et al*., 2022). Previous research has demonstrated that adolescents who use feminine cleansing products have a 2.73-fold higher risk of experiencing vaginal discharge compared with those who do not use such products (Risna Sri Wahyuni *et al*., 2023). Similarly, Hidayah et al. (2021) reported a significant association between the use of feminine hygiene products and the occurrence of vaginal discharge (Hidayah et all, 2021).

A preliminary survey conducted at the Midwifery Student Dormitory of Pontianak Health Polytechnic, Ministry of Health, Indonesia, revealed that six out of ten female students experienced vaginal discharge. Initial interviews indicated that several students practiced inappropriate genital hygiene, such as cleaning the genital area from the anus toward the vagina, despite changing their underwear three to four times daily. Additionally, some students experiencing vaginal discharge reported using feminine hygiene products. These findings encouraged the researchers to conduct a more comprehensive investigation. Therefore, this study aimed to identify the factors associated with the occurrence of vaginal discharge among female students residing in the Midwifery Student Dormitory of Pontianak Health Polytechnic, Ministry of Health, Indonesia.

Although previous studies have demonstrated the association between personal hygiene practices and vaginal discharge among adolescent girls, limited evidence is available regarding female students living in dormitory settings, where environmental conditions and communal facilities may influence reproductive health behaviors. Therefore, this study aims to provide additional evidence regarding factors associated with vaginal discharge among female students residing in a midwifery dormitory.

## 2. METHODS

This study employed a descriptive analytical research design with a cross-sectional approach. The study was conducted at the Midwifery Student Dormitory of Pontianak Health Polytechnic, Ministry of Health, Indonesia, from August 1 to August 4, 2025. The study population consisted of all female students residing in the dormitory. A total sampling technique was applied, resulting in a sample of 145 respondents. Data were collected using a structured questionnaire. The independent variables included personal hygiene practices and the use of feminine hygiene products, while the dependent variable was the occurrence of vaginal discharge. Data analysis was performed using both univariate and bivariate statistical analyses. This study was approved by the Health Research Ethics Committee of Poltekkes Kemenkes Pontianak (Approval No.91/KEPK-PK.PKP/III/2025). Written informed consent was obtained from all respondents before data collection.

## 3. RESULT AND DISSCUSSION

### Univariate Analysis

The results of the univariate analysis in this study are presented in the following table:

**Table 1.** Frequency Distribution of Personal Hygiene Practices, Use of Feminine Hygiene Products, Vaginal Discharge Occurrence, and Types of Vaginal Discharge

| **Personal Hygiene Practices** | **Frequency (f)** | **Percentage (%)** |
|---|---|---|
| Poor | 42 | 29,0 |
| Good | 103 | 71,0 |
| **Use of Feminine Hygiene Products** | | |
| Used | 104 | 71,7 |
| Not Used | 41 | 28,3 |
| **Occurrence of Vaginal Discharge** | **Frequency (f)** | **Percentage (%)** |
| Experienced | 109 | 75,2 |
| Did Not Experienced | 36 | 24,8 |
| **Type of Vaginal Discharge** | **Frequency (f)** | **Percentage (%)** |
| No Vaginal Discharge | 36 | 24,8 |
| Physiological Vaginal Discharge | 64 | 44,1 |
| Pathological Vaginal Discharge | 45 | 31,0 |
| **Total** | **145** | **100** |

*Source : Primary Data, 2025*

Based on Table 1, the majority of respondents demonstrated good personal hygiene practices, accounting for 103 respondents (71.0%), whereas 42 respondents (29.0%) exhibited poor personal hygiene practices. The most respondents reported using feminine hygiene products (104 respondents; 71.7%), while 41 respondents (28.3%) reported not using such products. The majority of respondents experienced vaginal discharge, accounting for 109 respondents (75.2%), whereas 36 respondents (24.8%) reported no occurrence of vaginal discharge. That among the 145 respondents, 64 (44.1%) experienced physiological vaginal discharge, 45 (31.0%) experienced pathological vaginal discharge, and 36 (24.8%) did not experience vaginal discharge.

### Bivariate Analysis

**Table 2.** Association Between Personal Hygiene Practices and the Occurrence of Vaginal Discharge

| ***Personal Hygiene*** | **Vaginal Discharge** | | | | ***p-value*** |
|---|---|---|---|---|---|
| | **Yes** | | **No** | | |
| | F | % | f | % | |
| Poor | 33 | 78,6 | 9 | 21,4 | 0,694 |
| Good | 76 | 73,8 | 27 | 26,2 | |

*Source : Primary Data, 2025*

Table 2 shows that vaginal discharge occurred in 76 respondents (73.8%) with good personal hygiene practices and in 33 respondents (78.6%) with poor personal hygiene practices. The statistical analysis yielded a p-value of 0.694 ($p > 0.05$), indicating no statistically significant association between personal hygiene practices and the occurrence of vaginal discharge. Therefore, the research hypothesis was rejected. Respondents with poor personal hygiene practices had a 1.065-fold greater likelihood of experiencing vaginal discharge than those with good personal hygiene practices; however, this difference was not statistically significant.

**Table 3.** Association Between the Use of Feminine Hygiene Products and the Occurrence of Vaginal Discharge

| User of Feminine Hygiene Products | Vaginal Discharge | | | | *p-value* |
|---|---|---|---|---|---|
| | Yes | | Yes | | |
| | f | % | f | % | |
| Used | 76 | 73,1 | 28 | 26,9 | 0,473 |
| Not Used | 33 | 80,5 | 8 | 19,6 | |

*Source : Primary Data, 2025*

As presented in Table 3, vaginal discharge occurred in 76 respondents (73.1%) who used feminine hygiene products and in 33 respondents (80.5%) who did not use such products. The statistical analysis yielded a p-value of 0.473 ($p > 0.05$), indicating no statistically significant association between the use of feminine hygiene products and the occurrence of vaginal discharge.

**Association Between Personal Hygiene Practices and the Occurrence of Vaginal Discharge**

The findings of this study revealed no statistically significant association between personal hygiene practices and the occurrence of vaginal discharge, as indicated by a p-value of 0.694 ($p > 0.05$)**.** Theoretically, good personal hygiene practices are expected to reduce the risk of pathological vaginal discharge because appropriate genital hygiene helps maintain the normal vaginal pH and prevents the proliferation of pathogenic microorganisms (Arsyad et al., 2023). However, the present study demonstrated that personal hygiene practices were not significantly associated with the occurrence of vaginal discharge among female students residing in the midwifery dormitory. One possible explanation is that the occurrence of vaginal discharge among dormitory residents is influenced by multiple factors beyond personal hygiene alone. Dormitory environments possess unique characteristics that may affect reproductive health, including shared bathroom facilities, high humidity, limited privacy, and academic stress experienced by students (Hanifah *et al*., 2023). These environmental factors may exert a greater influence on the occurrence of vaginal discharge than individual personal hygiene practices.

The condition of shared bathroom facilities may also contribute to the difficulty of maintaining optimal genital hygiene. Although students may have adequate awareness of personal hygiene, the use of communal facilities that are not consistently maintained in a hygienic condition may increase exposure to pathogenic microorganisms (Dewi *et al*., 2022). Furthermore, the high humidity commonly found in dormitory environments, particularly in shared bathrooms, provides favorable conditions for the growth of fungi and bacteria, thereby increasing the likelihood of vaginal discharge (Kas & Ratnaningsih, 2023).
Several limitations of this study should be considered when interpreting the findings. First, personal hygiene practices were assessed using self-reported questionnaires, which may introduce reporting bias, particularly social desirability bias, whereby respondents tend to provide answers perceived as socially acceptable. Second, the operational definition of personal hygiene used in this study may not have captured all relevant aspects of genital hygiene or may have been interpreted differently by individual respondents.

**Association Between the Use of Feminine Hygiene Products and the Occurrence of Vaginal Discharge**

This study also found no statistically significant association between the use of feminine hygiene products and the occurrence of vaginal discharge. Although excessive or inappropriate use of feminine hygiene products may disrupt the normal vaginal pH and microbiota, thereby increasing the risk of vaginal discharge (Sumarni Marwang et all., 2024). this relationship was not statistically supported in the present study. One possible explanation is that the pattern of feminine hygiene product use among students was inconsistent or insufficiently frequent to produce a measurable effect on vaginal health. Many students may have used these products only occasionally or under specific circumstances, resulting in minimal disruption to the vaginal microbiome. Consequently, their use may not have significantly influenced the occurrence of vaginal discharge. Economic factors may also have affected product usage patterns. Some students may have been unable to purchase specialized feminine hygiene products regularly because of financial constraints. As a result, the frequency and duration of product use may have been insufficient to produce detectable differences in vaginal discharge incidence. Moreover, the occurrence of vaginal discharge among female students may have been predominantly influenced by factors unrelated to the use of feminine hygiene products. Hormonal fluctuations, which are common among women of reproductive age, can naturally alter vaginal secretions. In addition, menstrual cycles, psychological stress, sleep disturbances, and dietary habits may affect hormonal balance and subsequently influence the characteristics of vaginal discharge (Apriani *et al*., 2023) (Arifah *et al*., 2025).

The present findings highlight the importance of providing comprehensive reproductive health education in dormitory settings. Health promotion programs should emphasize not only personal hygiene practices but also other potential determinants of vaginal discharge, including environmental sanitation, stress management, and appropriate reproductive health behaviors.

The absence of statistically significant associations in this study suggests that vaginal discharge among female students is likely a multifactorial condition influenced by the complex interaction of biological, behavioral, and environmental factors. The composition of the vaginal microbiota, hormonal fluctuations throughout the menstrual cycle, immune status, nutritional status, stress, and lifestyle behaviors may collectively contribute to the occurrence of vaginal discharge, independent of personal hygiene practices or the use of feminine hygiene products. Recent evidence indicates that disruption of the normal vaginal microbiome, rather than hygiene practices alone, plays a central role in the development of vaginal infections and abnormal vaginal discharge (Workowski et all, 2021). Therefore, preventive strategies should adopt a holistic approach by considering multiple risk factors that may affect vaginal health rather than focusing exclusively on hygiene-related behaviors (Mitchell et all,2023).

The findings of this study also have important implications for reproductive health promotion in educational institutions, particularly those providing dormitory accommodations. Although no significant associations were identified between the studied variables and vaginal discharge, comprehensive reproductive health education remains essential to increase students' awareness of healthy reproductive behaviors and early recognition of abnormal vaginal symptoms. Health education programs should incorporate information on genital hygiene, environmental sanitation, stress management, menstrual health, healthy lifestyle practices, and the appropriate use of feminine hygiene products. Furthermore, periodic reproductive health screening and counseling services may facilitate early identification of reproductive health problems and encourage timely healthcare-seeking behavior among female students (Chee et all, 2020).

## 4. CONCLUSION

Based on the findings of this study, neither personal hygiene practices nor the use of feminine hygiene products was significantly associated with the occurrence of vaginal discharge among female students residing in the Midwifery Student Dormitory of Poltekkes Kemenkes Pontianak, Indonesia. Nevertheless, promoting awareness of appropriate personal hygiene practices and the wise use of feminine hygiene products remains essential for maintaining female reproductive health. These findings also suggest that reproductive health promotion programs in dormitory settings should address broader determinants of vaginal discharge beyond personal hygiene practices alone. Therefore, educational institutions should continue to strengthen comprehensive reproductive health education, while future multicenter studies incorporating laboratory-confirmed diagnoses are recommended to investigate other potential factors influencing vaginal discharge and to provide more robust evidence.

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**REFERENCE**


Apriani, F., Widiyanti, D., Arsyad, M., & Kunci, K. (2023). Hubungan Penggunaan Sabun Pembersih Kewanitaan Terhadap Kejadian Keputihan pada Mahasiswi Universitas Yarsi dan Tinjauannya Menurut Pandangan Islam The Relationship of The Usage of Feminine Hygiene t o Leukorrhea ' s Incidents in The on Students of Yarsi . *1*(7).

Arifah, S. N., Wuriningsih, A. Y., & Distinarista, H. (2025). Dominan Faktor Yang Memengaruhi Kejadian Keputihan ( Flour Albus ) Pada Remaja. *An-Najat: Jurna Ilmu Farmasi Dan Kesehatan*, *3*(2), 202–219.

Chee, W. J. Y., Chew, S. Y., & Than, L. T. L. (2020). Vaginal microbiota and the potential of *Lactobacillus* derivatives in maintaining vaginal health. *Microbial Cell Factories, 19*(1), 203. https://doi.org/10.1186/s12934-020-01464-4

Diana, S. N. (2023). *Faktor-Faktor yang Mempengaruhi Keputihan pada Remaja Putri di SMKN 15 Kota Bekasi Tahun 2023*.

Evi Gustia Kesuma, H. P. (2023). Hubungan Pengetahuan Dan Gaya Hidup Dengan Kejadian Keputihan Pada Siswi Sma. *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal Volume*, *13*(4), 1535–1546. https://jurnal.stikes-ibnusina.ac.id/index.php/an-Najat/article/download/2450/2748

Hamidah, S., & Rizal, M. S. (2022). Edukasi Kesehatan Reproduksi dan Perkembangan Remaja di Panti Asuhan Yatim Muhammadiyah Kecamatan Gresik Kabupaten Gresik Jawa Timur. *Journal of Community Engagement in Health*, *5*(2), 237–248. https://doi.org/10.30994/jceh.v5i2.384

Hanifah, H., Herdiana, H., & Jayatni, I. (2023). Hubungan Personal Hygiene, Aktivitas Fisik Dan Tingkat Stres Terhadap Kejadian Keputihan Pada Remaja Putri Kelas Xii Di Sma Darussalam Kabupaten Garut Tahun 2023. *SENTRI: Jurnal Riset Ilmiah*, *2*(10), 4318–4331. https://doi.org/10.55681/sentri.v2i10.1671

Hidayah, A., Sari, W. A., & Peu, Y. A. (2021). Hubungan Penggunaan Sabun Pembersih Kewanitaan dengan Kejadian Keputihan pada Wanita Usia Subur Di Rw 06 Desa Kletek Kecamatan Taman Kabupaten Sidoarjo. *Hotspital Majapahit*, *13*(1), 122–131.

Intan, Y. S. N., & Masfiyah. (2023). Faktor-Faktor yang Mempengaruhi Kejadian Keputihan pada Ibu Hamil di Puskesmas Bangetayu Semarang Yulice Soraya Nur Intan. *Jurnal Penelitian Kesehatan Suara Forikes*, *14*(5), 103–105.

Kas, S. R., & Ratnaningsih, M. (2023). Determinan Tingkas Stress Remaja Putri dengan Keluhan Keputihan. *12 (2)*, 120–127. https://doi.org/10.33475/jikmh.v12i2.327

Kunci, K. (2024). Giovan dengan Kejadian Keputihan Pada Wanita Usia Subur Di Klinik N Tahun 2024.

Lestari, I., & Frilasari, H. (2024). Edukasi Kesehatan Reproduksi Remaja Berbasis On Line Digital. *Media Abdimas Indonesia*, *2*(2), 46–51.

Mitchell,C.,&Marrazzo,J.(2023). The vaginal microbiome and women's health. *Nature Reviews Urology, 20*(4), 221–236.

Mutiara Andjani Arsyad, Kasrini Safitri, Zulfamidah, Lisa Yuniati, Y. S. (2023). Fakumi medical journal. *Fakumi Medical Journal: Jurnal Mahasiswa Kedokteran*, *3*(9), 695–701.

Ni Putu Ayu Ratna Dewi, I Gede Putu Darma Suyasa, I. A. W. (2022). Hubungan Personal Hygiene Dan Penggunaan Alat Pelindung Diri Dengan Risiko Kejadian Dermatitis Kontak Pada Pemulung. *Jurnal Persatuan Perawat Nasional Indonesia (JPPNI)*, *6*(3), 118. https://doi.org/10.32419/jppni.v6i3.292

Rezita, N., Ambari, Y., & Nurrosyidah, I. H. (2022). Uji Efektivitas Antifungi Formulasi Sabun Cair Pembersih Kewanitaan (Feminine Hygiene) Ekstrak Etanol Daun Ceremai (Phyllanthus acidus (L.) Skeels) terhadap Pertumbuhan Candida albicans. *Journal of Islamic Pharmacy*, *7*(1), 1–10. https://doi.org/10.18860/jip.v7i1.13357

Risna Sri Wahyuni, Wisudawan, AZ, D., Hapsari, P., & Arifin, A. F. (2023). Hubungan Pengetahuan Sikap dan Perilaku Vaginal hygiene terhadap Kejadian Fluor albus pada Siswi SMAN 17 Makassar. *Fakumi Medical Journal: Jurnal Mahasiswa Kedokteran*, *3*(4), 290–299. https://doi.org/10.33096/fmj.v3i4.260

Shelly Puspita Sari, Nisa Kartika Ningsih, Dwi Hayanti, D. S. (2024). Hubungan Pemakaian Pembersih Kewanitaan dan Personal Hygiene dengan Kejadian Keputihan Patologis pada Remaja di Madrasahaliyah Annur Tangkit. *Midwifery Health Journal*, *9*(2), 158.

Silaban, V. F., Silalahi, K. L., Feedia, E., & Saragih, M. (2020). Pemanfaatan Personal Hygiene Untuk Menurunkan Tingkat Kejadian Keputihan.

Sukamto, N. R., Yahya, Y. F., Handayani, D., Argentina, F., & Liberty, I. A. (2018). Hubungan Pengetahuan, Sikap, dan Perilaku Perawatan Vagina Terhadap Kejadian Keputihan Patologis pada Mahasiswi Program Studi Pendidikan Dokter Fakultas Kedokteran Universitas Sriwijaya. *Majalah Kedokteran Sriwijaya*, 113–122.

Sukmawati, O., Anisa, D. N., & Handayani, D. S. (2024). Faktor-faktor penyebab terjadinya leukhorea ( keputihan ) pada remaja putri usia 13-19 tahun : Literature review Factors that cause leukhorea ( vaginal discharge ) in adolescent girls aged 13- 19 years : Literature review. *2*(September), 659–668.

Sumarni Marwang, & Passe, R. (2024). Intervensi Non Farmakologi dengan Rebusan Daun Sirih dan Kunyit

untuk Mengatasi Keputihan pada Wanita Usia Subur : Non-Pharmacological Intervention with Betel Leaf and Turmeric Decoction to Treat Vaginal Discharge in Women of Childbearing Age. *Jurnal Midwifery*, *6*(2), 111–117. https://doi.org/10.24252/jmw.v6i2.47421

Winengsih, E. (2023). Hubungan Penggunaan Sabun Pembersih Kewanitaan Terhadap Kejadian Keputihan (Flour Albus) Pada Remaja Putri Di Smk Pasundan Jatinangor Tahun 2023. *Journal Of Midwifer*, *11*(2), 354–360.

Workowski, K. A., Bachmann, L. H., Chan, P. A., et al. (2021). Sexually transmitted infections treatment guidelines, 2021. *MMWR Recommendations and Reports, 70*(4), 1–187. https://doi.org/10.15585/mmwr.rr7004a1