



The Relationship Between Adolescent Girls' Knowledge And Attitudes and The Prevalence of Vaginal Discharge

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Abstract

Background. Vaginal discharge can be physiological (normal) or pathological (abnormal). Physiological vaginal discharge occurs before or after menstruation, without odor or itching. Pathological vaginal discharge is characterized by odorous, viscous, and itchy or burning fluids, triggered by pH imbalances, infections, or unhealthy habits such as the use of dirty water or the infrequent change of sanitary napkins

Aims. This study aims to examine the relationship between knowledge and attitudes of adolescent girls and the incidence of vaginal discharge at SMAN 1 Rajagaluh, Majalengka Regency, to support more effective reproductive health education efforts.

Methods. This study uses a quantitative design with a cross-sectional approach to examine the relationship between the knowledge and attitudes of adolescent girls and the incidence of vaginal discharge at SMAN 1 Rajagaluh, Majalengka Regency. Measurements of independent (knowledge and attitude) and dependent (vaginal discharge events) variables were carried out simultaneously at one time without follow-up.

Conclusion. Adolescent girls with a positive attitude had a 12.67 times greater chance of not experiencing vaginal discharge than those who behaved negatively,

Implementation. Controlling for disruptive variables such as age and hygiene habits.

Keywords: vaginal, knowledge, attitudes, reproductive, education



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INTRODUCTION

Reproductive health problems in adolescents require serious attention because adolescents are the next generation of the nation. Every adolescent has the right to optimal reproductive health. In Indonesia, the lack of access to information and adolescent-friendly reproductive health services leads to high problems such as vaginal discharge. Reproductive health includes physical, mental, and social well-being, not just being free from reproductive diseases (Komala, 2021). Adolescent Reproductive Health (KRR) in Indonesia aims to address early marriage, unwanted pregnancy, and infectious diseases such as HIV/AIDS.

Vaginal discharge, or fluorine albus, is excessive vaginal secretion other than blood, often occurring in adolescent girls due to a lack of proper knowledge and attitude in maintaining the cleanliness of the intimate organs (Chairiyah, 2024). According to WHO (2023), 33% of diseases in women in the world are related to reproductive health. In Indonesia, the prevalence of vaginal discharge reaches 70% and continues to increase, with 90% of women at risk, 60% of whom are adolescent girls, affected by tropical climates that trigger fungal growth (Pradnyandari & Aryani, 2023; Mirani et al., 2023). In West Java, 27.6% of 11.36 million women experience vaginal discharge, especially adolescents aged 10-24 years.

Vaginal discharge can be physiological (normal) or pathological (abnormal). Physiological vaginal discharge occurs before or after menstruation, without odor or itching. Pathological vaginal discharge is characterized by odorous, viscous, and itchy or burning fluids, triggered by pH imbalances, infections, or unhealthy habits such as the use of dirty water or the infrequent change of sanitary napkins (Amalia & Yusnia, 2021). The impact of untreated vaginal discharge ranges from psychological disorders (anxiety, lack of confidence) to long-term complications such as infertility, pelvic inflammation, or uterine cancer (Hayati et al., 2023).

Knowledge and attitude play an important role in the prevention of vaginal discharge. Knowledge is gained from education or experience, while attitudes reflect behavioral tendencies (Komala, 2021). Data from Riskesdas (2020) shows that 52% of adolescent girls in Indonesia have experienced vaginal discharge, but only 35% understand the difference between physiological and pathological vaginal discharge, and 60% do not understand how to maintain the cleanliness of the reproductive organs. A preliminary study at SMAN 1 Rajagaluh, Majalengka, on June 19, 2025, on 20 female students showed that 15 of them experienced vaginal discharge with a lack of knowledge about its definition, causes, and prevention.

This study aims to examine the relationship between knowledge and attitudes of adolescent girls and the incidence of vaginal discharge at SMAN 1 Rajagaluh, Majalengka Regency, to support more effective reproductive health education efforts.

METHODS

Research Design

This study uses a quantitative design with a cross-sectional approach to examine the relationship between the knowledge and attitudes of adolescent girls and the incidence of vaginal discharge at SMAN 1 Rajagaluh, Majalengka Regency. Measurements of independent

(knowledge and attitude) and dependent (vaginal discharge events) variables were carried out simultaneously at one time without follow-up.

Place and Time of Research

The research was conducted at SMAN 1 Rajagaluh, Majalengka Regency, West Java, on July 28, 2025.

Research Variables

1. Independent Variables: Knowledge levels and attitudes of young women.
2. Dependent Variables: Incidence of vaginal discharge in adolescent girls.

Population and Sample

Population

The research population is all adolescent girls in grade XI at SMAN 1 Rajagaluh in 2025, totaling 271 students.

Sample

The number of samples was calculated using the Slovin formula: $[n = \frac{N}{1 + N(e)^2}]$ with ($N = 271$) (total population) and ($e = 0.1$) (margin of error). Calculation results: $[n = \frac{271}{1 + 271(0.01)} = \frac{271}{3.71} \approx 73.04]$ To anticipate drop out, 10% was added, so that the sample was rounded to 80 female students.

Sampling Techniques

Sampling uses purposive sampling techniques with the following inclusion and exclusion criteria:

1. Inclusion Criteria:
 - a. Young women are active as grade XI students at SMAN 1 Rajagaluh.
 - b. Aged 16-17 years.
 - c. Willing to be a respondent and sign informed consent.
2. Exclusion Criteria:
 - a. Not willing to participate.
 - b. Experiencing severe health problems.
 - c. Undergoing vaginal discharge treatment.
 - d. Not filling out the questionnaire completely.

Data Collection Techniques

Data were collected using questionnaires designed to measure knowledge, attitudes, and incidence of vaginal discharge in adolescent girls.

Data Analysis

Univariate Analysis

Univariate analysis was used to describe the frequency and percentage distribution of each variable (knowledge, attitude, and incidence of vaginal discharge) (Hulu, 2019).

Bivariate Analysis

Bivariate analysis uses the Chi-Square test to test the relationship between independent variables (knowledge and attitudes) and dependent variables (vaginal discharge events).

Decision-making criteria:

- If ($p \leq 0.05$), an alternative hypothesis (H_a) is accepted, indicating a significant relationship.
- If ($p > 0.05$), the alternative hypothesis (H_a) is rejected, indicating no significant relationship.

Multivariate Analysis

Multivariate analysis was conducted using logistic regression to identify the simultaneous influence and strength of the relationship between knowledge and attitudes towards vaginal discharge events, by controlling for confounding variables such as age and hygiene habits. The results were interpreted based on odds ratio (OR) and value ($p \leq 0.05$) to determine statistical significance.

RESULT

This research was carried out on July 28, 2025 in grade XI Science and Social Studies students of SMAN 1 Rajagaluh, Majalengka Regency which amounted to 271 students and who attended and were willing to be respondents as many as 80 students based on the slovin formula which is in accordance with the inclusion criteria, the following results were obtained

Univariate Analysis

Table 5. Student Knowledge

Yes	Knowledge	Frequency (n)	Present %
1	Good	23	28.7
2	Enough	31	38.8
2	Less	26	32.5
	Sum	80	100

Based on table 6, it was found that the majority of female students had sufficient knowledge as many as 31 respondents (38.8%).

Attitude of Female Students

Table 6. Frequency Distribution of Students' Attitudes About Vaginal Discharge at SMAN 1 Rajagaluh, Majalengka Regency

Yes	Attitude	Frequency (n)	Present %
1	Positive	29	36.3
2	Negative	51	63.7
	Sum	80	100

Based on table 7, it was found that 80 respondents were the majority of female students who behaved negatively as many as 51 respondents (63.7%).

Incidence of vaginal discharge

Table 7. Distribution of the Frequency of Vaginal Discharge Incidence in Students at SMAN 1 Rajagaluh, Majalengka Regency

Yes	Incidence of vaginal discharge	Frequency (n)	Present %
1	Yes	46	57.5
2	Not	34	42.5
	Sum	80	100

Based on table 5, it was found that the majority of female students had experienced vaginal discharge, namely 46 (57.5%)

Bivariate Analysis

The Relationship of Knowledge to the Incidence of Vaginal Discharge

Based on table 8, it is known that the majority of respondents who experience vaginal discharge lack knowledge, namely 26 respondents (32.5%). The results of the *Chi-Square statistical test* showed a p value of 0.000 which means it is smaller than 0.05 so it can be concluded that there is a relationship between knowledge about vaginal discharge and the incidence of vaginal discharge at SMAN 1 Rajagaluh.

Table 8. The Relationship of Knowledge with the Incidence of Vaginal Discharge at SMAN 1 Rajagaluh, Majalengka Regency

Knowledge	Incidence of vaginal discharge				Total		P value
	Yes		Not		N	%	
	n	%	n	%			
Good	6	7.5	17	21.3	23	28.7	0.000
Enough	14	17.5	17	21.3	31	38.8	
Less	26	32.5	0	0	26	32.5	

The Relationship between Attitude and the Incidence of Vaginal Discharge

Table 9. The Relationship between Attitude and the Incidence of Vaginal Discharge at SMAN 1 Rajagaluh, Majalengka Regency

Attitude	Incidence of vaginal discharge				Total		P value
	Yes		Not		N	%	
	n	%	n	%			
Positive	5	6.3	24	30	29	36.3	0.000
Negative	41	51.2	10	12.5	51	63.7	

Based on table 9, it is known that the majority of respondents who experience vaginal discharge have negative attitudes, namely 41 respondents (51.2%). The results of *the Chi-Square statistical test* showed a p value of 0.000 which means it is smaller than 0.05 so it can be concluded that there is a relationship between attitude and the incidence of vaginal discharge at SMAN 1 Rajagaluh.

Multivariate Analysis

Independent Variables	Sig.	OR
Knowledge	0,001	6,385
Attitude	0,000	12,670

Based on the results of the multivariate analysis, it was found that the variables of knowledge and attitude had an influence on the prevalence of vaginal discharge with a significance value of < 0.05. Among the two variables, attitude had the strongest influence because the OR value was highest at 12,670. This means that respondents with a positive

attitude have a 12.67 times greater chance of not experiencing vaginal discharge than respondents with a negative attitude.

Output:

Variables in the Equation

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1a	Knowledge	1.854	.539	11.844	1	.001	6.385
	Attitude	2.539	.668	14.458	1	.000	12.670
	Constant	-7.728	1.662	21.632	1	.000	.000

a. Variable(s) entered on step 1: Knowledge, Attitude.

DISCUSSION

Univariate Analysis

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The results showed that 46 respondents (57.5%) experienced vaginal discharge, while 34 respondents (42.5%) did not experience it. Vaginal discharge is a common reproductive health problem in adolescent girls, often considered normal even though it can be abnormal if accompanied by discoloration, odor, or itching (Chairiyah, 2024). Research by Marhaeni (2023) states that pathological vaginal discharge that is not treated can cause reproductive health disorders. Risk factors such as unhygienic habits (rarely changing underwear, using tight clothes, or not drying the genital area) contribute to the incidence of vaginal discharge, as found in a study by Damayanti and Wahyuningsih (2024) that showed a significant relationship between personal hygiene and vaginal discharge in adolescents.

Knowledge

Of the 80 respondents, 31 (38.8%) had sufficient knowledge, 26 (32.5%) lacked, and 23 (28.7%) were good about vaginal discharge. Knowledge is influenced by education, age, intelligence, socio-economic, and culture (Octaviana, 2021). Research by Pratiwi et al. (2021) at SMAN 2 Tondano found that the majority of respondents had sufficient knowledge (53.8%), which had an impact on the lack of optimal prevention of vaginal discharge. Well-informed adolescents tend to implement precautions such as maintaining hygiene during menstruation and avoiding products that disrupt the vaginal pH balance.

Attitude

A total of 51 respondents (63.7%) showed a negative attitude and 29 (36.3%) had a positive attitude towards reproductive health. Attitudes reflect behavioral tendencies that are influenced by knowledge, beliefs, and feelings (Rismayanti, 2025). Research by Febria (2020) at MTsN Koto Tangah Padang found that 51.3% of female students had a negative attitude, with 93.6% experiencing vaginal discharge. Positive attitudes encourage hygienic habits such as regularly changing underwear and keeping the genital area clean, thereby reducing the risk of vaginal discharge.

Bivariate Analysis

The Relationship of Knowledge to the Incidence of Vaginal Discharge

The Chi-Square test yielded *a value of* $p = 0.000 (< 0.05)$, indicating a significant relationship between knowledge and the incidence of vaginal discharge. Citrawati research (2022) in Denpasar also found a strong relationship between knowledge and behavior to prevent vaginal discharge. Good knowledge allows adolescents to understand the importance of intimate organ hygiene and preventive measures, as stated by Kurniawati (2023), that knowledge shapes perceptions and intentions to prevent pathological vaginal discharge.

The Relationship between Attitude and the Incidence of Vaginal Discharge

The Chi-Square test showed *a value of* $p = 0.000 (< 0.05)$, indicating a significant relationship between attitude and the incidence of vaginal discharge. A positive attitude towards reproductive health encourages hygienic behaviors, such as regularly changing underwear and maintaining hygiene during menstruation, which can prevent vaginal discharge. On the other hand, negative attitudes increase the risk of vaginal discharge due to lack of attention to hygiene (Kurniawati, 2023).

CONCLUSION

Logistic regression analysis showed that knowledge and attitudes had a significant effect on the incidence of vaginal discharge ($p < 0.05$). Attitude had the strongest influence with an odds ratio (OR) of 12.670, meaning that adolescent girls with a positive attitude had a 12.67 times greater chance of not experiencing vaginal discharge than those who behaved negatively, after controlling for disruptive variables such as age and hygiene habits.

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