

## LEVEL OF KNOWLEDGE AND PERSONAL GENITAL HYGIENE BEHAVIORS WITH THE DEGREE OF VAGINAL DISCHARGE IN ADOLESCENT GIRLS

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### Abstract

Vaginal discharge is a reproductive health problem that is often experienced by adolescent girls, but is often considered normal so it is not taken seriously. In fact, vaginal discharge can be a sign of certain diseases so good knowledge is needed to prevent the risks. Increasing knowledge and behavior of genetically modified personal hygiene is important to form adolescent awareness in maintaining the cleanliness of the reproductive organs. This study aims to determine the relationship between the level of knowledge and personal hygiene genitalia with the degree of vaginal discharge in adolescent girls. This study used a cross sectional analytical design with a research sample consisting of 182 adolescent girls in grades 7 and 8 at SMPN 1 Wajak. Data collection was carried out using a questionnaire, then the data was analyzed using a Gamma statistical test. The research instruments used were based on indicators of knowledge, personal hygiene behavior, and degree of vaginal discharge. The results of this study show that there is a relationship between the level of knowledge and vaginal discharge in adolescent girls with a  $p$  value of 0.011 and there is also a relationship between genetic personal hygiene behavior and the degree of vaginal discharge in adolescent girls with a  $p$  value of 0.042. These findings indicate that adolescent girls' understanding of vaginal discharge and genetic personal hygiene behaviors still needs to be improved, so schools and health workers need to strengthen reproductive education, and further research is recommended to develop

**Keywords:** Vaginal Discharge, Knowledge, Genital Hygiene

### Introduction

Vaginal discharge is one of the reproductive health problems experienced in adolescent girls. Reproductive health problems that can occur in adolescence are often not taken seriously by adolescents because they generally consider vaginal discharge as normal. Even though vaginal discharge can be an indication of a disease such as uterine cancer (Afriani, 2023). Good knowledge and good attitude will have an effect on preventing vaginal discharge (Hanipah & Nirmalasari, 2021). To improve the behavior of awareness of maintaining the cleanliness of the genital organs, it is necessary to increase knowledge and attitudes of maintaining the cleanliness of the genital organs (Cahyaningtyas et al., 2021).

According to World Health Organization (WHO), the prevalence of vaginal discharge in adolescent girls in Indonesia is 12,276,681. In East Java Province, the population reaches 19,502,156. Of these, 5,383,148 women, including adolescents and women of childbearing age aged 10-14 years, experienced vaginal discharge (Masruroh et al., 2023). Meanwhile, in Malang Regency in 2019, as many as 1,123 adolescent girls experienced vaginal discharge (Masyayih et al., 2022). This data shows that vaginal discharge is a fairly high health problem and needs special attention, especially among adolescent girls.

Based on a preliminary study conducted at SMPN 1 Wajak through interviews with 10 students aged 13-14 who had menstruated, out of 10 respondents, there were 8 students (80%) who experienced vaginal discharge and 2 students (20%) did not experience vaginal discharge. It was obtained from 8 students (80%) who experienced vaginal discharge, there were 6 students (75%) who did not know about the meaning and signs of vaginal discharge symptoms and 5 students (62.5%) who were not proper in cleaning genital and did not wash their hands before and after cleaning genital.

Vaginal discharge can occur physiologically or pathologically, Physiological vaginal discharge occurs due to the production of clear fluid by the cervical gland mixed with vaginal fluid from the gland Bartholin and bacteria, the fluid that comes out is clear, odorless, small in number and without itching (Dayana Puspawarna et al., 2024). Meanwhile, pathological vaginal discharge occurs due to infection from various microorganisms, including bacteria, fungi, and parasites, which is characterized by a large number of discharges, white like milk, stale, yellow or greenish, itchy, sore, and accompanied by a fishy or foul odor. The impact of pathological vaginal discharge that lasts continuously will interfere with organ function female reproduction, especially in the part of the ovary duct that can cause infertility (Marhaeni, 2016).

Vaginal discharge is often experienced by adolescent girls, especially during puberty. At junior high school, many young women begin to experience drastic body changes, including menstruation and vaginal discharge. Vaginal discharge is often not taken seriously by teenagers. Even though vaginal discharge can be an indication of a disease (Aryanti, 2022). This is due to limited knowledge about vaginal discharge and being passive about her health. Vaginal discharge in adolescent girls is caused by a lack of attention Hygiene (hygiene) of the female organs, namely washing the vagina with stagnant water, too much rinse soap treatment, wearing tight pants and not absorbing sweat, rarely washing underwear, not regularly changing sanitary napkins during menstruation and the use of improper pantyliners (Acyeair et al., 2021).

Rosidah (2022) Stating that knowledge has a very important role in the occurrence of vaginal discharge, especially in adolescent girls. Good knowledge will increase adolescents' motivation in doing personal Hygiene So that the risk of vaginal discharge caused by bacteria in the intimate organs can be avoided. The better the adolescent's knowledge, the lower the risk of vaginal discharge. On the other hand, the lower the adolescent's knowledge, the higher the risk of developing vaginal discharge. Personal behavior hygiene Good genetics can reduce the risk of vaginal discharge. However, adolescent girls currently still show significant challenges related to the incidence of vaginal discharge. That many young women do not do personal hygiene suboptimal genetics, such as washing with dirty water, excessive use of soap, use of pantyliner that is not correct, wear tight pants, and do not regularly change underwear (Meristika R, 2023)..

Some studies related to vaginal discharge were previously conducted only focusing on high school age. Such as research conducted by (Mirnawaty H. Adji et al., 2023) and (Damayanti et al., 2024) more focused on the aspect of genital hygiene knowledge with its respondents in high school. Meanwhile, another study conducted by (Safitri, 2024) discuss general personal hygiene behaviors and other research conducted by (Meristika R, 2023) more emphasis on vulvar hygiene with respondents in high school.

In the previous study, it was carried out on high school teenagers, while in this study it involved a younger population, namely junior high school teenagers, because junior high school students still have less knowledge, bad behavior and need guidance in maintaining genetic cleanliness. Therefore, the author chose SMPN 1 Wajak as the location of the research based on the results of the preliminary study. Therefore, this study was conducted to further identify the relationship between the level of knowledge and personal hygiene genetics and the degree of vaginal discharge, as well as provide the basis for appropriate educational interventions.

## Method

The design used in this study is cross sectional. The independent variables in this study are the level of knowledge and behavior of personal hygiene genital and the dependent variable, namely the degree of vaginal discharge. This research was conducted at SMPN 1 Wajak, when this research was carried out on October 3, 2025, the population in this study is all female students of SMPN 1 Wajak grades 7 and 8 with a total of 280 students. The sample in this study is a number of 182 female students in grades 7 and 8. The sampling technique used is purposive sampling, with the condition that young women who attend SMPN 1 Wajak are 12-14 years old.

In carrying out the research, the researcher used an instrument in the form of a questionnaire. The questionnaire on the level of knowledge and behavior of personal hygiene genital was compiled by Jupita Utari (2024), with the level of knowledge there are 25 questions, while for personal hygiene behavior genital there are 15 questions. The validity test was obtained in r table 0.361. The results of the reliability test obtained by Cronbach Alpha for the level of knowledge were 0.915 and for personal hygiene genital behavior was 0.872. Because the r value of the result is  $>0.600$ , the instrument is considered reliable. The vaginal discharge questionnaire was compiled by Kanz Taifutsani (2024) there are 5 questions that have been tested for validity with a table of 0.6319, and the reliability test shows all reliable questions with a Cronbach Alpha result of 0.830. A variable can be said to be reliable if the Cronbach Alpha value is  $>0.6$ .

The data collection step begins with the licensing process, which includes preparing proposals, submitting research to relevant institutions, researchers preparing and distributing questionnaires to respondents according to sample criteria, informed consent dissertation and checking completeness of filling. After the data was collected, the researcher processed the data and analyzed it using a gamma test. This research has gone through an ethical feasibility test process and was declared feasible by the Health Research Ethics Committee (KEPK) of the Institute of Science and Health Technology of Dr. Soepraoen Kesdam V/BRW Malang Hospital with No.KEPK-EC / 316 / IX / 2025.

## Results

**Table 1. Frequency Distribution of Respondent Characteristics in Young Women (n=182)**

Respondent Characteristics	Frequency (F)	Percentage (%)
<b>1. Age</b>		
12 Years	27	15%
13 Years	101	55%
14 Years	54	30%
<b>2. Class</b>		
7	56	31%
8	126	69%
<b>3. Age menarche</b>		
Not yet menarche	14	8%
Early (<11 years old)	24	13%
Medium (11-13 Years)	143	79%
Late (>13 years)	1	1%
<b>4. The Age of Starting Vaginal Discharge</b>		
No vaginal discharge	5	3%
8 Years	4	2%
9 Years	11	6%
10 Years	27	15%

11 Years	84	46%
12 Years	44	24%
13 Years	7	4%
<b>5. Child to</b>		
1	95	52%
2	68	37%
3	14	8%
4	4	2%
5	1	1%
<b>6. How many brothers</b>		
1	40	22%
2	96	53%
3	40	22%
4	5	3%
5	1	1%
<b>7. Working mom</b>		
Yes	113	62%
Not	69	38%

Source : (Primary Data, 2025)

Table 1. shows that most of the respondents were 13 years old as 101 (55%), the majority of them were in grade 8, i.e. 126 (69%) were female students. Most of the respondents experienced menstruation at the medium age (11-13 years) as many as 143 (79%) female students, and most of them began to experience vaginal discharge at the age of 11 years, namely 84 (46%) female students. Based on the order of birth, the majority of respondents were the first children of 95 (52%) students, and most had two siblings, namely 96 (53%) students. In addition, mothers of most respondents worked, with a total of 113 (62%) female students.

**Table 2. Variable frequency distribution (n=182)**

Variable	Frequency (F)	Percentage (%)
<b>Knowledge Level</b>		
Good	26	14%
Enough	87	48%
Less	69	38%
<b>Genital Personal Hygiene Behavior</b>		
Positive	143	79%
Negative	39	21%
<b>Degree of Vaginal Discharge</b>		
No vaginal discharge	5	3%
Degree 1	168	93%
Degree 2	8	4%

Source : (Primary Data, 2025)

Table 2. shows that most of them have sufficient knowledge, as many as 87 (48%) female students. Most of the respondents had genetic personal hygiene behaviors as many as 143 (79%) female students. And most of them experienced 1st degree vaginal discharge in a total of 168 (93%) female students.

**Table 3. The Relationship between Genital Personal Hygiene Knowledge and Behavior Level with the Degree of Vaginal Discharge in Adolescent Girls (n=182)**

Variable	Degree of Vaginal Discharge						Total		$\rho$ Value
	No vaginal discharge		Degree 1		Degree 2		f	%	
	f	%	f	%	f	%			
<b>Knowledge Level</b>									
Good	0	0,00%	23	12,64%	3	1,65%	26	14,29%	0,011
Enough	1	0,55%	82	45,05%	4	2,20%	87	47,80%	
Less	4	2,20%	64	35,16%	1	0,55%	69	37,91%	
<b>Genetelia's Personal Hygiene Behavior</b>									
Positive	3	1,65%	132	72,53%	8	4,40%	143	78,57%	0,042
Negative	2	1,10%	37	20,33%	0	0,00%	39	21,43%	

Source : (Primary Data, 2025)

Table 3. shows that most of them have a sufficient level of knowledge, namely 87 (45.05%) female students, and most of them experience 1st degree vaginal discharge. Respondents with good knowledge amounted to 26 (14.29%) female students, most of whom also experienced 1st degree vaginal discharge. Meanwhile, respondents with less knowledge as many as 69 (37.91%) students, most of them experienced vaginal discharge 1. The results of the analysis using the Gamma Test were obtained  $\rho$  with a value of 0.011 lower than  $\alpha=0.05$  which means that there is a significant relationship between the level of knowledge and the degree of vaginal discharge in adolescent girls. Meanwhile, most of them had positive genetic personal hygiene behavior, namely as many as 143 (78.57%) students. Of these, the majority experienced 1st degree vaginal discharge as many as 132 (72.53%) female students. Meanwhile, respondents with negative personal hygiene behavior amounted to 39 (21.43%) female students, most of whom experienced 1st degree vaginal discharge. The results of the analysis using the Gamma Test obtained a value  $\rho$  of 0.042 which was smaller than  $\alpha=0.05$  which means that there is a significant relationship between genetic personal hygiene behavior and the degree of vaginal discharge in adolescent girls

## Discussion

### 1. Knowledge Level About Vaginal Discharge In Adolescent Girls

Based on the results of the study, it shows that the level of knowledge of young women at SMPN 1 Wajak is mostly knowledgeable, as many as 87 students (48%). The results showed that more than half had a basic understanding of vaginal discharge. This can be influenced by limited sources of information as well as a lack of health education.

The level of knowledge can be influenced by various factors such as age, education level, experience, and sources of information obtained from mass media, the environment, and educational institutions. Therefore, the level of knowledge can be interpreted as an indicator of the extent to which a person is able to understand, remember, and interpret information correctly and thoroughly according to the topic being studied (Putri, 2023).

In this study, the majority of respondents were 13 years old, which is the transition phase to early adolescence. At this stage, the learning process not only focuses on academics, but also helps adolescents understand themselves and adjust to the various changes they begin to experience. Riyayanatasya et al., (2024) said that adolescents at that age have shown the ability to seek information independently to understand the changes they are experiencing. In line with that, Hurlock (2019) illustrates that cognitive and emotional development at this age makes adolescents begin to be able to think more maturely and consider information based on personal needs.

This research is in line with research conducted by Novita (2021) which shows that adolescent girls aged 12-14 years at Asyafiyah 06 Islamic Junior High School mostly have sufficient knowledge, namely 23 (30.7%) people. However, it is different from the results of another study conducted by Marlina Rajaguguk (2025) at SMA Negeri 13 Medan which reported that most young women have a good level of knowledge as many as 50 (83.3%) people. This difference in results is due to the characteristics of respondents where the study was conducted by Marlina Rajaguguk (2025) on adolescent girls aged 15-17 years. This shows that age and level of education can affect the level of knowledge.

The researcher assumes that the majority of respondents mostly have enough to less knowledge. This indicates the need for increased knowledge among young women at SMPN 1 Wajak.

## **2. Personal Hygiene Behavior Genital in Young Women**

Based on the results of the study, it showed that the behavior of personal hygiene genital by adolescent girls at SMPN 1 Wajak most of the respondents had positive behavior, namely a total of 143 female students (79%). This reflects that the majority of female students have implemented the habit of maintaining the cleanliness of the genital area appropriately and consistently.

Genetic hygiene behavior is any form of action or habit in maintaining the external reproductive organs (vulva). In general, genital personal hygiene behavior includes several aspects, namely maintaining hand hygiene before and after touching the genital area, ensuring that the water used for washing comes from a clean water source, cleaning the genital area properly, drying the genital area after defecation/defecation (Chen et al., 2017). Genetically personal hygiene behavior in adolescent girls is gradually formed starting from increasing the level of knowledge, especially through health education at school, family, or health workers (Nuraisya, 2022). Based on research conducted by Yatmaz & Can (2024) It shows that education about genital personal hygiene behavior has a positive effect on genital hygiene. Other research conducted by Kuruc & Avci (2024) It shows that family support plays an important role in education and supports adolescents in maintaining good genetic hygiene.

In this study, most of the respondents had working mothers. Mothers are the main figures in providing reproductive health education for adolescents, including in the formation of genetically modified personal hygiene behaviors. However, when mothers work, the time for interaction and direct guidance with the child becomes more limited. However, based on research conducted by Baig (2021) shows that even if the mother works, if communication and support to the child is maintained, then genital hygiene behavior can be better. This shows that working mothers are not always an inhibiting factor in determining genetically personal hygiene behavior in adolescent girls, as long as mothers are still able to carry out their parenting roles effectively. In addition, this study is in line with the findings Inscription (2023) that in adolescent girls at SMP Negeri 10 Denpasar, a total of 195 people (78.3%) have good personal hygiene behavior. These results are different from the research conducted by (Nisa & Yudha, 2024) that the young women at SMPN 1 Parongpong have sufficient personal hygiene behavior. The difference in these results is influenced by the level of knowledge about the practice of personal hygiene genetics, so it is important to increase awareness and maintain the cleanliness of the reproductive organs.

The researcher assumes that adolescent girls at SMPN 1 Wajak have positive genetic personal hygiene behaviors influenced by adolescent girls' awareness of genetic hygiene. However, for adolescent girls who have negative personal hygiene behaviors, there is a need for increased education about reproductive organ hygiene behavior.

### 3. Degree of vaginal discharge in adolescent girls

The results of the study showed that of the respondents, 182 students (100%), who experienced 1st degree (physiological) vaginal discharge, namely 169 students (93%). This condition shows that the majority of female students experience vaginal discharge that is still within normal limits in accordance with body changes during puberty.

Vaginal discharge is a condition in which the vagina secretes fluid or mucus other than blood. Vaginal discharge is caused by changes in the hormone estrogen. This hormone stimulates the cervical gland and vaginal wall so that it produces fluid to maintain moisture and cleanliness of the female area. This condition is common in adolescents who start puberty, about a few months before menstruation (Soemantri et al., 2024). At puberty, estrogen levels increase. Estrogen stimulates the thickening of the vaginal mucosal epithelium and the production of glycogen in vaginal epithelial cells. Along with increasing estrogen levels and other structural changes such as vulvar maturation, pubic hair formation, and gland activation in the genital area, adolescent girls also experience increased production of vaginal secretions as part of the body's adaptation process. This secretion is generally a physiological vaginal discharge that functions as a natural cleanser as well as lubricant for the genital mucosal tissue (Agana et al., 2019).

This research is in line with Siti Nur Aini R et al., (2025) that in adolescent girls at SMP Negeri 29 Surabaya, most of them experienced physiological vaginal discharge as many as 67 people (78.8%). This is due to hormonal changes during puberty, specifically increased estrogen levels that stimulate the production of cervical mucus and vaginal fluid as part of the natural process of maturation of the reproductive organs. The researcher assumes that based on the results of the above research, adolescent girls at SMPN 1 Wajak experience vaginal discharge due to hormonal changes during puberty. This condition is a common physiological process when the body begins to adjust to increased activity of the reproductive glands.

### 4. The Relationship between Knowledge Level and the Degree of Vaginal Discharge in Adolescent Women

Based on the results of the gamma statistical test,  $p$  value of 0.011 was obtained that was lower than  $\alpha=0.05$  so that  $H_a$  was accepted and  $H_o$  was rejected, which means that there is a relationship between the level of knowledge and the degree of whiteness. Based on the results of the study, it was shown that most of them had sufficient knowledge as many as 87 students (47.80%), as many as 69 students (37.91%) had less knowledge and as many as 26 students (14.29%) had good knowledge.

According to Hukmiyah (2022) Knowledge is the result of knowing and this happens after a person senses a certain object. Knowledge is the basis for forming a person's attitude and actions towards health. Adequate knowledge makes adolescents more concerned about the hygiene of the reproductive organs. Conversely, a lack of knowledge can cause adolescents to ignore the signs of infection and worsen the condition of knowledge.

These findings are in line with research Nopiyanah, (2023), which found that adolescent girls with good knowledge of vaginal discharge were likely to be able to prevent pathological vaginal discharge through genital hygiene practices. In addition, the research (Stuart, 2019) It also mentioned that information sources from teachers, health workers, and the mass media play an important role in increasing adolescents' knowledge about reproductive health, including the behavior of maintaining the cleanliness of the female organs.

A high level of knowledge encourages teens to have positive attitude towards the hygiene of the genital organs, such as the awareness of changing underwear regularly, washing the genital area properly, and maintaining hygiene during vaginal discharge (Soemantri et al., 2024). This habit helps maintain the balance of the vaginal microflora and prevents the growth of infection-causing microorganisms. Normal microorganisms such as *Lactobacillus* sp functions to maintain vaginal acidity

levels (pH 3.8-3.5), thus helping to protect the genital area from the growth of pathogenic microorganisms that cause infection (Lin et al., 2021).

Researchers assume that a high level of knowledge can improve genetic personal hygiene behavior appropriately, thereby reducing the risk of pathological vaginal discharge.

### **5. The Relationship between Genital Personal Hygiene Behavior and the Degree of Vaginal Discharge in Adolescent Girls**

Based on the results of the gamma statistical test,  $p$ -value of 0.042 was obtained, which means that it is smaller than  $\alpha = 0.05$ , so that  $H_a$  is accepted and  $H_o$  is rejected, which means that there is a relationship between genetic personal hygiene behavior and the degree of vaginal discharge. The results showed that most of the respondents had positive behavior, namely as many as 143 female students (78.57%) and a small number had negative behavior as many as 39 female students (21.43%). These positive behaviors include the habit of changing underwear at least twice a day, using cotton underwear, washing hands before and after cleaning the feminine area and drying the genital area after urination.

Conceptually, Lawrence Green's (1980) theory of health behavior explains that health behavior is influenced by predisposing factors (knowledge, attitudes), supporting factors (facilities), and driving factors (social support). Good knowledge will be a predisposition that strengthens correct personal hygiene behavior, which ultimately reduces the incidence of vaginal discharge. This research is in line with the findings (Hastuty et al., 2023) in the book *Factors Affecting Vaginal Discharge in Adolescents*, which states that the hygiene behavior of the genital area has a significant influence on the incidence of vaginal discharge. Adolescents who have good hygiene behaviors tend to experience harmless physiological vaginal discharge, while poor behavior increases the risk of pathological vaginal discharge.

In a study conducted by (Putri et al., 2024) At SMPN 1 Ngariboyo, it was found that 82 (66.1%) students had poor personal hygiene behavior, and 94 (75.8%) students experienced pathological vaginal discharge. Statistical tests showed a significant relationship between hygiene behavior and vaginal discharge incidence ( $p = 0.030$ ). These results reinforce that genitalia personal hygiene behavior contributes to an increase in the degree of vaginal discharge.

Researchers assume that the application of appropriate genetic personal hygiene behavior can reduce the risk of pathological vaginal discharge, which has the potential to cause various disorders in the reproductive organs such as urinary tract infections, cervical cancer, and other diseases.

### **Conclusion**

Based on the results of a study conducted on young women at SMPN 1 Wajak, it was found that most of the respondents had a sufficient level of knowledge, namely 87 students (48%), followed by 69 students (38%) with low knowledge, and 26 students (14%) with good knowledge. In addition, most of the young women showed positive genetic personal hygiene behaviors, namely 143 female students (79%), while negative behavior was found in 39 female students (21%). The results of the study also showed that most of the respondents experienced 1st degree vaginal discharge as many as 169 female students (93%), 2nd degree vaginal discharge as many as 8 female students (4%), and 5 female students (3%) did not experience vaginal discharge. Statistical analysis showed a relationship between the level of knowledge and the degree of vaginal discharge in adolescent girls, with  $p$  value = 0.011 ( $p < 0.05$ ). In addition, there was a significant relationship between genetic personal hygiene behavior and vaginal discharge, with a  $p$  value = 0.042 ( $p < 0.05$ ).

It is hoped that educational institutions will include material about vaginal discharge and personal hygiene genital in reproductive health learning. The school is also expected to collaborate with local health workers to provide education related to genetic health. Respondents are expected to actively

increase their knowledge through trusted sources and implement good personal hygiene behaviors to prevent pathological vaginal discharge. Meanwhile, the next researcher is expected to use experimental methods so that the effectiveness of education in improving adolescents' knowledge and behavior can be assessed more accurately.

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