

Factors Related To Vaginal Discharge In Female Teenagers At SMAS Pab 6 Helvetia, Deli Serdang District

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ABSTRACT

According to the World Health Organization (WHO), every year teenagers experience sexually transmitted diseases (STDs) with symptoms of vaginal discharge increasing by 5%. Even in the United States, the occurrence of vaginal discharge in teenage girls continues to increase from year to year. The existence of this problem requires prevention. While European women in 2013 as many as 739,004,470 people and experienced vaginal discharge by 25%. The problem behind this study is the occurrence of vaginal discharge which is often complained of by teenage girls. Factors suspected of being related to vaginal discharge are personal hygiene, stress, and the use of vaginal cleansers. Purpose: This study aims to determine the factors related to vaginal discharge in teenage girls. Method: This study is an analytical survey study (explanatory research) with a cross-sectional approach. The study was conducted at SMAS PAB 6 HELVETIA. The study population was 32 teenage girls, and all of them were used as samples (total sampling). The data were analyzed using the Chi-Square test at a 95% confidence level ($\alpha = 0.05$). Results: Based on the results of the study, it was shown that the factors related to vaginal discharge in female adolescents at SMAS PAB 6 HELVETIA were personal hygiene with a fairly strong correlation ($p = 0.006$); stress with a fairly strong correlation ($p = 0.018$); use of vaginal cleansers with a fairly strong correlation ($p = 0.006$). The occurrence of vaginal discharge in adolescent girls is influenced by personal hygiene, stress, and the use of vaginal cleansers. SMAS PAB 6 HELVETIA Medan can provide appropriate education about personal hygiene to female students, prevent stress, and the proper use of vaginal cleansers.

Keywords: Vaginal discharge, Adolescent girls

INTRODUCTION

Adolescent reproductive health means a healthy condition concerning the reproductive system (functions, components, and processes) possessed by adolescents physically, mentally, socially, and spiritually. Reproductive organ problems in adolescents need serious attention because these problems most often occur in developing countries including Indonesia. One of the most common reproductive health problems among women is vaginal discharge/leukorrhea/flour albus. Vaginal discharge is the most common problem complained of by women of various ages including adolescents.

According to *the World Health Organization*(WHO) revealed that every year teenagers who experience Sexually Transmitted Diseases (STDs) with symptoms of vaginal discharge increase by 5%. Even in the United States, 1 in 8 teenage girls experience vaginal discharge every year. (1). The incidence of vaginal discharge in young women continues to increase from year to year. The existence of this problem requires prevention. While European women in 2013 were 739,004,470 people and 25% experienced vaginal discharge(2).

Of the 23 million Indonesian teenage girls aged 15-24 years, 83% have had sexual intercourse, which means that teenagers are at risk of experiencing STDs, which is one of the causes of vaginal discharge. As many as 90% of women in Indonesia experience vaginal discharge and as many as 60% are experienced by teenage girls. (3). Around 90% of women in Indonesia are potentially experiencing vaginal discharge because Indonesia is a tropical country so fungi can easily grow which results in many cases of vaginal discharge. Symptoms of vaginal discharge are also experienced by unmarried women or teenage girls aged 15-24 years, which is around 31.8%. This shows that teenagers are more at risk of vaginal discharge(4).

Health Profile Data of North Sumatra Province in 2020, there were 648,829 adolescent girls aged 15-19 years, 1,566 cases of sexually transmitted infections (STIs) occurred and there were infections that started from vaginal discharge. No data was found on the number of adolescent girls experiencing vaginal discharge in Medan City. (5). Many women experience vaginal discharge due to several things such as lack of maintaining cleanliness of reproductive organs and humid weather. (6).

Indonesia's humid weather is one of the causes of vaginal discharge, which is easily infected by the *Candida albicans* bacteria fungus. Fungi and bacteria grow abundantly in unclean and humid conditions. Reproductive organs are closed and folded areas, making them easier to sweat, and become damp and dirty. To prevent recurrent vaginal discharge, women must always maintain the cleanliness of the external reproductive organs. (7). Based on research, the effects of abnormal vaginal discharge if not treated quickly can result in bacterial vaginosis (64.71%), candidiasis vulvovaginitis (32.35%), and a mixture of candidiasis and bacterial vaginosis (2.94%). Not only that, vaginal discharge is an early symptom of cervical cancer (cervical cancer/cervical carcinoma). 90% of cervical cancer cases are characterized by vaginal discharge, which over time will smell bad due to the infection process and tissue necrosis (death) due to the cancer. (8).

Another factor that affects the occurrence of vaginal discharge in adolescents is stress. Stress can affect general body health, including the health of the female genital area. Too much stress

can affect the immune system and increase the risk of infection, including infections in the female genital area such as vaginal discharge. (9). Furthermore, factors that influence the occurrence of vaginal discharge are the use of vaginal cleansers. The frequency of use of vaginal cleansers is generally caused by the influence of social, cultural, and educational factors. Social and cultural factors usually involve the use of antiseptics such as herbal concoctions of betel leaves whose water is boiled and used to wash the female genital area, which can reduce itching in women's intimate organs. The content of essential oils can also eliminate unpleasant odors or the use of the tradition of unkept stones which are believed to be able to tighten the female genital area. (10).

Vaginal cleansers that are widely sold on the market will disrupt the ecosystem of the vagina, especially the pH and the life of good bacteria. If the pH is disrupted, bad bacteria will easily grow more and will be able to reproduce more easily and the vagina will be easily attacked by diseases, one of which is characterized by: *flour albus* vaginal discharge(11).

This research was conducted at SMA Dharma Bakti Medan which is one of the private high schools in Medan City. The total number of students is 67 people, consisting of 35 male students and 32 female students. The locus in this study is female students (teenage girls) as many as 32 people.

Based on a preliminary survey conducted by researchers with teachers who handle School Health Services (UKS) that in the last 1 month, 5 students experienced vaginal discharge with complaints of itching, pain in the female genital area, and a burning sensation when urinating. The information obtained was that when experiencing vaginal discharge, it was observed that some of the female adolescent students with *personal hygiene* those who are not good, are stressed because of problems at home and school, and some use vaginal cleansers that are not good.

RESEARCH METHODS

The type of research used is *survey* analytical (explanatory research) with a cross-sectional approach. This research was conducted at SMA PAB 6 HELVETIA Medan. The population was all female students at SMA PAB 6 HELVETIA in 2023, totaling 32 people, and all of them were used as samples (total sampling). The research instrument used a questionnaire. Data analysis was carried out univariately in a frequency distribution table, and bivariate analysis in a cross table using the Chi-Square test at a 95% confidence level ($\alpha = 0.05$).

RESULTS

Respondent Characteristics

Table 1. Frequency Distribution of Respondent Characteristics at SMAS PAB 6 HELVETIA in 2024

Characteristics	Amount	
	f (n=32)	%
Age:		
a. 15 years	6	18.8
b. 16 years	24	75.0
c. 17 years	2	6.3
Class :		
a. Class X	15	46.9
b. Class XI	17	53.1

The table above shows that the age range of respondents is 15 to 16 years, most of the respondents studied at SMA Dharma Bakti Medan, the 16-year-olds were 24 people (75.0%), a small number were 17 years old, 2 people (6.3%). Based on class, most of the respondents at SMA PAB 6 HELVETIA were in class XI, 17 people (53.1%), a small number were in class X, 15 people (46.9%).

Univariate Analysis

Table 2. Frequency Distribution of Respondents Based on Research Variables at SMA PAB 6 HELVETIA in 2024

Variables	Amount	
	f (n=32)	%
<i>Personal Hygiene</i>		
Good	20	62.5
Not enough	12	37.5

Stress			
	Heavy	3	9.4
	Currently	13	40.6
	Light	16	50.0
Use of Vaginal Cleanser			
	No	20	62.5
	Yes	12	37.5
Vaginal Discharge Occurrence			
	Abnormal	9	28.1
	Normal	23	71.9

The table above shows that most of the *personal hygiene* respondents in the good category were 20 people (62.5%), and a small portion in the less category were 12 people (37.5%). Most respondents felt mild stress as many as 16 people (50.0%), and a small portion of respondents felt severe stress as many as 3 people (9.4%).

Most respondents did not use vaginal cleansers as many as 20 people (62.5%), and a small number used vaginal cleansers as many as 12 people (37.5%). Most of the respondents studied experienced vaginal discharge in the normal category as many as 23 people (71.9%), and a small number of respondents experienced vaginal discharge in the abnormal category as many as 9 people (28.1%).

Bivariate Analysis

Based on the research results, the relationship between personal hygiene and the occurrence of vaginal discharge in adolescent girls can be seen in the following table.

Table 3. Cross-table of the Relationship between Personal Hygiene and the Incidence of Vaginal Discharge in Female Adolescents at SMA PAB 6 HELVETIA in 2024

Variables	Vaginal Discharge		Amount	<i>p-value</i>
	Occurrence			
	Abnormal	Normal		

	f	%	F	%	F	%	
Personal Hygiene							
Good	2	6.3	18	56.3	20	62.5	
Not enough	7	21.9	5	15.6	12	37.5	0.006
Amount	9	28.1	23	71.9	32	100.0	
Stress							
Heavy	2	6.3	1	3.1	3	9.4	
Currently	6	18.8	7	21.9	13	40.6	0.018
Light	1	3.1	15	46.9	16	50.0	
Amount	9	28.1	23	71.9	32	100.0	
Use of Vaginal Cleanser							
No	2	6.3	18	56.3	20	62.5	
Yes	7	21.9	5	15.6	12	37.5	0.006
Amount	9	28.1	23	71.9	32	100.0	

The table above shows that of the 20 respondents with *personal hygiene* The good majority experienced normal vaginal discharge as many as 18 people (56.3%). Of the 12 respondents with poor personal hygiene, the majority experienced abnormal vaginal discharge as many as 7 people (21.9%). The results of the statistical test on the bivariate analysis using chi-square obtained a p-value of $0.006 < 0.05$, meaning there is a significant relationship. *Personal hygiene* with the occurrence of vaginal discharge in female adolescents at SMA PAB 6 HELVETIA

The table above shows that of the 3 respondents who felt severely stressed, the majority experienced abnormal vaginal discharge, 2 people (6.3%). Of the 13 respondents who felt moderate stress, the majority experienced normal vaginal discharge, 7 people (21.9%). Of the 16 respondents who felt mild stress, the majority experienced normal vaginal discharge, 15 people (46.9%). The results of the statistical test on the bivariate analysis using chi-square obtained a p-value of $0.018 < 0.05$, meaning there is a significant relationship. Stress with the occurrence of vaginal discharge in female adolescents at SMA PAB 6 HELVETIA

The table above shows that of the 20 respondents who did not use vaginal cleansers, the majority experienced normal vaginal discharge, 18 people (56.3%). Of the 12 respondents who used vaginal cleansers, the majority experienced abnormal vaginal discharge, 7 people (21.9%). The results of the statistical test in the bivariate analysis using *chi-square* obtained a p-value of

0.006 < 0.05, meaning that there is a significant relationship between the use of vaginal cleansers and the incidence of vaginal discharge in female adolescents at SMA PAB 6 HELVETIA.

DISCUSSION

The Relationship between Personal Hygiene and the Occurrence of Vaginal Discharge in Adolescent Girls

Based on the research results, it shows that there is a significant relationship between *personal hygiene* with the incidence of vaginal discharge in female adolescents at SMA PAB 6 HELVETIA in 2024, $p = 0.006 < 0.05$. Respondents with good personal hygiene mostly experienced normal vaginal discharge. Respondents with poor personal hygiene mostly experienced abnormal vaginal discharge.

In line with research conducted shows that most of the female teenagers at SMAN 15 Semarang have less knowledge of as many as 100 respondents (80.6%) and sufficient knowledge of as many as 24 respondents (19.4%). While good behavior as many as 27 respondents (21.8%). So there is a relationship between knowledge about Personal Hygiene and behavior to prevent vaginal discharge(12). Research result The Greatest Showman (2019) shows that there is a relationship between the level of knowledge of personal hygiene and the occurrence of vaginal discharge with a p-value of 0.014 ($p < 0.05$)(13). The results of further research carried out by The Last Supper (2019) showed that the incidence of fluor albus was 65.0%, good knowledge was 66.7%, and good personal hygiene was 56.7%. There was a relationship between the personal hygiene of female adolescents and the incidence of fluor albus at SMP Suryadarma with p-value = 0.012 and OR = 0.182(14).

Personal hygiene good personal hygiene is very important in maintaining the reproductive health of adolescent girls and preventing problems such as vaginal discharge. Vaginal discharge in adolescent girls can be caused by a lack of personal hygiene care, such as not maintaining proper intimate area hygiene or using unsuitable care products. Adolescent girls who maintain their hygiene well, including routinely cleaning their intimate areas with mild soap and clean water, tend to experience a lower frequency of vaginal discharge. Thus, maintaining good personal hygiene, including maintaining proper intimate area hygiene and using appropriate care products, helps reduce the incidence of vaginal discharge in adolescent girls and maintains their reproductive health optimally. (15).

According to researchers, research proves that *personnel hygiene is* significantly related to the incidence of vaginal discharge in adolescent girls at SMA PAB 6 HELVETIA. Personal hygiene of the genital area is very important in preventing vaginal discharge in adolescent girls. Adolescent girls with good personal hygiene tend to experience normal vaginal discharge, while adolescent girls with poor personal hygiene tend to experience abnormal vaginal discharge. Some adolescent girls have not formed good habits in maintaining daily personal hygiene. Lack of routine care such as cleaning the intimate area regularly or changing clean underwear can increase the risk of infection and vaginal discharge.

It can be seen from this study that adolescent girls with *personal hygiene* bad one more people experience abnormal vaginal discharge, in this study it was also found that teenage girls with good personal hygiene experienced abnormal vaginal discharge. Even though someone maintains good personal hygiene, it is still possible to experience abnormal vaginal discharge because other factors can affect the balance of normal flora in the intimate area or cause infection.

The Relationship Between Stress and the Incidence of Vaginal Discharge in Adolescent Girls

Based on the results of the study, it shows that there is a significant relationship between stress and the incidence of vaginal discharge in female adolescents at SMA Dharma Bakti Medan in 2023, $p = 0.018 < 0.05$. Respondents who felt severely stressed mostly experienced abnormal vaginal discharge. Respondents who felt moderate and mild stress mostly experienced normal vaginal discharge.

In line with the results of research conducted by Batubara and Rahmayani in 2022 at the Al-Zahrah Bireuen Modern Islamic Boarding School, the test results showed that *ch square* on the stress level factor, shows that there is a significant relationship and moderate stress levels are 3.13 times more likely to cause vaginal discharge. (7). Research conducted by Dharma 2017 in adolescent students at SMAN 6 Kendari showed that stress was related to the incidence of flour albus infection ($p\text{-value} = 0.038$)(16). Further research was conducted by Hadi in 2020 who conducted a literature review of 5 research journals showing that there was a relationship between stress levels and the occurrence of vaginal discharge (fluor albus) with various problems experienced by adolescents. (17).

Adolescent girls can experience stress for a variety of reasons related to the changes and pressures they face during adolescence. Adolescent girls experience significant physical, emotional, and social changes during puberty. Physical changes such as breast development,

onset of menstruation, and development of body shape can affect self-perception and produce feelings of discomfort or confusion. Hormonal changes can also affect adolescent girls' moods and emotions, making them more susceptible to intense emotional fluctuations. In addition, adolescent girls also face pressures from their environment. Academic pressures, parental expectations, peer competition, and the demands of meeting perceived beauty standards can be significant sources of stress. They may feel overwhelmed by the burden of schoolwork, trying to meet parental expectations, and maintaining healthy social relationships.(18).

High-stress levels may be associated with vaginal discharge in adolescent girls. Stress can affect the hormonal balance in the body and the immune system, which in turn can affect the health of the intimate area and trigger vaginal discharge. Adolescent girls who experience higher levels of stress tend to experience more frequent vaginal discharge. This shows the importance of managing stress effectively in maintaining the reproductive health of adolescent girls.(10).

According to researchers, this study proves that stress is significantly related to the occurrence of vaginal discharge.inSMA Dharma Bakti Medan. Teenage girls who experience severe and moderate stress tend to experience abnormal vaginal discharge, while teen girls who experience mild stress tend to experience normal vaginal discharge. This is because when experiencing stress, teen girls may neglect personal hygiene or feel less concerned about their reproductive health, which can increase the risk of infection and vaginal discharge. To overcome the effect of stress on vaginal discharge in teen girls, it is hoped that educators and health workers will provide information about the importance of managing stress well.

Some teenage girls may feel stressed about finding their identity, overcoming insecurities, and trying to fit in with their peer group. The demands of social media and perceptions of perfect beauty can also increase their stress, as they feel the need to meet unrealistic standards.

Interpersonal issues such as conflicts with friends, dating relationships, or family problems can also cause stress in adolescent girls. They may face pressure to maintain healthy relationships, resolve conflicts with peers, or balance the demands of family and social relationships. It is important to remember that each adolescent girl is a unique individual, and the level of stress she experiences can vary. Having support and understanding from family, friends, and mental health professionals can help adolescent girls cope with the stress they experience and ultimately prevent them from experiencing abnormal vaginal discharge.

The Relationship between the Use of Vaginal Cleansers and the Occurrence of Vaginal Discharge in Adolescent Girls

Based on the research results, it shows that there is a significant relationship between the use of vaginal cleansers and the occurrence of vaginal discharge in adolescent girls. PAB 6 HELVETIA SENIOR HIGH SCHOOL In 2024, $p = 0.006 < 0.05$. Respondents who did not use vaginal cleansers mostly experienced normal vaginal discharge. Respondents who used vaginal cleansers mostly experienced abnormal vaginal discharge.

In line with research conducted by Batubara and Rahmayani in 2022 at the Al-Zahrah Bireuen Modern Islamic Boarding School from the results of the chi-square test on the factor of using feminine hygiene soap p -value (0.024) $< \alpha$ (0.05) and $RP = 2.6$, $CI = 1.30 - 5.21$ means there is a relationship and using feminine hygiene soap has a 2.6 times risk of vaginal discharge(7). Research by Olaolorun et al. in 2016 conducted in Nigeria showed that adolescent girls who used vaginal cleansers had a three times higher risk of experiencing vaginal discharge compared to adolescent girls who did not use vaginal cleansers. This study involved 360 adolescent girls aged between 15 and 19 years as research samples. (19). Research conducted by Tamrakar et al. in 2017 in Nepal showed that the use of vaginal cleansers was associated with an increased risk of vaginal discharge in adolescent girls. This study involved 100 adolescent girls who used vaginal cleansers and 100 adolescent girls who did not use vaginal cleansers as samples.(20). Research by Brotman et al. in the United States in 2018 showed that the use of vaginal cleansers was associated with changes in vaginal flora and an increased risk of vaginal discharge in adult women including adolescent girls.(21).

Use of vaginal cleaners routinely can increase the occurrence of vaginal discharge. Because vaginal cleansing soap contains chemicals that can disrupt the acidity level of the environment in the vagina, which can disrupt the balance of good bacteria. That's why vaginal cleansing soap can increase the risk of contracting sexually transmitted diseases from unsafe sexual activity. Choose a liquid with a pH of 3-4.5. This cleaning fluid is safe to use repeatedly. Glycerin contains a substance called a humectant, which is important for maintaining softness and hydrating the vaginal area. This substance can also prevent dryness and dry skin around the female organs. To prevent allergic reactions in the intimate area, also avoid substances that can cause allergies, for example by not using toilet paper or cleaning soap with fragrances.(10).

According to the researcher's assumption, this study proves that the use of vaginal cleansers is related to the occurrence of vaginal discharge in adolescent girls. Respondents who use vaginal cleansers poorly tend to experience abnormal vaginal discharge, while respondents who use vaginal cleansers well tend to experience normal vaginal discharge. The use of vaginal

cleansers that are not good or not right can disrupt the natural balance of vaginal flora which can ultimately cause vaginal discharge. (*fluor albus*).

In this study, 37.5% of adolescent girls were still found to use vaginal cleansers that were not good enough. This is likely because adolescent girls may not have adequate knowledge about vaginal hygiene and the correct way to care for it. It is important for educators, parents, and health workers to provide correct information about vaginal hygiene to adolescent girls because the use of inadequate vaginal cleansers can cause health problems.

CONCLUSION

1. *Personal hygiene* associated with vaginal discharge in adolescent girls in PAB 6 HELVETIA SENIOR HIGH SCHOOL, $p = 0.006 < 0.05$.
2. Stress is associated with the occurrence of vaginal discharge in female adolescents at SMA PAB 6 HELVETIA in 2024, $p = 0.018 < 0.05$.
3. The use of vaginal cleansers is associated with the occurrence of vaginal discharge in female adolescents at SMA PAB 6 HELVETIA, $p = 0.006 < 0.05$.

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