

Analysis of Prevention Behavior Vaginal Discharge Based on the Theory of Health Promotion Model (HPM) in Grade XII Students of State High School 4 Jambi City

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Abstract

Reproductive health is an issue that is currently the focus of attention in adolescents. WHO states that 45% of women have experienced vaginal discharge at least twice and 90% of women in Indonesia have the potential to experience vaginal discharge so it is necessary to prevent vaginal discharge which can be done by using the Health Promotion Model). This study aims to analyzing factors associated with vaginal discharge prevention behavior based on the Health Promotion Model (HPM) theory in Class XII State High School 4 Jambi City. This study is a cross-sectional study. The research subjects were XII grade students of State High School 4 Jambi City ($n = 152$). There is a significant relationship between self-motivation, perceived benefits, and self-commitment with vaginal discharge prevention behavior (p value < 0.05). However, no significant relationship was found between interpersonal influence and vaginal discharge prevention behavior (p value > 0.05). This study shows that self-motivation, perceived benefits, and self-commitment are significantly related to preventive behavior against vaginal discharge, while interpersonal influence is not.

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Introduction

Adolescence can be said to be a transitional stage from childhood to adulthood which is shown by significant changes both physically and psychologically. This period lasts from the beginning of puberty until reaching adulthood. According to the World Health Organization (WHO), adolescents are in the age range of 10 to 19 years. Meanwhile, according to the guidelines of The Health Resources and Services Administration Guidelines in the United States, adolescents are classified as 11 to 21 years old, which are divided into three stages, the first is called early adolescence with a range (11-14 years), then middle adolescence with a range (15-17 years), and the last is called late adolescence with a range (18-21 years). At this stage, the reproductive organs of adolescent girls begin to mature with indications of the onset of menstruation. When the beginning of reproductive organ maturity occurs, the period in which adolescents are at risk of facing reproductive health problems will be longer. (Bobak IM, Jensen MD, Lowdermilk DL, 2012).

Reproductive health is a problem that is currently very often seen as a special concern for teenagers. The problem of leukorrhea for teenagers is often ignored and considered normal. However, it is important to understand that vaginal discharge can be categorized as physiological (normal) and pathological (abnormal). Physiological leukorrhea is a natural secretion of the body that usually occurs during the menstrual cycle, on the other hand pathological leukorrhea is the result of infection from microorganisms such as fungi, bacteria, or viruses, which cause symptoms such as itching, unpleasant odor, and discolored fluid. Leukorrhea often occurs in teenagers, but is often not realized and is of little concern. Many assume that leukorrhea is a common occurrence that does not endanger the body, but in fact vaginal discharge can be normal (physiological) or abnormal (pathological). Therefore, understanding the difference between physiological and pathological vaginal discharge is very important in maintaining reproductive health. (Maysaroh & Mariza, 2021).

Based on data from the National Center for Biotechnology Information (NCBI), it is estimated that 75% of women worldwide have had leukorrhea at least twice or more. Meanwhile, the prevalence of vaginal discharge in Europe reaches 25% with a recurrence rate of 40-50%. WHO states that 45% of women have experienced vaginal discharge at least twice and 90% of women in Indonesia have the potential to experience vaginal discharge because fungi can easily grow and cause fungal infections because Indonesia is a tropical country. This is the most common cause of vaginal discharge. Data from the Centers for Disease Control and Prevention (CDC) in 2020 explained that vaginal discharge due to Bacterial Vaginosis (BV) in women in the US aged 14-49 years reached 21.2 million (29.2%) (Juniar et al., 2023).

The National Population and Family Planning Agency (BKKBN) specifically revealed that the prevalence of women in Indonesia who are experiencing vaginal discharge at least once in their lives is 75% and the other 45% experience leukorrhea with a minimum of two times or more. Meanwhile, according to the report of the Jambi City Health Office, in 2017 there were 1044 cases of vaginal discharge, including 405 cases of vulvovaginal candidiasis. In 2018, there was an increase in leukorrhea cases to 1311 cases, including 616 cases of bacterial vaginosis and 695 cases of vulvovaginal candidiasis. This shows an increase of 267 cases in a year. According to data taken from the Jambi City Health Office, it was also noted that in 2019, the number of adolescent girls experiencing vaginal discharge in Jambi City reached 13 people for the age range of

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10-14 years and 91 people at the age of 15-18 years. In 2020, the incidence decreased to 1 case at the age of 10-14 years and 59 cases at the age of 15-18 years. Based on data from State High School 4 Jambi City, the number of female students in grade XII was recorded at 245 people. In an initial survey conducted by researchers in August - September 2024 on 30 female students in grade XII, it was found that 15 out of 30 female students had bad habits in changing their underwear, while 17 female students did not clean their underwear that had touched menstrual blood properly. On the other hand, the survey also revealed that 10 female students did not understand the importance of changing sanitary napkins during menstruation, while 20 female students only changed their sanitary napkins after blood had penetrated their underwear.

All female students interviewed did not have sufficient understanding of reproductive health, one of which was vaginal discharge. Data from the Youth Information and Counseling Center (PIKR) of State High School 4 Jambi City shows that 60 female students underwent counseling for abnormal vaginal discharge (pathological vaginal discharge) which is characterized by yellow and milky white vaginal discharge accompanied by an unpleasant odor and itching. Winna in her 2019 study explained that 71 respondents (82.6%) of female students at State High School Pertiwi Jambi City had experienced vaginal discharge with 62.8% of respondents having less than vulva hygiene out of a total of 86 respondents. (Rachmadiani et al., 2021). This condition identifies that the incidence of vaginal discharge for adolescents is higher in State High School Pertiwi Jambi City compared to adolescents at State High School 4 Jambi City.

The high incidence of vaginal discharge in female students in Jambi City indicates reproductive health problems that need to be considered. Environmental factors such as lack of clean water, inadequate intimate organ care, or less than optimal sanitation (such as using unclean toilets) can cause pathological vaginal discharge in adolescents. Maintaining the cleanliness of the external genital area in women is very important to prevent vaginal discharge and detect cervical cancer early. The skin around the genital area must always be dry and especially clean, because humid conditions can cause irritation and increase the risk of growth of fungi and germs that cause disease. Personal hygiene is part of personal care with the aim of maintaining health, which is done psychologically or physically (Oizumi et al., 2022).

This vaginal discharge itself can cause various impacts, namely it can cause a more serious risk of infection if the cause of the vaginal discharge is pathogenic bacteria or fungi, in addition, adolescent girls can also feel psychological impacts in the form of decreased self-confidence because vaginal discharge can cause odor, and can also cause long-term reproductive health problems in the form of infertility, pelvic inflammatory disease, or even cervical cancer (Rachmadiani et al., 2021). These conditions strengthen the reasons why research on vaginal discharge in adolescent girls is important to be carried out because of the impacts that can occur in the short and long term and the high rate of vaginal discharge in adolescent girls.

Therefore, it is necessary to prevent vaginal discharge among adolescents which can be done using the Health Promotion Model (HPM). The Health Promotion Model theory has been implemented as a strategy to prevent and improve health for many aspects of life, including diet, physical activity, and healthy lifestyles. This approach aims to achieve better health for individuals and contribute to improving the quality of life at every stage of development.

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One of the main concerns in this effort is the behavior of preventing vaginal discharge, which is prioritized to support adolescent reproductive health to the maximum. With this background, the researcher will conduct a study entitled "Analysis of Vaginal Discharge Prevention Behavior Based on the Health Promotion Model (HPM) Theory in Class XII Female Students of State High School 4 Jambi City".

Method

This study applies a descriptive analytical method with a cross-sectional approach. The study will be conducted at State High School 4 Jambi City, Kota Baru District, Jambi City, Jambi Province, which will be conducted in November 2024. In this study, the population used is grade XII female students at State High School 4 Jambi City, with a total of 245 people and a minimum total sample in this study of 167.2 respondents. This study applies a simple random sampling method, namely a sampling technique with random selection

Research and Discussions

1. Result

The Relationship Between Self-Motivation and Vaginal Discharge Prevention Behavior

Table 1

The Relationship Between Self-Motivation and Vaginal Discharge Prevention Behavior

Self-Motivation	Vaginal Discharge Prevention Behaviour						PR 95% CI	P-Value
	Low		High		Total			
	n	%	n	%	n	%		
Low	61	40%	32	21%	93	61%	3.225 (1.906-5.457)	0.000
High	12	8%	47	31%	59	39%		
*Fisher's Exact Test								

**Fisher's Exact Test*

The results of the study showed that 40% of respondents with low self-motivation had low vaginal discharge prevention behavior, while 31% with high self-motivation had high vaginal discharge prevention behavior. Respondents with low self-motivation had a 3.225 times greater risk of having low vaginal discharge prevention behavior than those with high self-motivation (PR = 3.225; 95% CI: 1.906–5.457). The chi-square test (p = 0.000) confirmed a significant relationship between self-motivation and vaginal discharge prevention behavior.

Relationship Between Perceived Benefits and Vaginal Discharge Prevention Behavior

Table 2

Relationship Between Perceived Benefits and Vaginal Discharge Prevention Behavior

Perceived Benefits	Vaginal Discharge Prevention Behaviour						PR 95% CI	P-Value
	Low		High		Total			
	n	%	n	%	n	%		
Low	47	31%	27	18%	74	49%	1.905	0.000
High	26	17%	52	34%	78	51%	(1.332-2.726)	
<i>*Fisher's Exact Test</i>								

**Fisher's Exact Test*

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The results showed that 31% of respondents with low perceived benefits had low vaginal discharge prevention behavior, while 34% with high perceived benefits had high vaginal discharge prevention behavior. Respondents with low perceived benefits had a 1.905 times greater risk of having low vaginal discharge prevention behavior than those with high perceived benefits (PR = 1.905; 95% CI: 1.332–2.726). The chi-square test ($p = 0.000$) confirmed a significant relationship between perceived benefits and vaginal discharge prevention behavior.

The Relationship Between Interpersonal Influence and Vaginal Discharge Prevention Behavior

Table 3

The Relationship Between Interpersonal Influence and Vaginal Discharge Prevention Behavior

Interpersonal Influence	Vaginal Discharge Prevention Behaviour						PR 95% CI	P-Value
	Low		High		Total			
	n	%	n	%	n	%		
	Low	41	27%	32	21%	73		
High	32	21%	47	31%	79	52%	1.387 (0.991-1.939)	0.077
<i>*Fisher's Exact Test</i>								

**Fisher's Exact Test*

The results of the study showed that 27% of respondents with low interpersonal influence had low vaginal discharge prevention behavior, while 31% with high interpersonal influence had high vaginal discharge prevention behavior. Respondents with low interpersonal influence had a 1.387 times greater risk of having low vaginal discharge prevention behavior than those with high interpersonal influence (PR = 1.387; 95% CI: 0.991–1.939). The chi-square test ($p = 0.077$) confirmed that there was no significant relationship between interpersonal influence and vaginal discharge prevention behavior.

Relationship Between Commitment to Vaginal Discharge Prevention Behavior

Table 4

Relationship Between Commitment to Vaginal Discharge Prevention Behavior

Relationship Between Commitment to Vaginal Discharge Prevention Behaviour								
Between Commitment	Vaginal Discharge Prevention Behaviour						PR 95% CI	P-Value
	Low		High		Total			
	n	%	n	%	n	%		
Low	52	34%	27	18%	79	52%	2.288	0.000
High	21	14%	52	34%	73	48%	(1.542-3.394)	
*Fisher's Exact Test								

**Fisher's Exact Test*

The results showed that 34% of respondents with low action commitment had low vaginal discharge prevention behavior, while 34% with high action commitment had high vaginal discharge prevention behavior. Respondents with low action commitment had a 2.288 times greater risk of having low vaginal discharge prevention behavior than those with high action commitment (PR = 2.288; 95% CI: 1.542–3.394). The chi-square test ($p = 0.000$) confirmed a significant relationship between action commitment and vaginal discharge prevention behavior.

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2. Discussion

The Relationship Between Self-Motivation and Vaginal Discharge Prevention Behavior

The high self-motivation possessed by adolescents will further encourage their desire and awareness to implement behaviors to prevent vaginal discharge. Adolescent girls who have high self-motivation tend to pay more attention to vulva hygiene, so the risk of experiencing vaginal discharge is lower. Conversely, low motivation risks causing a lack of attention to the cleanliness of the feminine area, which can ultimately increase the likelihood of vaginal discharge.

The results of this study also show that adolescent girls with low motivation have less awareness and drive to seek information related to preventing vaginal discharge. One of the factors contributing to this condition is the habit of using feminine hygiene soap which can disrupt the balance of natural bacteria in the vagina, potentially causing infection. Therefore, it is important for adolescent girls to get adequate education about reproductive organ hygiene so that they can implement behaviors to prevent vaginal discharge better.

Previous research also supports this finding. The study conducted (Dahlan et al., 2022) showed that female students with low motivation were 3.16 times more likely to take less preventive measures against vaginal discharge compared to those with high motivation. Psychological factors, including self-motivation, play an important role in determining vaginal discharge prevention behavior. Therefore, providing information through mass media and education from parents and health workers are important steps to increase the motivation of adolescent girls in maintaining vulva hygiene. With increased motivation, it is hoped that adolescent girls can be more aware of implementing healthy habits to prevent various diseases, including cervical cancer.(Usrina et al., 2023).

Relationship between Perceived Benefits and Vaginal Discharge Prevention Behavior

Female students who are aware of the benefits of maintaining feminine hygiene will be more motivated to implement good vaginal discharge prevention behaviors. The higher the perceived benefits, the more likely they are to invest time and resources in maintaining reproductive organ hygiene. One of the main benefits of implementing vaginal discharge prevention behaviors is avoiding vaginal infections, which if not prevented can develop into more serious diseases such as pelvic inflammatory disease or even cervical cancer.

The results of the study also showed that female students who often experience vaginal discharge can be caused by bacterial vaginosis, candidiasis, or trichomoniasis infections. Therefore, education about the benefits of preventive behaviors is very important to increase female students' awareness and motivation in maintaining reproductive health. When the perceived benefits are high, female students are more likely to implement healthy habits to prevent various health risks. Previous research supports this finding(Dahlan et al., 2022) found that there was a significant relationship between perceived benefits and vaginal discharge prevention behavior in female students of SMK Madya Depok. The study (Albasheer et al., 2024) also showed that the perceived benefits increased significantly after a healthy lifestyle education intervention was conducted on productive age women in Iran.

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In addition, (Rahmawati & Rohimah, 2023) in his research stated that the higher the benefits felt, the better the implementation of vaginal discharge prevention behavior. This finding is in line with the Health Promotion Model theory which explains that perceived benefits are a direct motivator of a behavior.

Relationship of Interpersonal Influence on Vaginal Discharge Prevention Behavior

Family support, especially from mothers and sisters, is often considered to have an important role in providing information and healthy habits related to vulvar hygiene. However, in this study, interpersonal influence did not directly increase vaginal discharge prevention behavior. This may occur because the application of information provided by family or peers depends on how individuals process and internalize the information in everyday life.(Rachmadiani et al., 2021).

In addition, although peers can be a source of social support and discussion about reproductive health, the results of the study showed that this did not always encourage the implementation of better preventive behaviors. Other factors such as lack of in-depth understanding, lack of direct experience in dealing with reproductive health problems, and the tendency of adolescents to get information from the media or the internet can also contribute to the results obtained. The results of this study differ from several previous studies (Usrina et al., 2023) found that the role of parents is related to the behavior of preventing vaginal discharge in adolescent girls. In addition, the study (Simawang et al., 2022) stated that the role of parents and peers has a significant influence on adolescent reproductive health knowledge. In their study, parents act as the main source in conveying information about reproductive health, while peers are a comfortable discussion medium for adolescent girls. However, the results of this study indicate that although interpersonal influence exists, its impact on vaginal discharge prevention behavior is not significant.

Relationship of Action Commitment to Preventive Behavior of Leucorrhea

High commitment in maintaining reproductive organ hygiene encourages individuals to consistently implement vaginal discharge prevention behavior. This commitment includes awareness to take specific actions according to certain situations, such as choosing appropriate clothing to maintain the health of the female genital area and avoiding habits that can trigger vaginal discharge. Factors that influence commitment to action include self-efficacy, barriers to action, and attitudes. These three factors can be a reinforcement in forming healthy habits. (Sihombing, 2020).

Efforts to increase commitment to action can be done through reproductive health education, either in the form of counseling, extracurricular activities related to adolescent reproductive health, or consultation with teachers who have received special training. By building a strong commitment from an early age, adolescent girls can more easily establish and maintain healthy behavior. The results of this study are supported by previous studies. (Usrina et al., 2023) found that there is a relationship between self-commitment and vaginal discharge prevention behavior.

Conclusion

Based on the results of the study on the relationship between work motivation, perceived benefits, interpersonal influences, and self-commitment to vaginal discharge prevention behavior in female students of State High School 4 Jambi City, it can be concluded that there is a significant influence between self-motivation and vaginal discharge prevention

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behavior in female students of State High School 4 Jambi City with a p value = 0.000 ($p < 0.05$), there is a significant influence between perceived benefits and vaginal discharge prevention behavior in female students of State High School 4 Jambi City with a p value = 0.000 ($p < 0.05$), there is no significant influence between interpersonal behavior and vaginal discharge prevention behavior in female students of State High School 4 Jambi City with a p value = 0.077 ($p > 0.05$) and there is a significant influence between self-commitment and vaginal discharge prevention behavior in female students of State High School 4 Jambi City with a p value = 0.000 ($p < 0.05$).

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