

# Use Of Panty Liner As A Risk Factor The Occurration Of Abnormal Vaginal Discharge

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## Abstract

Vaginal discharge or fluor albus is a problem that is often found in women. Daily use of panty liner is a predisposing factor of pathological/ abnormal vaginal discharge. This paper reviews the correlation between the use of panty liner and vaginal discharge. The aims of this study were to analyze the effect of daily panty liner use as a risk factor of vaginal discharge. This research is done by using cross-sectional method. Study population is students of University of Pelita Harapan in Faculty of Nursery. Sample size calculation was done using the categorical comparative analytical formula and a result 46 samples were obtained for each population. Questionnaire was used in this research. Statistical analysis is done by using the SPSS 22.0 program with Chi Square method. Bivariate analysis on 92 respondents revealed that there is a significant association between the usage of panty liner and abnormal vaginal discharge ( $p$  value  $<0.05$ ). Based on bivariate analysis panty liner material is not related to abnormal vaginal discharge ( $p$  value  $>0.05$ ).

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## Introduction

One of the factors that affect health problems in the female reproductive organs is abnormal vaginal discharge. Discharge that comes from a woman's genitalia outside the menstrual period and is not in the form of blood is called vaginal discharge or fluor albus.<sup>1</sup> Vaginal discharge can be both physiological and pathological. Vaginal discharge is said to be physiological if it is odorless, colorless/ whitish, and does not feel itchy. A vaginal discharge is said to be pathological if the discharge becomes yellowish, itchy, and foul-smelling.<sup>2</sup> Women of all ages can experience vaginal discharge-. Women aged 15-24 years experienced vaginal discharge as much as 31.8% according to a survey conducted by

the Indonesian Adolescent Reproductive Health Survey (SKRRI). Based on the results of research on women's reproductive health, 75% of women in the world have experienced vaginal discharge and 45% of them experience recurrent vaginal discharge.<sup>2</sup> The prevalence of vaginal discharge often increased, in 2002, 50% of women experienced vaginal discharge. In 2003 this figure increased to 60% and to 70% in 2004.<sup>3</sup> This increase in percentage was due to the tropical climate in Indonesia. This condition causes the feminine area to become moist so that the fungus can easily develop and cause vaginal discharge.<sup>4</sup> Abnormal vaginal discharge can be caused by infection or non-infection. Non-infectious causes that can cause vaginal discharge

include abnormalities of the reproductive organs that can be caused by tumors or malignancy. There are also factors that trigger vaginal discharge, such as diabetes, urinary tract infections, use of contraceptive pills and use of panty liners.<sup>5,6</sup>

Indonesian women still think that the use of panty liners can protect their feminine area.<sup>7</sup> In fact, the use of panty liners can make the use of panty liners moist and can cause vaginal discharge. Based on research by Farage (2007), 10-30% of women in North America and Western Europe always use panty liners outside of their menstrual period, this is based on their desire to keep their female area clean and dry.<sup>8</sup> However, there is no data that states the percentage of panty liner users in Indonesia. The panty liner does not have a significant difference with ordinary pads, what distinguishes the two is the size of the panty liner which is thinner than ordinary pads.<sup>9</sup> In addition, according to research by Farage (2007), the use of panty liners can reduce the number of Lactobacillus species which are normal flora in the vagina, and can increase the number of bad bacteria in the vagina, namely Eubacterium species. The use of panty liners can also cause intestinal flora such as Eschericia coli to enter the vagina.<sup>9</sup> Research that has been conducted at the Faculty of Medicine, University of Andalas Padang (UNAND) and Aisyiyah University Yogyakarta, the use of panty liners can trigger vaginal discharge. It is stated that there is a relationship between the use of panty liners and the incidence of vaginal

discharge (69.2%).<sup>10</sup> The results of research conducted by Aisyiyah University Health Sciences Yogyakarta also showed 56% of women who use panty liners experience vaginal discharge.<sup>6</sup> According to the International Journal of Gynecology & Obstetrics, from four studies on the use of panty liners, there was no effect on the appearance of vaginal discharge, only one study supported the influence between the use of panty liners and vaginal discharge.<sup>11</sup> Another journal research conducted by the International Journal of Gynecology & Obstetrics, also stated that 95% of women who use panty liners do not experience problems with vaginal discharge.<sup>12</sup> There are still pro and contra regarding this problem, so further research is needed to prove the effect between the two.

### Research Design and Sample

This research was conducted with a quantitative analytic research type with cross sectional method with case control. The sample size estimation of this study was calculated using unpaired categorical comparative analytic method. The total sample required in this study was 92 people.

In this study, samples that use panty liners and those who do not use panty liners are needed. The inclusion criteria in this study included female students of the Faculty of Nursing, Pelita Harapan University, 18-25 years. Subjects with Diabetes Mellitus and organic reproductive organ disorders (uterine tumors) were excluded.

### Data and Statistical Analysis

Data obtained using primary data, where data is taken directly through questionnaires. The data obtained from the study will be tabulated and analyzed. data tabulation will be performed using Microsoft Excel 2010

program and data analysis will be performed using SPSS 22.0 program. Statistical tests are conducted to prove the hypothesis. The method used for normal distribution is Chi2. The method for

abnormal distribution will be analyzed using Fisher's Test

**Results and Discussion**

Characteristics of Research Subjects:

Table 1. Age Distribution in the Panty Liner User Group

Age	(n=46)	Percentage (%)
18 years	3	6
19 years	11	24
20 years	22	48
21 years	10	22
22 years	0	0

The age distribution in the majority of panty liner users is 20 years old, as many as 22 people. Then followed by the age of 19 years, totaling 11 people. A total of ten

respondents were 21 years old and there were three respondents who were 18 years old. There were no respondents aged 22 years who used panty liners (Table 1).

Table 2. Age Distribution in the Non-Panty Liner User Group

Age	(n=46)	Percentage (%)
18 Years	2	4
19 Years	18	40
20 Years	16	35
21 Years	8	17
22 Years	2	4

For the age distribution in the non-wearing panty liner group, it was found that the majority of respondents were 19 years old as many as 18 respondents. 16

respondents aged 20 years and eight respondents aged 21 years. There are two respondents aged 18 years and also two respondents aged 22 years (Table 2).

Table 3. Results of Bivariate Analysis of Pantv Liner and Abnormal Vaginal Discharge

Variabel	No Abnormal Vaginal Discharge	%	Abnormal Vaginal Discharge (n)	%	Total (n)	%	OR (95%CI)	P value
Non-panty liner	35	76.1%	11	23.9%	46	100%	5.428 (2.198-13.450)	0.001
Panty liner	17	37%	29	63%	46	100%		
Total	52	56.5%	40	43.5%	92	100%		

Data from research results that have been statistically tested with Chi Square, obtained a P value of 0.001 where the P value is less than 0.05. This has a positive meaning, so it

can be concluded that the use of panty liners can be a risk factor for abnormal vaginal discharge (Table 3).

Table 4. Comparison of The Incidence of Abnormal Vaginal Discharge for The Non-users & Users of Panty Liner

	n	Abnormal Vaginal Discharge	%
<b>Non-Panty Liner</b>	46	11	24%
<b>Panty Liner</b>	46	29	76%

Based on table 4, regarding the comparison of the incidence rate of vaginal discharge in panty liner users and those who do not use panty liner, it is found that the number of abnormal vaginal discharge in panty liner users are 29 respondents and 11 respondents in non-panty liner users.

Respondents without abnormal discharge in non-panty liners more than those with panty liners as many as 35 respondents. A total of 17 respondents did not have abnormal vaginal discharge even when using panty liners.

Table 5. Data Distribution in Antiseptic & Non Antiseptic Panty Liner User

	Jenis Panty Liner				Total
	Antiseptic		Non-Antiseptic		
	n	%	n	%	
<b>Panty liner</b>	2	4.2%	44	95.8%	46

Two respondents used panty liners containing antiseptic and 44 respondents

used panty liners without antiseptics (Table 5).

Table 6. Bivariate Analysis of Panty Liner Types and Abnormal Vaginal Discharge

		Abnormal Vaginal Discharge				P value	
		Yes (n)	Percentage (%)	No (n)	Percentage (%)		Total
<i>Types of Panty Liner</i>	Antiseptic	1	3%	1	6%	2	
	Non-antiseptic	28	97%	16	94%	44	
<b>Total</b>		29	100%	17	100%	46	0.614

From the results of the bivariate analysis in table 6, 28 respondents experienced abnormal vaginal discharge when using non-antiseptic panty liners and 16 respondents did not experience abnormal vaginal discharge when wearing non-antiseptic panty liners. There is one respondent who has vaginal discharge when wearing an antiseptic panty liner but

another respondent does not have vaginal discharge when using an antiseptic panty liner. The p-value for non-antiseptic-based panty liners was 0.608. The p value for panty liner containing antiseptic is 0.709. The total p-value is 0.614. It can be concluded that the type of panty liner is not a risk factor that affects vaginal discharge

because the p value is not significant (p value > 0.05).

In this study, there is a relationship between the used of panty liners on the risk of abnormal vaginal discharge. Using panty liners increased the risk of abnormal vaginal discharge five times compared to those who did not use panty liners. Types of panty liners that contain antiseptic or not contain antiseptic; does not have a significant relationship with vaginal discharge. The use of panty liners has a significant effect on the risk of vaginal discharge with a bivariate analysis value (p value 0.001; OR 5.428). Too often use panty liners can trigger vaginal discharge because it can make the feminine area becomes moist. Based on research conducted by Runeman et al in 2003, the use of panty liners raises the temperature of 1.50C in the vulvar area and can also increase the pH by 0.6.4 The moist feminine area is also a predisposing factor for candidiasis.<sup>3</sup> Other than that, panty liner that is containing chlorine can kill the normal flora in the vagina (*Lactobacillus*). Reduced levels of *Lactobacillus* in the vagina can make the vaginal acidity unstable and become alkaline. An alkaline vaginal pH will make it easier for bad bacteria to grow and thrive.<sup>23</sup>

This research is supported by previous research conducted in the Faculty of Medicine, Andalas University, Padang. Previous research stated that there was a significant relationship between the used of panty liners on abnormal vaginal discharge. The difference between previous studies and this research is that this study examines whether there is an effect of the basic ingredients of the panty liner on the abnormal discharge itself. The results show

that there is no significant relationship between the basic ingredients of panty liners on vaginal discharge.

The type of panty liner is not a risk factor for vaginal discharge. Neither panty liner containing antiseptic nor antiseptic did not have a significant effect because the p value > 0.05. This may be because only two people used the type of panty liner that contained antiseptic. Because only two people used the type of panty liner that contained antiseptic, it couldn't cover the entire population, so it's not proven that the type of panty liner that contains antiseptic can prevent vaginal discharge.

In this study it can be said that the bias is quite large. This is due to many confounding factors, including cleanliness vulva, stress, Sexually Transmitted Diseases, wearing tights, and antiseptic. Vulvar hygiene itself includes the direction of cleaning the area femininity, drying of the feminine area, the number of pads used at the time menstruation, underwear material, and number of underwear changes.

## Conclusion

In this study, it is known that the use of panty liners can increase the risk of vaginal discharge. It can be seen that the incidence of vaginal discharge in female students who use panty liners is 76% o. The rate of vaginal discharge in female students who did not wear panty liners but vaginal discharge was 24%. Using panty liners can cause vaginal discharge five times greater than not using panty liners. However, the type of panty liner did not have a significant relationship with the occurrence of vaginal discharge.

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