

Relationship of Genitalia Hygiene With Candidiasis in Reproductive Age Women

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Abstract: Vaginal candidiasis is common in women of reproductive age. There are about 40-50% of women will experience recurrence, and nearly 30% of women with vaginitis symptoms on vaginal swab examination are found to have candida yeast, so they can be diagnosed as vaginal candidiasis. This study aims to determine the relationship of genital hygiene to the incidence of candidiasis in reproductive age women.

This research is an analytical survey with cross sectional approach. The research was conducted at Pirngadi General Hospital Medan. The population of the study were 214 people and the sample was 114 people. Sampling by purposive sampling technique. Data analysis using univariate analysis, bivariate analysis with chi-square test at 95% confidence level ($\alpha = 0,05$).

The results showed that most of the genital hygiene of respondents in good category (61.4%), bad (38.6%). Respondents who did not experience vaginal candidiasis (71.9%), who had vaginal candidiasis (28.1%). There is a significant relationship between genitalia hygiene and the incidence of vaginal candidiasis at Pirngadi General Hospital Medan 2018, $p = 0,000 < 0,05$ and $PR = 2.403 > 1$ then genital hygiene is a factor that increases or increases the occurrence of vaginal candidiasis.

It is suggested to health workers at RSU Pirngadi Medan to provide education or health education about maintaining genital hygiene as an effort to prevent vaginal candidiasis disease and maintain reproductive health.

Keywords - Genital Hygiene, Candidiasis Vaginalis, Reproductive Age

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I. Introduction

Vaginal candidiasis experienced by many women in reproductive age^[1]. As many as 40-50% of women will experience recurrence, and nearly 30% of women with vaginal symptoms on vaginal sweep examination are found to have fungal^[2].

Several studies conducted in Denmark, the United States and India show that the incidence of sepsis due to fungus remains high and tends to increase in recent decades^[3]. In addition to the increasing incidence annually, several studies abroad also show that candidiasis also causes high mortality rates and increasing length of stay, and maintenance costs^[4].

In Indonesia About 70-75% of women at least once infected with vaginal candidiasis during their lifetime, most commonly in women of reproductive age or women of reproductive age, in about 40-50% are likely to have a recurrence or second infection attack. As many as 5-8% of adult women experience recurrent vaginal candidiasis, defined as four or more episodes each year known as recurrent vaginal candidiasis, and over 33% of recurrent vaginal candidiasis -causing species are *Candida glabrata* and *Candida parapsilosis* that are more resistant to treatment^[5].

Data on Indonesia's Reproductive Health Survey 2013 in Indonesia, prevalence of reproductive tract infection as follows bacterial vaginosis 53% and 23% vaginal candidiasis. In 2015 in Jakarta the prevalence of reproductive tract infections that occur are 16.7% vaginal candidiasis, 15.4% trichomoniasis and 15.1% bacterial vaginosis. The high incidence of vaginal candidiasis is caused by the humid weather in Indonesia so that the fungus *Candida albicans* is easy to grow and become one of the causes.

The prevalence of vaginal candidiasis in women from the 2010 National Movement for HIV / AIDS Movement conducted in 10 cities in Indonesia showed that Jayapura (33%), Medan (27%), Palembang (23%), Bitung (21 %), Surabaya (18%), Bandung (12%), West Jakarta (9%) and for Riau Islands Province, Tanjung Pinang 12% [6].

Candida albicans infection is opportunistic, meaning *Candida albicans* which is a normal flora of the vagina will become a pathogen in certain circumstances, such as a person with immunocompromise or in an

environment with low pH, low hygiene, and a humid vaginal environment. Genital hygiene plays an important role in the prevention of candidiasis. Use of clean water is necessary in the hygiene of the body and genitalia[7]. In addition to hygiene factors, other risk factors that can lead to vaginal candidiasis include women with diabetes mellitus (DM), thyroid disease, iron deficiency, oral contraceptives, antibiotic therapy, and immune deficiency^[8].

The number of factors that can affect the status of hygiene genitalia and reproductive health of course can affect the degree of health and welfare of women. Therefore, maintaining reproductive health is a very important thing to note in addition to knowing the factors that can affect women's reproductive health^[9].

Based on medical record data of General Hospital dr. Pirngadi Medan that during the last 5 years (2012-2016) showed that cases of candidiasis vaginalis fluctuating trend. In 2012 the number of patients as many as 196 people from 471 cases of genital infection. In 2013 there were 213 cases from 432 cases, 2014 as many as 187 from 484 cases, by 2015 as many as 217 out of 439 cases, and in 2016 as many as 208 out of 469 cases such as gonorrhoea, Syphilis, HIV and AIDS. In 2017 (January-October 2017) the number of vaginal candidiasis sufferers is 189 cases (41.3%) of 457 cases of genetic infections, and will likely continue to grow until the end of 2017.

II. Method

The type of this research is analytical survey research with Cross-Sectional approach. This research was conducted in General Hospital dr. Pirngadi Medan. The population in this study as many as 214 people while the sample was obtained 114 people. Sampling by purposive sampling. Data analysis was done by univariate analysis and bivariate analysis using Chi-Square test at 95% confidence level ($\alpha = 0,05$). The measure of association strength used is Prevalence Ratio (PR).

III. Result

Characteristics of respondents based on the age of most respondents aged 20-35 years (66.7%), senior high school (50.0%), housewife (57.9%), married 48 people (73.7 %).

Genital Hygiene

Table 1. Respondent Frequency Distribution Based on Genitalia Hygiene

No	Genitalia Hygiene	n	(%)
1	Good	70	61,4
2	Bad	44	38,6
Total		114	100

The table above shows that majority genital hygiene of respondents in the good category is 70 people (61.4%), and bad category 44 people (38.6%).

Candidiasis

Table 2. Frequency Distribution of Vaginalis Candidiasis Occurrence

No	Vaginalis Candidiasis	n	(%)
1	Candidiasis	32	28,1
2	Normal	82	71,9
Total		100	100

Table 2 shows most respondents did not experience vaginal candidiasis as many as 82 people (71.9%), and normal 32 people (28.1%).

Relationship of Genital Hygiene with Vaginalis Candidiasis Occurrence

Table 3. Cross-Table of Genitalia Hygiene Relations with Vaginalis Candidiasis Occurrence

No	Genital Hygiene	Vaginalis Candidiasis				n		p-value	PR
		Normal		Candidiasis		n	%		
		n	%	N	%				
1	Good	65	92,9	5	7,1	70	100	0,000	2,403
2	Bad	17	38,6	27	61,4	44	100		

The table above shows that 70 respondents with good genital hygiene, majority did not experience vaginal candidiasis 65 people (92.9%). As many as 44 respondents whose genital hygiene was bad, the majority experienced vaginal candidiasis of 27 people (61.4%).

Chi-Square bivariate test results obtained p-value of 0.000 <0.05 means there is a significant relationship between genital hygiene with the occurrence of candidiasis vaginalis at Pirngadi General Hospital Medan in 2018. PR value = 2.403 > 1 then the genitalia hygiene is a increase factor the occurrence of vaginalis candidiasis.

IV. Discussion

Based on the results of multivariate studies showed that genitalia hygiene variables significantly influence the incidence of vaginalis candidiasis at Pirngadi General Hospital Medan in 2018, $p = 0,000 < 0,05$. The genitalia hygiene variables have an Exp (B) / OR value of 11,044, meaning reproductive age women whose genital hygiene is bad likely to have vaginalis candidiasis 11 times higher than women of reproductive age who have good genital hygiene.

Anindita's research^[10] at the Indonesian Family Planning Association of East Java found that factors related to the occurrence of vaginal candidiasis were genital hygiene including frequency of underwear, type of underwear, materials used for douching, vaginal flushing, and vaginal condition after rinsing. According to Fattouh's (2015) study, there are several variables that affect vulvovaginalis candidiasis, including vaginal hygiene, pregnancy, antibiotics, IUD use, diabetes, malnutrition, education level, and immunosuppression.

The vaginal tract is always open to the outside world so always have the risk of getting an infection from outside. However, the acid atmosphere that forms in the mouth of the vaginal tract and the position of the vaginal canal that is always in closed condition causes not all the seeds of the disease managed to enter it. The acidic atmosphere is formed by the presence of Doderlein germ that lives in harmony with the body^[11]. This acidic atmosphere should not be eliminated, vaginal acidity will be lost by the habit of diluting excessive vaginal pouch, using vaginal perfume spray (douching), or the use of other chemicals. In addition, the incorrect way to rinse the vagina, also letting the vaginal condition of the damp after rinsing also triggers the occurrence of vaginalis candidiasis^[12].

How to keep genital hygiene from experiencing vaginal candidiasis is to immediately change clothes that are wet or moist for swimming, exercising, or sweating. Be careful using vaginal cleansing fluid (vaginal douche), because if too often used, it can eliminate good bacteria that protect the vagina. Use clean water to clean the vagina. Avoid using soap with strong perfumes and antiseptics. washing the vagina from front to back, to avoid spreading dirt and germs from the anus into the vagina. If you want to use soap, you should use soap with a mild formulation without perfume, and just use on the outside of the sex organs. When using pads or panty liners, replace regularly 4-6 hours. Or, when it feels full or too moist, to stay hygienic and optimal absorption. If itching is disturbing, wash the area around the vagina with clean water, dry, and do not scratch. Scratching the itchy area can add irritation, and risk injury.

This study proves that the vaginal hygiene effect on the occurrence of vaginalis candidiasis in General Hospital dr. Pirngadi Medan. Women of childbearing age who are less clean of her feminine area have a tendency to suffer from vaginalis candidiasis compared to the women of childbearing age who clean her feminine area. Poor vaginal hygiene is the most influential factor in the occurrence of vaginalis candidiasis. Vaginal area is moist, not clean to be the growth of fungi causes of vaginalis candidiasis. Hygiene of the vaginal area is also the area of the groin that often experience itching because the folds are moist and often carded and eventually germs or bacteria spread to the vagina that can cause the occurrence of candidiasis vaginalis. In the vagina, this fungus usually lives in a fairly small amount. However, under certain conditions the fungus can grow fertile, and if the amount is too much, will occur vaginalis candidiasis infection.

V. Conclusion

This study proved that women of reproductive age with good genital hygiene (41.4%), did not experience vaginalis candidiasis (71.9%). Women of reproductive age were bad in genital hygiene (38.6%), who had candidiasis (28.1%). Genital hygiene is significantly associated with the occurrence of vaginalis candidiasis at Pirngadi General Hospital Medan 2018, $p = 0,000 < 0,05$. Genital hygiene is a factor that increases the occurrence of vaginalis candidiasis.

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