THE RELATIONSHIP BETWEEN KNOWLEDGE OF GENITAL HYGIENE WITH THE OCCURRENCE OF VAGINAL DISCHARGE INPREGNANT WOMEN

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ABSTRACT
One infection that often occurs with pregnant women is Sexually Transmitted Infections (STIs) which is one of the leading causes of maternal and newborn deaths. Based on data from the Ministry of Health of the Republic of Indonesia, the largest number of STI cases is abnormal vaginal discharge. During pregnancy, vaginal secretions increase by 50.8% and many pregnant women experience vaginal discharge problems. The cause of vaginal discharge in pregnant women can be caused by direct factors and indirect factors. Direct factors are fungi and bacteria while indirect factors can be caused by the knowledge, attitudes, and behavior of pregnant women. This study aim to determine the relationship between knowledge of genital hygiene and the occurrence of vaginal discharge in pregnant women. This study is a quantitative study with a cross sectional design. The population in this study wereall pregnant women who performed pregnancy checks at the East Jakarta Regional Health Center,totaling 97 samples with purposive sampling technique. data analysis using univariate and bivariate analysis using the chi square test. Based on the results of the study, the P-value for knowledge was P=0.000 or P-value ≤ 0.05. So it can be concluded that there is a relationship between knowledge and the incidence of vaginal discharge in pregnant women at the Kramat Jati Sub-District Health Center, East Jakarta.
Keywords: Sexually Transmitted Infections (STIs); Vaginal Discharge; Pregnancy

ABSTRAK
Salah satu infeksi yang sering terjadi pada ibu hamil adalah Infeksi Menular Seksual (IMS) yang merupakan salah satu penyebab utama kematian ibu dan bayi baru lahir. Berdasarkan data dari Kementerian Kesehatan Republik Indonesia, kasus IMS yang paling banyak terjadi adalah keputihan yang tidak normal. Selama kehamilan, sekresi vagina meningkat hingga 50,8% dan banyak wanita hamil yang mengalami masalah keputihan. Penyebab keputihan pada ibu hamil dapat disebabkan oleh faktor langsung dan faktor tidak langsung. Faktor langsung yaitu jamur dan bakteri sedangkan faktor tidak langsung dapat disebabkan oleh pengetahuan, sikap dan perilaku ibu hamil. Penelitian ini bertujuan untuk mengetahui hubungan antara pengetahuan tentang kebersihan genitalia dengan kejadian keputihan pada ibu hamil. Penelitian ini merupakan penelitian kuantitatif dengan desain cross sectional. Populasi dalam penelitian ini adalah seluruh ibu hamil yang melakukan pemeriksaan kehamilan di Puskesmas Wilayah Jakarta Timur yang berjumlah 97 sampel dengan teknik pengambilan sampel purposive sampling. Analisis data menggunakan analisis univariat dan bivariat dengan uji chi square. Berdasarkan hasil penelitian diperoleh nilai P-value untuk pengetahuan sebesar P=0,000 atau P-value ≤ 0,05. Sehingga dapat disimpulkan bahwa terdapat hubungan antara pengetahuan dengan kejadian keputihan pada ibu hamil di Puskesmas Kecamatan Kramat Jati Jakarta Timur.
Kata Kunci: Infeksi Menular Seksual (IMS); Keputihan; Kehamilan

INTRODUCTION

One of the key indicators of public health is the maternal mortality rate (MMR). As reported bythe

World Health Education (WHO), Indonesia's MMR in 2022 will reach 228/100,000 births, making it one of the countries with the highest MMR in Asia and third in ASEAN. (Crenshaw, 2015) The direct causes of maternal mortality according to the Performance Report of the Directorate of Community Health in 2020, are gestational hypertension (33.1%), obstetric bleeding (27.03%), non-obstetric complications (15.7%), other obstetric complications (12.04%), and pregnancy- related infections (6.06%), as well as other causes (4.81%).2 One of the infections that often occurs with pregnant women is Sexually Transmitted Infections (STIs) which are one of the leading causes of maternal and newborn deaths.

Serious complications of sexually transmitted infections include ectopic pregnancy, premature rupture of membranes (KPD), pelvic inflammation, premature birth, miscarriage, stillbirth, congenital infections, and death. Sexually transmitted infections can also increase the risk of HIV/AIDS transmission. (Crespo, 2009) Based on data from the Ministry of Health of the Republic of Indonesia, the highest number of STI cases is abnormal vaginal discharge. (Needs., 2015) Infections during pregnancy are a major cause of maternal and fetal morbidity and mortality.

Pregnant women are more susceptible to infections of the reproductive tract due to lower body resistance and increased metabolic needs. Pregnant women in Indonesia experience vaginal discharge about 90% more often than non-pregnant women. This is relevant to Indonesia whichhas a tropical climate where fungi grow easily. (Needs., 2015) During pregnancy, vaginal secretions increase by 50.8%, and vaginal discharge is a common problem for many pregnant women. Vaginal discharge is caused by fungal infection 24.7% and bacterial infection 26.1%.The incidence of vaginal infection is 75% due to the use of vaginal douches and poor vulva hygiene. (Needs., 2015). The cause of vaginal discharge in pregnant women can be caused by direct and indirect factors.Direct factors can be caused by fungi and bacteria, while indirect factors can be caused by the knowledge, attitudes, and behavior of pregnant women.

A person's knowledge can influence their behavior in personal hygiene; for example, a person who has good knowledge about personal hygiene can influence their behavior in applying personal hygiene. Knowledge about personal hygiene will affectpersonal hygiene behavior, butcannot change the habit of using personal hygiene at all times. The positive attitude of pregnantwomen is due to having good knowledge. A positive attitude causes people to always maintainbody hygiene. (Pribadi, 2016).

Morbidity rate or morbidity rate, is one of the indicators used to measure the degree of populationhealth apart from the mortality rate or mortality rate and life expectancy of the population. The higher the morbidity rate, the worse the health of the population and vice versa. Morbidity conditions lead to short life expectancy and high mortality rates. (Primack, 2013)

Data from the March 2022 National Socio-Economic Survey (Susenas) shows that the morbidityrate experienced by DKI Jakarta residents is 4.31%. In the previous year 2021 the morbidity ratewas 10.75%. Based on data from the Population and Civil Registration Office of DKI Jakarta Province in 2022, the largest population in DKI Jakarta Province is East Jakarta with 3,274,716people. (Crespo, 2009).

Based on the author's preliminary study, every day at the Kramat Jati District Health Center thereare approximately 30 pregnant women who check their pregnancy. Of the 30 pregnant women who checked their pregnancy there were 70% of mothers with second trimester gestational age.As many as 33% of second trimester pregnant women experience vaginal discharge problems. Based on the data described, the researcher is interested in conducting a study with the title “TheRelationship between Knowledge of Genitalia Hygiene with the Occurrence of Vaginal Discharge in Pregnant Women at the Kramat Jati District Health Center, East Jakarta ”.

METHOD

This research method uses a type of correlation with a cross sectional approach, namely a studythat approaches observation or data collection at one time. The sample in this study were some pregnant women in the first, second and third trimesters who conducted pregnancy checks at theKramat Jati District Health Center, East Jakarta, April 2024. The sampling technique used was purposive sampling. The total sample used was 97 respondents. Data collection using a questionnaire. Data analysis using Chi Square.

RESULTS AND DISCUSSION

RESULTS

1. Univariate analysis

a. Vaginal Discharge

The results of the study on the Relationship between Knowledge of Genital Hygiene with the Occurrence of Vaginal Discharge in Pregnant Women at the Kramat Jati District Health Center,East Jakarta as follows, the number of samples used was 97 respondents, an assessment of the incidence of vaginal discharge of pregnant women in the first, second, and third trimesters whoconducted examinations at the Kramat Jati District Health Center in the April 2024 period.

Table 1. Distribution of Vaginal Discharge at the Health Center of Kramat Jati District, EastJakarta, 2024

Vaginal Discharge	(f)	(%)
Yes	36	37,1
No	61	62,9
Total	97	100

Based on table 1, it is known that the respondents of pregnant women who experienced vaginal discharge at the Kramat Jati District Health Center were 37.1% and those who did not experience vaginal discharge were 62.9%.

b. Characteristics

In the characteristics study, the variables assessed were age, education, occupation, income, gestational age, parity, and history of STIs.

Table 2. Distribution of Characteristics of Pregnant Women Respondents at the Kramat JatiSub-District Health Center, East Jakarta, 2024

Characteristics		Frequency (f)	Persentage (%)
Age	< 20 years dan >35 years	17	17,5
	20 years – 35 years	80	82,5

Educations	Low	15	15,5
	High	82	84.5
Occupation	No Work	62	63,9
	Work	35	36,1
Income	Low	25	25,8
	High	72	74,2
Gestational age	< 28 weeks	61	62,9
	>28 weeks	36	37,1
Parity	< 2 children	38	39,2
	>2 children	59	60,8
STI history	Yes	11	11,3
	No	86	88,7
Total		97	100

Based on Table 2, the characteristics of pregnant women respondents at the Kramat Jati Sub District Health Center 82.5% were in the reproductive age of 20 years - 35 years, 84.5% of the majority were highly educated, while 63.9% of respondents did not working, 74.2% had a high income, while 62.9% had a gestational age of 1st and 2nd trimester, 60.8% had >2 children, 11.3%of pregnant women had a history of sexually transmitted infections.

c. Knowledge

Table 3. Distribution of Vaginal Discharge Based on Knowledge of Pregnant Women at theKramat Jati Sub-District Health Center, East Jakarta, 2024

Knowledge	Vaginal discharge				Total	
	No		Yes			
	(f)	(%)	(f)	(%)	(∑)	(%)
Good	43	82,7	9	17,3	52	100
Less	18	40,0	27	60,0	45	100

Based on Table 3. from 97 respondents were 82.7% with good knowledge of no vaginal discharge, 17.3% with good knowledge of vaginal discharge, and 40% with poor knowledge of no vaginal discharge, 60%with poor knowledge of vaginal discharge.

2. Bivariate Analysis

The statistical test used next is a non-parametric statistical test, namely the Chi-square test to see bivariate analysis whether there is a relationship between the independent variable and the dependent variable indicated by a p value <0.05.

Table 4. Relationship between Knowledge of Genital Hygiene with the Occurrence of Vaginal Discharge in Pregnant Women at the Health Center of Kramat Jati District, East Jakarta, 2024

Knowledge	Vaginal discharge				Total		*p-value* / OR	OR (95% CI)
	No		Yes					
	(f)	(%)	(f)	(%)	(f)	(%)		
1. Good	43	82,7	9	17,3	52	100	P = 0,000	OR = 0,140
2. Less	18	40,0	27	60,0	45	100		(0,055-0,355)

The statistical test results obtained a value of P = 0.000 if sig <0,05 then Ho is rejected, so it canbe concluded that there is a relationship between knowledge of genitalia hygiene with the occurrence of vaginal discharge in pregnant women at the Kramat Jati District Health Center East Jakarta. A total of 97 respondents with less knowledge and experienced vaginal discharge by 60%. From the analysis, the OR (95% CI) value for knowledge is 0.140 (0.055-0.355), meaning that the better the knowledge, the 0.14 times the incidence of vaginal discharge will belower.

Table 5. Relationship between characteristics with the occurrence of vaginal discharge in pregnant women at the Kramat Jati Sub-District Health Center, East Jakarta in 2024

Characteristic	Vaginal discharge				Total	
	No		Yes			
	(f)	(%)	(f)	(%)	(f)	(%)
Age						
1. <20 years dan >35 years	12	70,6	5	29,4	17	100
2. 20 years – 35 years	24	30,0	56	70,0	80	100
Education						
1. High	10	66,7	5	33,3	15	100
2. Low	26	35,1	56	64,9	82	100
Jobs						
1. No Working	28	45,2	34	54,8	62	100
2. Work	8	22,9	27	77,1	35	100
Income						
1. Low	14	56	11	44	25	100
2. High	12	30,6	50	69,4	72	100
Gestational Age						
1. < 28 Weeks	27	44,3	34	55,7	61	100
2. > 28 Weeks	9	25	27	75	36	100
Parity						
1. < 2 children	19	50	19	50	38	100
2. > 2 children	17	28,8	42	71.2	59	100
STI History						
No	26	31,9	60	54,1	86	100
Yes	10	90,9	1	9,1	11	100

Based on the table shows the p-value for age characteristics P=0.02 (P<0,05) so it can be concluded that there is a relationship between age characteristics and the occurrence of vaginal discharge in pregnant women at the Kramat Jati District Health Center, East Jakarta. A total of97 respondents 70.6% of the majority experienced vaginal discharge at the age of <20 yearsand >35 years and 30% of vaginal discharge was also experienced by 20-35 years old. From theanalysis, the OR (95% CI) value for age characteristics was 0.179 (0.057-0.563), meaning thatthe more mature

the age during pregnancy, the 0.179 times lower the occurrence of vaginaldischarge during pregnancy.

The analysis obtained p-value for the characteristics of the last education P=0.01 (P<0.05) so it can be concluded that there is a relationship between educational characteristics and theoccurrence of vaginal discharge in pregnant women at the Kramat Jati District Health Center, East Jakarta. 66.7% of respondents with low education experienced vaginal discharge and 35.1%of respondents with high education also experienced vaginal discharge. From the analysis, the OR value (95% CI) for educational characteristics is 0.232 (0.072-0.748), meaning that the higher the mother's education, the 0.232 times lower the occurrence of vaginal discharge duringpregnancy compared to mothers with low education.

The characteristics of the work variable obtained P = 0.029 (P < 0.05) so it can be concluded thatthere is a relationship between work characteristics and the occurrence of vaginal discharge in pregnant women at the Kramat Jati District Health Center, East Jakarta. A total of 22.9% of working mothers experienced vaginal discharge and 45.2% of vaginal discharge also occurred in mothers who did not working. From the analysis, the OR (95% CI) value for job characteristicsis 0.360 (0.141-0.916), meaning that the more mothers who work, the 0.360 times lower the occurrence of vaginal discharge compared to mothers who do not working.

The research obtained a p-value for income characteristics of P=0.02 (P<0.05) so it can be concluded that there is a relationship between income characteristics and the occurrence of vaginal discharge in pregnant women at the Kramat Jati District Health Center, East Jakarta. Asmany as 56% of low income experienced vaginal discharge and 30.6% of vaginal discharge was also experienced by high income. From the results of the analysis, the OR (95% CI) value for income characteristics is 0.346 (0.136-0.881), meaning that the more mothers with high income are 0.346 times lower in the occurrence of vaginal discharge compared to mothers with low income.

Table analysis obtained a p-value for gestational age characteristics P=0.058 (P>0.05) so it can be concluded that there is no relationship between gestational age characteristics and the occurrence of vaginal discharge in pregnant women at the Kramat Jati District Health Center, East Jakarta. It is known that 44.3% of vaginal discharge occurs at <28 weeks of gestation and 35% is also experienced by >28 weeks of gestation.

The characteristics of the parity variable obtained P = 0.03 (P < 0.05) so it can be concluded thatthere is no relationship between the characteristics of parity with the occurrence of vaginal discharge in pregnant women at the Kramat Jati District Health Center, East Jakarta. A total of 50% of mothers with <2 children experienced vaginal discharge while 28,8% of vaginal discharge was also experienced by mothers with >2 children. From the analysis, the OR (95% CI) value for parity characteristics was 0.405 (0.173-0.947), meaning that mothers with parity >2children were 0.405 times lower in experiencing vaginal discharge than mothers with parity <2 children.

Based on table 5, the p-value for the characteristics of STI history is P=0.000 (P<0.05) so it canbe concluded that there is a relationship between the characteristics of STI history and the occurrence of vaginal discharge in pregnant women at the Kramat Jati District Health Center, East Jakarta. There were 10 respondents, 90.9% with a history of sexually transmitted infectionsexperiencing vaginal discharge. From the analysis, the OR (95% CI) value for STI history characteristics is 23.077 (2.808-189.681), meaning that pregnant women with a history of STIs have a risk of 23.077 times experiencing pathological vaginal discharge compared to pregnant women who do not experience vaginal discharge.

DISCUSSION

Based on the results of the study, it was found that there was a significant relationship between knowledge of genital hygiene and the occurrence of vaginal discharge in pregnant women at the Puskesmas of Kramat Jati District, East Jakarta. Based on the analysis, it shows that the better the knowledge, the 0.14 times the incidence of vaginal discharge will be lower. The results of this study are in line with previous research conducted by Wahyunita, there is a relationship between the knowledge of pregnant women and the incidence of vaginal discharge.This study shows that mothers who have better knowledge the incidence of vaginal discharge is 6.2 times lower when compared to those who have less knowledge. (Pribadi, 2016).

This is also in line with previous research conducted by Sorayes, there is a relationship betweenthe knowledge of pregnant women and the incidence of pathological vaginal discharge. This study shows that knowledge assesses the extent to which respondents know genital hygiene andvaginal discharge. Knowledge will affect the incidence of vaginal discharge, good knowledge will affect attitudes and behaviors in maintaining reproductive health. While poor knowledge will affect attitudes and behaviors in maintaining reproductive hygiene, so people with poor knowledge will increase the risk of vaginal discharge. (Kotler, 2016).

The reproductive system in pregnant women is susceptible to infection, due to the decreased resistance of pregnant women and the increased metabolic needs of pregnant women. This tendsto result in vaginal discharge disorders in pregnancy. According to Suntoyo, vaginal discharge due to fungi is easier to attack pregnant women because during pregnancy, the vagina becomes rich in glucose content called glycogen, and this is a good food for fungi and bacteria to grow. The high amount of glycogen content is related to an increase in estrogen and a decrease in vaginal acidity.

Vaginal discharge during pregnancy does come out more and should not be accompanied by complaints such as itching, redness of the external genitals and surrounding areas. This condition can be caused by the wrong way of caring for the intimate organs or can be caused by a disease,this vaginal discharge can also be overcome by doing personal hygiene by caring for the intimateorgans properly and correctly so as to prevent the onset of dangerous vaginal discharge. (Needs., 2015).
The results of this study state that the more knowledge pregnant women have about vaginal hygiene, the fewer cases of vaginal discharge. Higher education also affects the knowledge of pregnant women, because they can get it from mass media in the form of videos or counseling from health cadres.
According to Maherunnisa's research, pathological vaginal discharge especially in pregnant women is an important public health issue because of its association not only with socio psychological impacts during pregnancy but also because of its association with adverse impactson the mother and fetus. The adverse maternal outcomes associated with pathological vaginal discharge are vaginal irritation and pain, uterine contractions, premature rupture of membranes,abortion, preterm birth, and postpartum endometritis. The adverse perinatal outcomes significantly associated with this pathological vaginal discharge are low birth weight, low Apgarscore at birth, neonatal respiratory distress syndrome, hospitalization in neonatal intensive care,and early neonatal death. (Gathecha G, 2017).
The results of this study are also in line with research conducted by Priantini, showing that mothers who perform poor personal hygiene have a risk of experiencing flour 2.36.times to experience flour albus compared to mothers who have good personal hygiene. Therefore, the practice of personal hygiene is very important for pregnant women to prevent infection so that itdoes not have a negative impact on pregnancy. (Crenshaw, 2015).

Pregnant women need to know how to perform genital hygiene such as, washing hands before and after touching the genitals, always maintaining genital hygiene as well as in public places and at home, drying the genitals using a towel / tissue after urinating and defecating, changing underwear when damp, using cotton underwear that easily absorbs sweat, washing the genitals using clean water only, cleaning the genitals starting from the front (vagina) to the back (anus),choosing unscented pads, not using pantyliner when vaginal discharge. According to Vina, improper genital cleaning methods such as using certain chemical liquids such as soap or usingwater can increase the incidence of genital infections higher, it increases the risk of vaginal discharge 3.9 times higher than those who clean genitals properly. (Kaihatu, 2006).

According to Aliyesh's research, knowledge is one component of predisposing factors that are important for health behavior. If pregnant women have more knowledge about the high risk of pregnancy, it is likely that mothers will think about preventing, avoiding or overcoming the problem of pregnancy risk, and mothers have the awareness to check their pregnancy, so that ifthere is a risk during pregnancy it can be treated early and appropriately by health workers. (Fridman, 2011).

The results of this study are also in accordance with the theory, that the lack of knowledge and attitudes of pregnant women about the prevention of vaginal discharge will weaken the motivation of pregnant women to live a healthy life in an effort to prevent pathological vaginal discharge. Knowledge is an important domain in the formation of open behavior. Knowledge and attitude are domains that exist in shaping a person's behavior. Attitude is also influenced by the level of knowledge, if a person's knowledge is good then he will know how to behave positively or negatively. (Senior, 2013)

According to Dahniar, a mother's awareness of the incidence of vaginal discharge in pregnancy increases in proportion to the frequency with which she gives birth to healthy children. The more children a mother has, the greater her pool of knowledge. Parity and vaginal discharge are mutually influential because the higher the parity, the higher the knowledge of pregnant women.

CONCLUSION

Based on the results of the study "The Relationship between Knowledge of Genital Hygiene withthe Occurrence of Vaginal Discharge in Pregnant Women at the Kramat Jati District Health Center, East Jakarta" conducted during April 2024, the following conclusions were drawn.

Based on the research, there are still pregnant women who experience vaginal discharge at the Puskesmas of Kramat Jati District, East Jakarta. The results of this study illustrate that some pregnant women still have insufficient knowledge about the prevention of vaginal discharge.

There is a significant relationship between knowledge of genital hygiene and the occurrenceof vaginal discharge in pregnant women at the Puskesmas of Kramat Jati District, East Jakarta. Based on the research results of several independent variables, there are several that are related, including age, education, work, income, parity, and history of sexually transmitted diseases to the occurrence of vaginal discharge in pregnant women.

The results showed that there are still many pregnant women at the Kramat Jati Sub-district Health Center who experience vaginal discharge due to lack of knowledge about genital hygiene, with age, education, occupation, income, parity, and history of sexually transmitted diseases contributing. The implication is that the Puskesmas needs to improve health education through routine counseling,

information media, and utilization of social media. Community-based approaches through health cadres, routine counseling, and early screening of risk factors are also important. Collaboration with educational institutions and health organizations can support the development of training programs, while regular monitoring and evaluation are needed to assess the success of interventions. This step is expected to reduce the incidence of vaginal discharge and improve the health of pregnant women.

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