Research Article

The Age, Education, and Occupation Characteristics is not Associated with Human Immunodeficiency Virus (HIV) Infection in Pregnant Mothers

Usia, Pendidikan, dan Pekerjaan tidak Berhubungan dengan Infeksi Human Immunodeficiency Virus (HIV) pada Ibu Hamil

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Abstract

Objective: To know the relationship between age, education and occupation on the pregnant women and the HIV status of the husband against the risk of being infected with HIV.

Method: This was an unpaired case control study performed in the Obstetrics and Gynecology Department of Sanglah Hospital, Denpasar, from October to November 2011. The subjects were pregnant women who were willing to participate in the research, which were grouped into HIV-infected case and control group. Diagnosis of HIV was based on rapid test. The data was analyzed using Chi Square test with the help of SPSS version 17.0

Result: There was fifty subjects consisting of 25 subjects in the case group and 25 subjects in control group we obtained that the risk of HIV-infected pregnant women in the old vs young age, low vs higher education, and occupations at risk vs not at risk is not significant in the two groups. Each Odds ratio is 0.35 (CI = 95% 0.08-1.55; p = 0.16), 0.85 (CI = 95% 0.28-2.59; p = 0.77), and 2.09 (CI = 95% 0.18-24.62; p = 1.00). Meanwhile, the odds ratio of the husband HIV status was 12.67 (CI = 95% 3.31-48.50; p = 0.01).

Conclusion: Husbands infected with HIV increases the risk of HIV in pregnant women 12 times greater than if the husband was not infected with HIV. Whereas, age, education, and the occupation of mothers is not a risk factor for the occurrence of HIV infection in pregnant women.

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Keywords: age, education, husband HIV status, occupation and pregnant women infected with HIV.

Abstrak

***Tujuan**: Mengetahui apakah usia, pendidikan, dan pekerjaan pada ibu hamil serta status HIV suami sebagai faktor risiko ibu hamil terinfeksi HIV.*

***Metode**: Berupa kasus kontrol tidak berpasangan di Bagian Obstetri dan Ginekologi RSUP Sanglah Denpasar selama dua bulan, yaitu bulan Oktober-November 2011. Sampel adalah ibu hamil terinfeksi HIV sebagai kelompok kasus dan tanpa infeksi HIV sebagai kelompok kontrol. Diagnosis HIV ditegakkan dengan rapid test serum, yaitu dinyatakan positif kalau reaktif dan negatif kalau non reaktif. Analisis data memakai uji Chi Square dengan bantuan SPSS for windows 17.0 version untuk mengetahui rasio Odds.*

***Hasil**: Lima puluh sampel dibagi atas 25 kelompok kasus dan 25 kelompok kontrol. Diperoleh bahwa risiko terinfeksi HIV perempuan hamil pada usia tua vs muda, pendidikan tinggi vs rendah, dan pekerjaan berisiko vs tidak berisiko adalah tidak bermakna pada kedua kelompok. Rasio Odds masing-masing adalah 0,35 (KI 95% = 0,08-1,55; p = 0,16), 0,85 (KI 95% = 0,28-2,59; p = 0,77), dan 2,09 (IK 95% = 0,18-24,62; p = 1,00). Sedangkan, rasio Odds status HIV suami adalah 12,67 (KI 95% = 3,31-48,50; p = 0,01).*

***Kesimpulan**: Suami terinfeksi HIV meningkatkan risiko HIV pada ibu hamil 12 kali lebih besar dibandingkan dengan suami tidak terinfeksi HIV. Sedangkan, faktor usia, pendidikan, dan pekerjaan ibu bukan merupakan faktor risiko terjadinya infeksi HIV pada ibu hamil.*

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***Kata kunci**: ibu hamil terinfeksi HIV, pekerjaan, pendidikan, status HIV suami, usia.*

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INTRODUCTION

The etiologyof Acquired Immunodeficiency Syndrome (AIDS) is Deoxyribonucleic Acid (DNA) retroviral which known as Human Immunodeficiency Virus (HIV).[1] The risk factor of HIV transmission is sexual activity through an unprotected sexual intercourse with infected human, blood transfusion, drugs injection with shared needle, medical procedure that is not sterile, and transmission from the mother to the baby during pregnancy, delivery, and breastfeeding.[2] The prevalence of AIDS in Bali was 85.95 in 100.000 population.[3]

There are some factors influencing HIV transmission and contributing to the incidence of HIV infection. These factors are highly individual, including racial or ethnic disability in facing the pressure or problems. The other factor is politic policy. Law also plays a role either directly or indirectly. The last factor is warfare, which could result in health infrastructure damage, poverty, and social instability in the conflict area.[4]

It is possible that the chain of HIV transmission begun from an HIV positive male who transmitted the infection to their wives or their sexual partners through an unprotected sexual intercourse. Then the wives or sexual partners could transmit the virus transplacentally to the their babies during pregnancy. Thus, it is important to know the male's infection status.[5]

Epidemiologic profiles of HIV in pregnancy that is linked to increasing risk in HIV transmission from man to woman are age, study level, and occupation. Health knowledge and promotion could also be associated with HIV transmission. Inability to acquire enough income can drive people to some occupation that has a high risk for HIV transmission.[6-8]

METHOD

This was an unpaired case control study performed in the Obstetrics and Gynecology Department of Sanglah Hospital, Denpasar, from October to November 2011. The subjects were pregnant women who were willing to participate in the research, which were grouped into HIV-infected case and control group. Diagnosis of HIV was based on rapid test examination.

Next, the subject was identified based on age, educational level, occupation, and husband HIV status. For the husband HIV status, we did confirmation to VCT clinic to check the accuracy of the data. We did analysis for all of these epidemiology characteristics to know if they could be a risk factor for HIV infection in pregnant women in Bali.

Data was analyzed using the Chi Square test with the help of SPSS version 17.0. Shapiro Wilk test was performed to know the normality of data distribution. Then Chi-Square test was performed to acquire the odds ratio.

RESULTS

This research used case control method. The sample were 50 pregnant women, with 25 HIV-infected women grouped as cases and 25 women with no HIV infection grouped as control. The subjects in case group were pregnant women with HIV positive which follow PMTCT program in Sanglah Hospital Denpasar and the subjects in control group were pregnant with HIV negative which had antenatal care at Sanglah Hospital Denpasar.

Table 1. Sample Characteristic based on Case and Control Group

Variable	Group				p
	Case (n = 25)		Control (n = 25)		
Age (year)	26.84	4.17	24.48	5.12	0.080
Parity	1.44	0.96	1.36	0.91	0.763

Based on t-independent test, Table 1 showed that p value > 0.05. It means there was no significant difference between case and control group based on age and parity status.

Table 2 showed correlation between husband HIV status and pregnant women infected with HIV. Husband HIV status increase risk factor to get infected with HIV 12 times (OR = 12.67, CI 95% = 3.31-48.50, p = 0.001).

Table 2. Correlated between Husband HIV Status and Pregnant Women Infected with HIV.

		Group		OR	CI 95%	p
		Case	Control			
Husband HIV Status	HIV (+)	19	5	12.67	3.31-48.50	0.001
	HIV (-)	6	20			

Table 3. Correlated between Age, Educational Level, Occupation, and Pregnant Women Infected with HIV.

		Group		OR	CI 95%	p
		Case	Control			
Age	Young	18	22	0.35	0.08-1.55	0.157
	Old	7	3			
Educational Level	Low	11	12	0.85	0.28-2.59	0.777
	High	14	13			
Occupation	High Risk	2	1	2.09	0.18-24.62	1.00
	Low Risk	23	24			

Table 3 showed there was no correlation between age and pregnant women infected with HIV (OR = 0.35, CI 95% = 0.08-1.55, p = 0.157). As well as no correlation between educational level and pregnant women infected with HIV (OR = 0.85, CI 95% = 0.28-2.59, p = 0.777). It also showed there was no correlation between occupation and pregnant women infected with HIV (OR = 2.09, CI 95% = 0.18-24.62, p = 1.00).

DISCUSSION

Based on analysis, we found average of age in case group was 26.84 4.17 and average of age in control group was 24.48 5.12, with p value = 0.080. It mean there was no age difference between case and control group. Parity average for case group was 1.44 0.96 and for control group was 1.36 0.91, with p value = 0.763, meaning there was no parity difference between case and control group.

We obtained that the risk of HIV-infected pregnant women in the old vs young age, low vs higher education, and occupations at risk vs not at risk is not significant in the two groups. Each Odds ratio is 0.35 (CI = 95% 0.08-1.55; p = 0.16), 0.85 (CI = 95% 0.28-2.59; p = 0.77), and 2.09 (CI = 95% 0.18-24.62; p = 1.00). Meanwhile, the Odds ratio of the husband HIV status was 12.67 (CI = 95% 3.31-48.50; p = 0.01).

Therefore husbands infected with HIV increases the risk of HIV in pregnant women 12 times greater than if the husband was not infected with HIV. Whereas, age, education, and the occupation of mothers is not a risk factor for the occurrence of HIV infection in pregnant women.

CONCLUSION

Husband infected with HIV increases the risk of HIV in pregnant women 12 times greater than if the husband was not infected with HIV. Whereas, age, education, and the occupation of mothers is not a risk factor for the occurrence of HIV infection in pregnant women.

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