

Number of Sexual Partners and Sexual Activity Effect on Incidence of Syphilis in Women Sex Workers Commercial in Medan City

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ABSTRACT

Syphilis is an infectious disease caused by treponema pallidum. Syphilis is still a health problem in the world and even syphilis is still a major cause of perinatal morbidity and mortality in many countries. Syphilis infects around 12 million people worldwide every year. The prevalence of syphilis in the female population of sex workers (WPS) infected with HIV is 16.7 percent while in WPS that is not infected with HIV 9.47 percent. The purpose of this study was to analyze the effect of the number of sexual partners and sexual activity on the events of syphilis in WPS in Medan. This research design case control with a total sample of 76 consists of 38 cases and 38 controls. The results showed that there was the influence of the number of sexual partners ($p < 0.001$) and sexual activity ($p < 0.003$) on the events of syphilis in WPS. In the number of sexual partners with the value of OR = 17.077 means that WPS suffering from syphilis has 17.077 times it is likely to have more than four customers per week compared to WPS who do not suffer from syphilis. Whereas in sexual activity, the value of OR = 4.429 means that WPS suffering from syphilis 4.429 times the possibility of using sexual activity more than or equal to two categories compared to WPS that does not suffer from syphilis. Suggestions This study to the Indonesian Family Planning Association (PKBI) is expected to carry out health education about the use of condoms and loyal to one partner to WPS and sex customers so that syphilis transmission does not increase.

KEYWORDS

number of sexual partners; sexual frequency; syphilis

INTRODUCTION

Sexually transmitted infections are not a strange thing in the ears of the community. When talking about the term, sexually transmitted infections are identical to HIV/AIDS. However, in addition to HIV/AIDS, sexually transmitted infections that are now experiencing an increase are syphilis or popularly known as King Lion. Syphilis is still a widespread public health problem in various countries in the world. Even syphilis is still a major cause of perinatal morbidity and mortality in many countries (Kementerian Kesehatan RI, 2013).

Syphilis is one of the most dangerous sexually transmitted diseases that occur in the world. Until now, syphilis has become a threat of persistent human health both in developed and developing countries. Syphilis infects around 12 million people worldwide every year. Syphilis can develop from primary to secondary and finally to the tertiary stage of disease if not treated properly. Syphilis is an infectious disease caused by treponema pallidum and has several properties, namely the course of the disease is chronic, in its journey it can attack all

organs, can resemble many diseases, have latent periods, can recur and can be transmitted from mother to fetus, causing congenital abnormalities.

Increased cases of sexually transmitted diseases or venereal diseases are a serious concern, more than one million people in the world are diagnosed with sexually transmitted diseases every day. Even one in twenty-five people certainly have one of four sexually transmitted diseases, namely chlamydia infection, gonorrhea or gonorrhoea, trichomoniasis, and syphilis. Syphilis can increase the risk of contracting HIV, increased risk of HIV transmission because syphilis occupies the second time after chancroid. The prevalence of syphilis in the women's sex worker (WPS) population infected with HIV is 16.7 percent while in WPS that is not infected with HIV 9.47 percent (Kementerian Kesehatan RI, 2013).

Syphilis infected more than five percent of sex workers in 11 out of 32 reporting countries for 2019 and more than 10 percent in four countries. Among the 32 reporting countries for 2019, an average of 10.8 percent (around 2.8% to 30.3%) sex workers tested were diagnosed with active syphilis. Sex workers in many places are very vulnerable to HIV and sexually transmitted infections (such as syphilis) due to various factors, including sex couples, unsafe working conditions, and the inability to negotiate the use of consistent condoms (WHO, 2022).

The prevalence of syphilis active sex workers in Indonesia fluctuating from year to 2008 (14.98%), 2010 (6.12%), 2011 (8.58%), 2012 (7.91%), 2013 (6.8%), 2014 (4.1%), 2016 (5.5%), 2017 (3.3%), 2018 (3.2%), and in 2019 (1.4%). Sexually transmitted infectious diseases (PIMS) based on the highest risk group in high risk pairs (2,651 cases), sex men with men (2,391 cases), sex workers (1,514 cases), sex workers (941 cases), transvestites (227 cases), sex workers (22 cases) and injection needle users (9 cases) (Nari, J., Shaluhiyah, Z., Nugraha, P, 2015). The number of PIMS cases based on the highest laboratory tests was reported, namely early syphilis (2,188 cases), advanced syphilis (788 cases), gonorrhea (1,033 cases), urethritis gonorrhea (992 cases), non-GO urethritis (1,023 cases) (Kementerian Kesehatan RI, 2020).

The Indonesian Ministry of Health (Kementerian Kesehatan RI, 2017) reports that the number of syphilis sufferers in Indonesia in 2016 reached 7,055 people, most of which occurred in women of sex workers (WPS), transvestite populations, male sex men (LSL), and the use of injections. In cases in Indonesia, sex before the age of 18 years has different meanings between women and men. Women who have sex before the age of 18 are 16 percent while men are 10 percent. In this case, women at a younger age than the possibility of being infected if fewer women have sex before the age of 18 years.

The largest number of PIMS cases based on the risk group is the pair of Risti (2,685), LSL (2,524), WPS (1,817), PS customers (1,050), Transvestites (207), PPS/Male Sex Workers (13), and Penasun (12). While the number of PIMS cases is based on reported laboratory examinations, namely early syphilis as many as 2,821 cases, further syphilis 962 cases, gonorrhea 1,273 cases, gonorrhea urethritis (Kementerian Kesehatan RI, 2021).

The most syphilis cases are in Medan City by 22.74 per 100,000 population (511 cases), then in Deli Serdang Regency of 11.33 per 100,000 population (203 cases), followed by Asahan Regency amounting to 18.51 per 100,000 population (133 cases) and Serdang Bedagai Regency amounting to 4.89 per 1,000,000 population (3 cases) (Dinas Kesehatan Provinsi Sumatera Utara, 2017).

According to the Indonesian Ministry of Health. In 2016 stated that WPS is a woman aged 15 years and over who receives money or goods to have anal or vaginal penetrative sex in the last 12 months. While the person who buys the WPS is called a WPS customer is a man aged 15 to 49 years who pays women with money or goods to have anal or vaginal penetrative sex in the last 12 months.

Based on the results of the initial survey conducted on five respondents through interviews that customers often release condoms during sexual intercourse without the knowledge of WPS. WPS admitted that sexual activity carried out not only through vaginal and even customers who asked for sexual activity through anal. WPS recognizes that after sexual intercourse with customers they drink herbal medicine and decay the stomach until white fluid out of the vagina they believe can prevent sexually transmitted diseases. Then during the interview with WPS related to syphilis they only learned that syphilis as venereal disease but did not know about how the symptoms of the disease they would not even check themselves if they were not reminded. According to report data recorded at the Indonesian Family Planning Association (PKBI) Medan City in 2021 that the number of affordable female sex workers (PSP) was 1,153 people, PSP VCT test was 571 people and positive PSPs and got 32 treatment. Based on the initial survey, a study was conducted on the effect of the number of sexual partners and sexual activity on syphilis in commercial sex workers in Medan in 2022.

RESEARCH METHODS

Types of Research

This research is a quantitative study with a case control study design. Case control design is an analytical study that analyzes causal relationships that determine the disease first and then identify the causes. The approach used is retrospective. In this study, affordable WPS as a syphilis sufferer is an affordable case and WPS is not a syphilis patient as a control.

Population and Sample

The population in this study are all affordable WPS (WPS that can be reached by PKBI officers in conducting health checks). The sample in this study was a sample of the case was a WPS that suffered from syphilis and received treatment and was recorded at PKBI Medan City as many as 38 people. Control samples are affordable WPS and do not suffer from syphilis in PKBI Medan City as many as 38 people.

Operational Definition

1. Women Sex Workers (WPS) are women who surrender themselves to have sex by expecting payment, both in the form of money or other forms.
2. Syphilis is the status of the patient's syphilis based on the results of laboratory tests.
3. The number of sexual partners is the number of people/customers who have sex with women sex workers in one week.
4. Sexual activity is a way of sexual intercourse used by women of sex workers with sexual partners/ sexual partners in the form of vaginal, anal and oral.

Dependent variable

Syphilis, categorized as follows:

1. Negative
2. Positive

Independent Variable

1. The number of sexual partners, is categorized as follows:
 0. \leq 4 people/ week
 1. $>$ 4 people/ week
2. Sexual activity, categorized as follows:

- 0. \leq 2 Categories
- 1. $>$ 2 categories

Data Analysis Method

This research uses Univariate and Bivariate analysis for analysis data. In this study was that all research variables were conducted to get an overview of variables Number of sexual partners, sexual activities and syphilis events presented in the form of frequency distribution tables. Bivariate analysis is useful for seeing the relationship between independent variables (number of sexual partners and sexual activity) with the dependent variable (syphilis incidence). The type of data is category, the analysis technique used is a simple logistic regression regression test at a 95 percent confidence level. If the value of p value <0.05 means there is a significant relationship between the two variables.

RESULTS AND DISCUSSION

Univariate analysis results. The results of the univariate analysis in this study are as follows: Frequency Distribution The number of sexual partners and sexual activity in WPS in Medan City.

Table 1. Univariate Analysis Results

Variable	Cases		Control	
	n=38	%	n=38	%
Number of Sexual Partners				
1-4 People/ Week	1	2,6	1	2,6
5-9 People/ Week	17	44,7	11	28,9
10-14 People/ Week	9	23,7	11	28,9
15-19 People/ Week	5	13,2	5	13,2
20-24 People/ Week	5	13,2	8	21,1
> 25 People/ Week	1	2,6	2	5,3
Sexual Activities				
Vaginal	8	21,1	19	50,0
Anal	0	00,0	2	5,3
Oral	2	5,3	6	15,8
Vaginal and oral	28	73,7	11	28,9

In the variable the highest number of sexual partners is the number of sexual partners five to nine people per week in the case of 17 people (44.7%) while the number of sexual partners in control is more than five to nine people per week and 10 to 19 people per week each is 11 people (28.9%), while the number of sexual partners is at least one to four people per week in the case and one person (2.6%). Most sexual activity is vaginal and oral sexual activity in cases and controls as many as 28 people (73.7%) and 11 people (28.9%), followed by sexual activity through vaginal in cases and controls each as many as eight people (21.1%) and 19 people (50.0%), then sexual activity through anal in cases does not exist as many as two people (5.3%).

Bivariate analysis results. The results of bivariate analysis of this research are as follows: The Effect of the Number of Sexual Partners and Sexual Activities on Syphilis In the WPS in Medan City.

Table 2. Bivariate analysis results

Variable	Syphilis Incident				P	OR	95% CI
	Cases		Control				
	n	%	n	%			
Number of sexual partners							
> 4 customers/ week	37	97,4	26	68,4	0,001	17,077	2,090 - 139,558
≤ 4 customers/ week	1	2,6	12	31,6			
Sexual activity							
≥ 2 categories	31	81,6	19	50,0	0,003	4,429	1,569 - 12,502
<2 Categories	7	18,4	19	50,0			

The results of the analysis using a simple logistics regression regression test showed two independent variables, namely the number of sexual partners ($p = 0.001$) and sexual activity ($p = 0.003$) significantly related to syphilis with the value of p value < 0.005 . In the number of sexual partners with the value of $OR = 17.077$ means that WPS suffering from syphilis has 17.077 times it is likely to have more than four customers per week compared to WPS who do not suffer from syphilis. Whereas in sexual activity, the value of $OR = 4,429$ means that WPS suffering from syphilis 4.429 times the possibility of using sexual activity more than or equal to two categories compared to WPS that does not suffer from syphilis.

The Influence of The Number of Sexual Partners on Syphilis

The effect of the number of sexual partners on the events of syphilis based on the results of the analysis above shows that the number of sexual partners influences the incidence of syphilis ($p = 0.001$). The proportion of WPS which has a number of sexual partners is greater than four customers/ weeks in the case group by 97.4 percent and WPS which has a number of sexual Mira is smaller than or equal to four customers per week in the control group of 31, 6 percent. Changing partners One of the risk factors for a person suffering from STI disease, has more than four customers per week and changing customers means that WPS performs unhealthy sexual activities with sexual customers.

The results of this study found that the number of customers served per week is at least four customers and at most 25 customers in the case group while in the control group at least seven customers and at most 30 customers per week. When the interview was conducted, there were a number of WPS so that the vagina was getting tougher, this was intended not to disappoint customers given the large number of customers that had to be served on the same day, namely, Fatimah grass herbs, crystal madura sticks, manjakani/herbal medicine and virgin powder. WPS admits that more people use Madura Crystal sticks for cheap and fast reasons so that if there are customers who want to use their services, they can start immediately without waiting long. The activity can accelerate the transmission of syphilis because it can hurt the vagina, so that if there are customers who have suffered syphilis it will be infected on WPS and WPS will transmit to her husband.

According to the results of Warongan's research (2021) stated the proportion of respondents who had 0-1 pairs in cases of cases as much as 62 percent, this figure was higher than the control group (56%), and the proportion of respondents who had greater than or equal to two pairs in the case group as much as 38 percent, this figure was lower than the control group (44%).

Infected risk increases in people who change sexual partners, becoming sex workers. Transmission of syphilis is no different from other STIs, namely through unsafe sexual contact. The risk of contracting syphilis will be even greater if a person has sexually transmitted infections (STIs) that spread quickly through sexual tissue with the number of

sexual partners (change sexual partners). Risk of sex will only widen the potential for transmission because it is done without using a condom, this causes *Treponema Pallidum* bacteria infecting the human body through injuries and genitals, anus, lips, and mouth (Kementerian Kesehatan, 2022).

Aridawarni's research (2014) shows that the number of customers has a relationship with sexually transmitted infections that can be seen from the value of P value 0.04 with a RR value of 1.74 which means the number of customers 3-10 people per week has a chance of 2 times greater with a number of customers 1-2 people to contract STIs. The more number of WPS customers, the possibility of interacting with customers who are infected with STIs the higher. The more often the WPS works, the risk of contracting STIs, on the contrary, WPS that has been infected with STIs, the more customers who may be infected from it. The more number of WPS customers, the possibility of interacting with customers who are infected with STIs the higher. The more often the WPS works, the higher the risk of contracting STIs. WPS that has been infected with STIs, the more customers are infected from the WPS. To prevent transmission by selecting customers, and the use of condoms, the use of condoms can prevent the contracting of sexually transmitted infections from infected customers.

The influence of sexual activity on syphilis in WPS in Medan City

The effect of sexual activity on syphilis in WPS based on the results of the analysis above shows that sexual activity affects the incidence of syphilis ($p = 0.003$). The proportion of WPS which has sexual activity is greater than or equal to two categories in higher cases (81.6%). During the interview, WPS admitted that you did not mind if you had sexual activity from anywhere as long as the pay was suitable.

Sexual activity carried out by WPS is vaginal, anal sex, oral sex or combination sex. Sexual activity, oral sex and anal sex associated with the incidence of STIs. Vaginal, oral and anal sexual intercourse plays a role in increasing the possibility of invasion of Microorganisms that cause STIs. Anal sexual intercourse is also risky because it can cause injury to the anal tissue so that microorganisms can enter the body through injured tissue (Nugrahaeni, 2017). The most common method of transmission of syphilis through contact with the wounds of infected people during sexual activity. Bacteria enter the body through a small wound or blister on the skin or mucous membranes. Transmission of syphilis during the stages of primary and secondary periods, and sometimes at the beginning of the initial period. However, transmission can spread through direct contact with active lesions, namely when kissing with a partner, besides syphilis can be transmitted from mother to baby during pregnancy or childbirth (Ministry of Health, 2022).

Masni's research (2016) states that risky sexual behavior is a behavior that arises related to the encouragement of sexual desires, both with the opposite sex and same -sex which when done has the opportunity to cause losses. Risk of sexual behavior one of which is to do sexual activity through vaginal, oral and anal. In this case oral sexual activity is sexual activity carried out by giving stimulation using the lips and tongue. This sex activity is often considered safe from the risk of transmission of sexually transmitted diseases. In fact, oral sex can also transmit sexually manular diseases namely syphilis, if done without using safety like a condom. Whereas sexual activity through anal is a sexual activities carried out by entering Mr. P into the anal hole. Although anal sex activity is often associated with homosexuals, it does not rule out the possibility of anal sex activities carried out by heterosexuals. Activity through the anal is very risky because it causes injury to the genitals.

Vertical transmission from pregnant women to the fetus can occur through the placenta or when parturition through direct contact with syphilis lesions. Transplacental infections

generally occur after 18 weeks of gestation. The risk of infection to the fetus is the highest in women with early syphilis. Other transmission methods are very rare, including blood transfusions or accidental direct inoculation. The use of syringes together by users of intravenous injections has been reported.

CONCLUSIONS

The conclusion in this study was found that the number of sexual partners and sexual activity each had a significant effect on syphilis in WPS in Medan. This is indicated by the value of P Value 0.001 and 0.003 with the value of OR = 17.077 means that WPS suffering from syphilis has 17,077 times it is likely to have more than four customers per week compared to WPS who do not suffer from syphilis. Whereas in sexual activity, the value of OR = 4,429 means that WPS suffering from syphilis 4.429 times the possibility of using sexual activity more than or equal to two categories compared to WPS that does not suffer from syphilis.

Suggestion

1. For PKBI Medan City, provides education to WPS to always use condoms to increase the prevention of syphilis.
2. For WPS, with this research it is expected that WPS must be open to discuss the history of venereal diseases experienced with a partner or sex customer.
3. Other researchers are advised to conduct similar research with a broader scale so that the results of the latest research

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