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Editor
2017-05-30 11:49 AM

DELETE
Subject: [Kesmas] Informasi Artikel_Selesai Review_mohon konfirmasi
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Berikut kami sampaikan terkait artikel bapak telah diberikan penilaian oleh reviewer dan editor. Berdasarkan hasil penilaian reviewer dan pengecekan editor, analisis spasial yang dilakukan pada artikel kurang terlihat dan informatif (penggunaan peta belum tepat0, sehingga kami pertimbangkan artikel dapat kami terima jika analisis yang dilakukan hanya analisis statistik saja. Jika bapak berkenan kami akan sampaikan hasil koreksi lengkap mitra bestari dan editor.

Terima kasih.

Salam,

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Editor
2017-06-02 01:19 PM

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Dewi Susanna
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2017-09-07 03:08 PM

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Subject: [Kesmas] Editor Decision
Cecep Cecep Heriana:

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Our decision is to: Revision Required

Please send back revision file on Author version no later than September 12th. Thank you.

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Editor
2018-01-24 11:13 AM

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Editor 2018-02-07 09:56 AM

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Thank you for your participation in submitting your article to be published in Kesmas: National Public Health Journal. We will wait for your next article.

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I found through :
https://www.academia.edu/20370656/HIV_AIDS_di_Jawa_Barat:

Distribusi Spasial dan Determinan Kejadian HIV/AIDS di Jawa Barat

Determinant and Spasial Distribution of HIV/AIDS in West Java

Cecep Heriana, Siti Nunung Nurjanna有!r''gram Studi S# Kese有atan $as%ara&at S'IKes Kuningan
Penulis Korespondensi : Alamat : STIKes Kuningan Jl. Lingkar Kadugede No.2 Kuningan Jawa Barat, email :有e有ep!eriana''gmail.有om, #p. $%&22'2'(%%

According to the finding mentioned above, if the author is similar, please rewrite to avoid autoplagiarism.

Determinant And Spatial Distribution of HIV/AIDS Prevalence In West Java, Indonesia : Analysis of Secondary Data

Comment : do not place abbreviation in front of the sentence something like : HIV/AIDS
When you use secondary data → You may not use cross-sectional design as well as cohort or case control design , but the design is called nonreactive or unobtrusive (See David Nachmias, 1987 and Lawrence Neuman, 2006)
Please, be careful about English grammar (plural, singular, tenses)

ABSTRACK

HIV/AIDS is a health problem in the West Java Province and unknown patterns of spatial detail until now. The objective of this study was to determine the spatial Distribution and determinants of HIV/AIDS in West Java. Cross-sectional used secondary data from 2010 until 2013 with a sample of 26 Cities at January-Oktober 2015. Analysis used univariate and bivariate (Chi-square test) and multivariate (logistic regression). The result of research shods the spatial distribution of HIV/AIDS prevalence, The highest prevalence of HIV and AIDS as 7 Cities in West Java and the lowest 19 Cities. Statistical analysis showed that determinant of classification of the town (p-value: 0.01, 95% CI: 0.001-0.089), the type of highway (p-value: 1.0, 95% CI: 0.145-9047), and characteristics of the region (p-value: 0.04 , 95% CI: 0.001-1.027. The conclusion is spatial distibution highest HIV incidence in areas with tourist destinations and areas that have national lines (north coast). There is a relationship between the classification of the town, characteristics of the region and the use of condoms is dominant factor and there is no relationship between the type of highway with the HIV/AIDS in West Java.

Keyword : Spatial, Determinant, HIV/AIDS, West Java

ABSTRAK

HIV/AIDS merupakan masalah kesehatan di Provinsi Jawa Barat dan sampai saat ini belum diketahui pola spasial yang terinci. Tujuan penelitian untuk mengetahui distribusi spasial dan determinan kejadian HIV/AIDS di Jawa Barat. Desain studi *cross sectional* menggunakan data sekunder tahun 2010-2013 dengan sampel sebanyak 26 Kabupaten/Kota di Jawa Barat yang dilaksanakan pada bulan Januari-Oktober 2015. Metode analisis univariat dan bivariate dengan uji statistik *Chi-square test* dan analisis multivariate (regresi logistik). Hasil penelitian distribusi spasial menunjukan sebaran prevalensi HIV/AIDS tertinggi 7 Kabupaten/Kota di Jawa Barat dan terendah 19 Kabupaten/Kota di Jawa Barat. Hasil Analisis Bivariat menunjukan klasifikasi kota (nilai p: 0.018, 95% CI: 0,001 - 0,089), jenis jalan raya (nilai P: 1,000, 95% CI : 0,145 – 9047) dan karekteristik wilayah (nilai p: 0,046, 95% CI: 0,001-1,027). Kesimpulan distribusi spasial kejadian HIV tertinggi di daerah dengan tujuan wisata dan daerah yang memiliki jalur nasional (pantura). Terdapat hubungan antara klasifikasi kota, karekteristik wilayah dan penggunaan kondom paling dominan dengan kejadian HIV/AIDS dan tidak terdapat hubungan antara jenis jalan raya dengan kejadian HIV/AIDS di Jawa Barat.

Kata Kunci : Spasial, Determinan, HIV/AIDS, Jawa Barat

INTRODUCTION

HIV and AIDS are the world problems actually risk in infection transmitied, morbidity and mortality. Globally HIV cases in 2011, there are 34 millions people was living with HIV, 30.7 millions are among the adults. 16.7 millions people infected are woman, 3.3 million are among children under 15 years. 2,5 million people live in HIV new case, with 2,2 million people among adults and 330 thousand among children under 15 years. Dead cause of AIDS are 1,8 million people, with 1,5 million people adult and 230 thousand are children under 15 years[(1)].

Human Immunodeficiency Virus (HIV) is a retroviral that infected the human imunited cells (espatially CD4 positive T-sel and primary makrofag antibody components), it can destroy or disturb that function. This infection can cause the immunity degradation, that can cause an immunity deficiency. Acquired Immunodeficiency Syndrome (AIDS) describes all both the symptom and immunity degradation. HIV infection was signed as AIDS causes, amount HIV in the human body and infection symptom are indication that the HIV was becoming AIDS[(2)].

In Indonesia was reported AIDS cumulative case amount 22.726 in 32 provinces. Higher risk community is in productive age between 20-29 ages (47,8%), in 30-39 ages community (30,9%), and 40-49 age community (9,1%). From that case, 4250 or 18,7% died case. West Java province are included to 8 provinces with the highest case in Indonesia. all regency or city in West Java province have found the HIV and AIDS. The most higher risk province is Bandung City, Bekasi and Sukabumi. The lower risk area of HIV/AIDS is Banjar that has only had 11 case in 2012.

Cumulative HIV/AIDS case in West Java from 1987 until march 2013 there are 7621 HIV case and 4131 for AIDS case. The date describe that HIV has a transmission trend start from 2008 as much as 67% new case in HIV and for AIDS dominated by injecting drus user.While in 2012 show that the new case of HIV and AIDS are dominated by heterosexual, 64% from all case [(3)].

HIV AIDS impact so worried, because this syndrome caused the mortality and morbidity rate in the productive age community. This epidemic is rising in injection drug user and suction drugs user. Sexual intercourse without condome is also the risk factor that can make the raising of HIV AIDS case. Distribution of condom user in west java province in 2010 is 49.522, in 2011 increased in 50.234 and 49.522 in 2012. Motivating factors that make the epidemic found in all regions are : seks industries, low of condom user, injection drugs user and medical operatif.

Spatial epidemiology is a branch study that related to, description, measure and explain of geographic variance distribution of disease. Spatial epidemiology is the description and analysis from the geographic distribution of disease. In this era, spatial epidemiology as important as health problems, for example in bio-terrorism that make the complex analysis. In West Java province have not identified the spatial pattern for HIV and AIDS. This research is main to anaylsis of spatial distribution and determinants of HIV AIDS in West Java Province. While, the spatial aim of this research is to know the spatial distribution by prevalence levels and determinants, territory characteristic, classification of city, highway type and condom user.

METHOD

This is the analytic observational research with the cross sectional design in West Java Province. The data was collect by secondary date from an instance that is: date of HIV and AIDS case from West Java health ministry in 2010-2013, date, city classification, highway and characteristic for region in all west java province collected from Badan Pusat Statistik (BPS). The colleted data then analysis with STATA 12 version. The analysis was steping by univariate, bivariate and multivariate analysis to see the relation the independent and independent variance used the bivariate analysis and used the chi-square for statistic analysis test. From this analysis presents the correlation of independent variable or not correlate with the depend variable. Logistic regression for multivariate in two steps, the first step is an interaction to test to eliminate the variable with the p value less than 0,05, and the choose candidate the regression logistic model with all independence variance into the model. Not significan variable is out step by step, start from the higest p value until that variables assigned to model (fit model) depend from the best from to test that is log likehood ($p<0,05$)[7].

Location is in West Java Province Indonesia, for 9 months start from January 2015-October 2015. The population is all HIV AIDS cases in all regions in West Java Province. Sample of this research is completed date of HIV AIDS from all regions in West Java Province in 2010-2013. With nonprobability sampling with exhaustive sampling that is the completed HIV AIDS case date in all regions as variable. The independent variables are territory characteristic, city classification, highway and condom user. The dependent variables are HIV AIDS in the west java province.

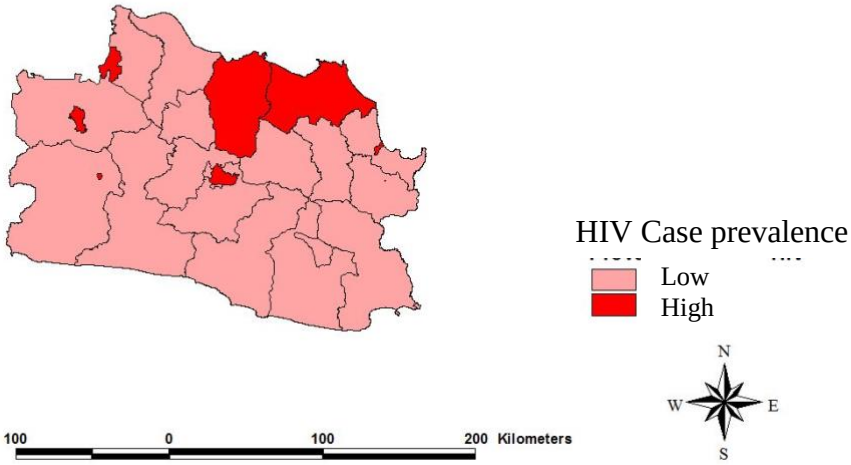
Please, be careful about the grammar (plural, singular, tenses)
See my comment about the design of research previously

RESULT

Based from spatial analysis of HIV/AIDS in West Java province, present the result:

Picture 1. HIV case prevalence in West Java in 2014 → The Title should be below the picture

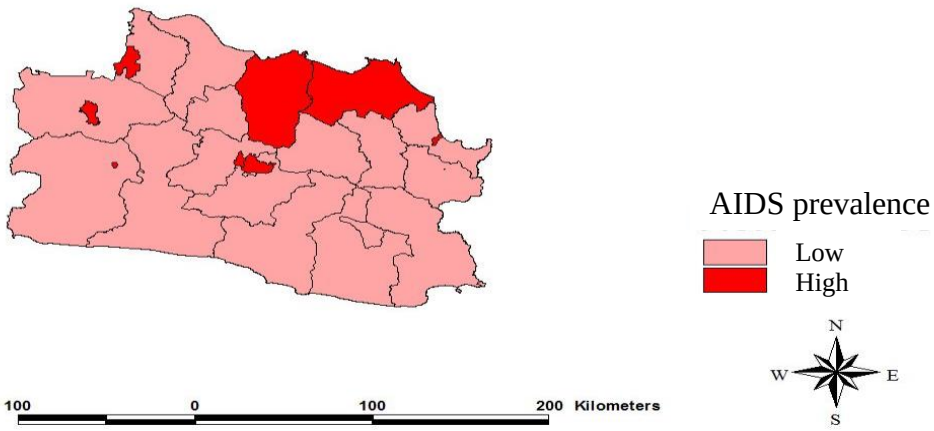
HIV case prevalence in West Java, 2014



Based on picture 1, highest HIV case prevalence were in 7 regions and lowest were in 19 regions in West Java Province.

The " highest " should be only one thing, like the highest prevalence is located in District of Garut. You only mention low and high, you should say the high prevalence are located in distict ….., districr…. and district ….

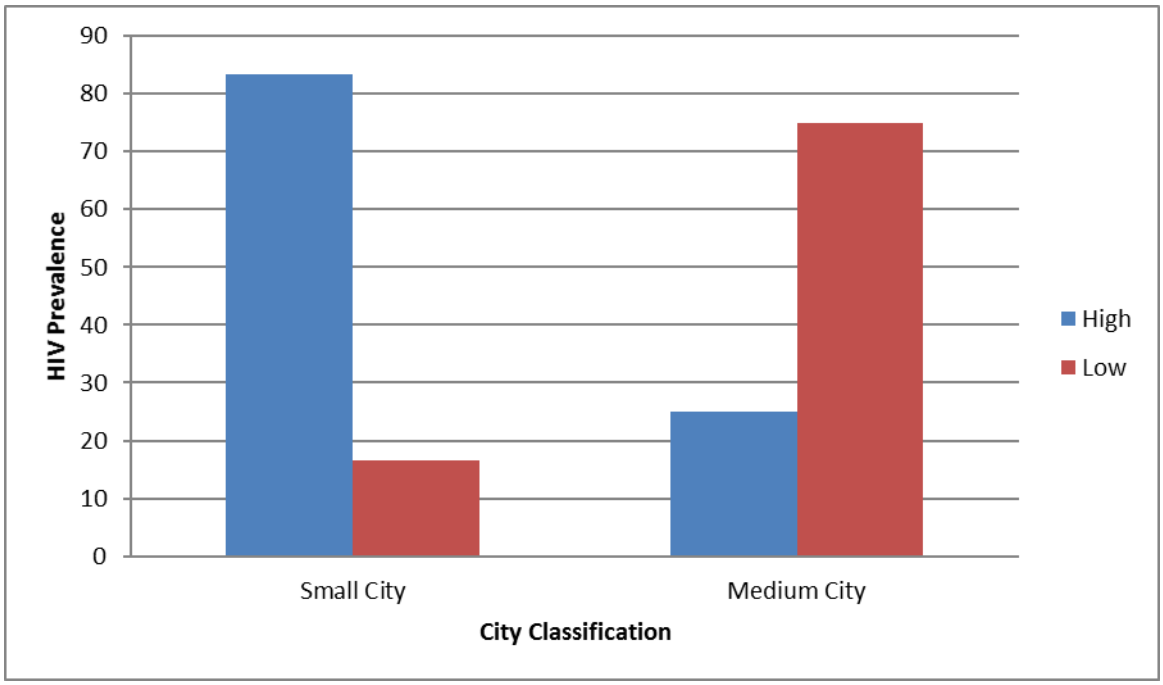
AIDS prevalence in West Java, 2014



Picture 2. Distribution of AIDS prevalence in West Java Province 2014

Based on picture 2, in West Java province that is 7 region/city the highest and 19 region/city lowers of AIDS prevalence. The result of univariate analysis that is :

Table 1. Univariate analysis from city classification,highway type, characteristif of region and HIV/AIDS prevalence in West Java Indonesia



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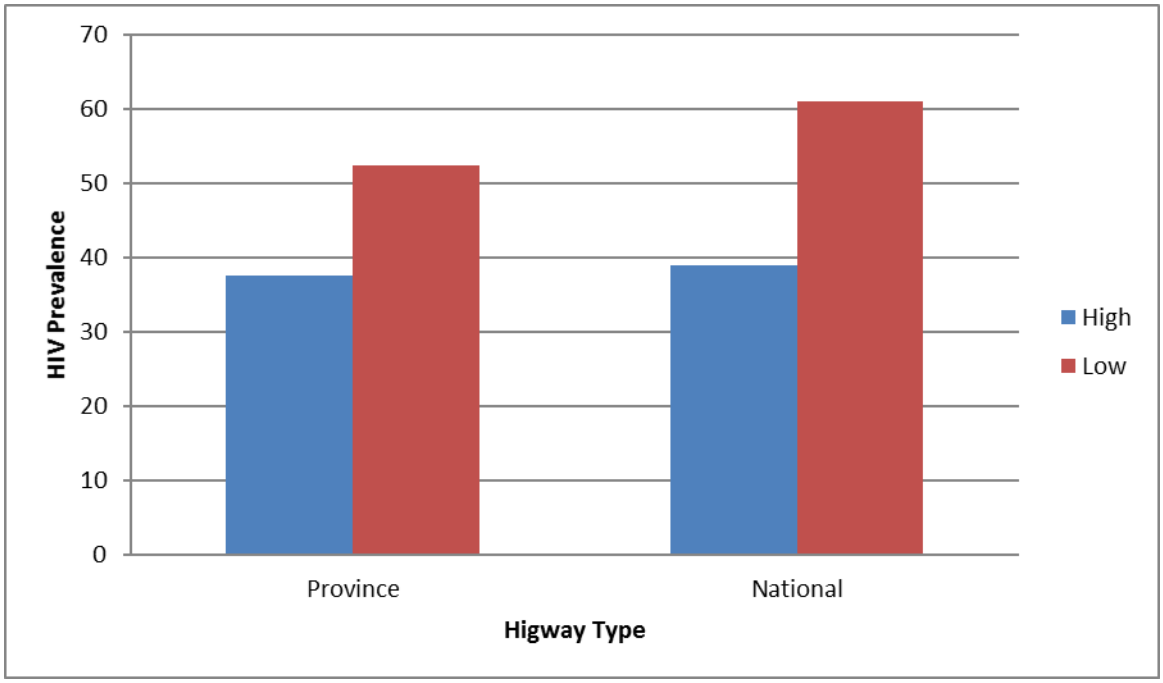

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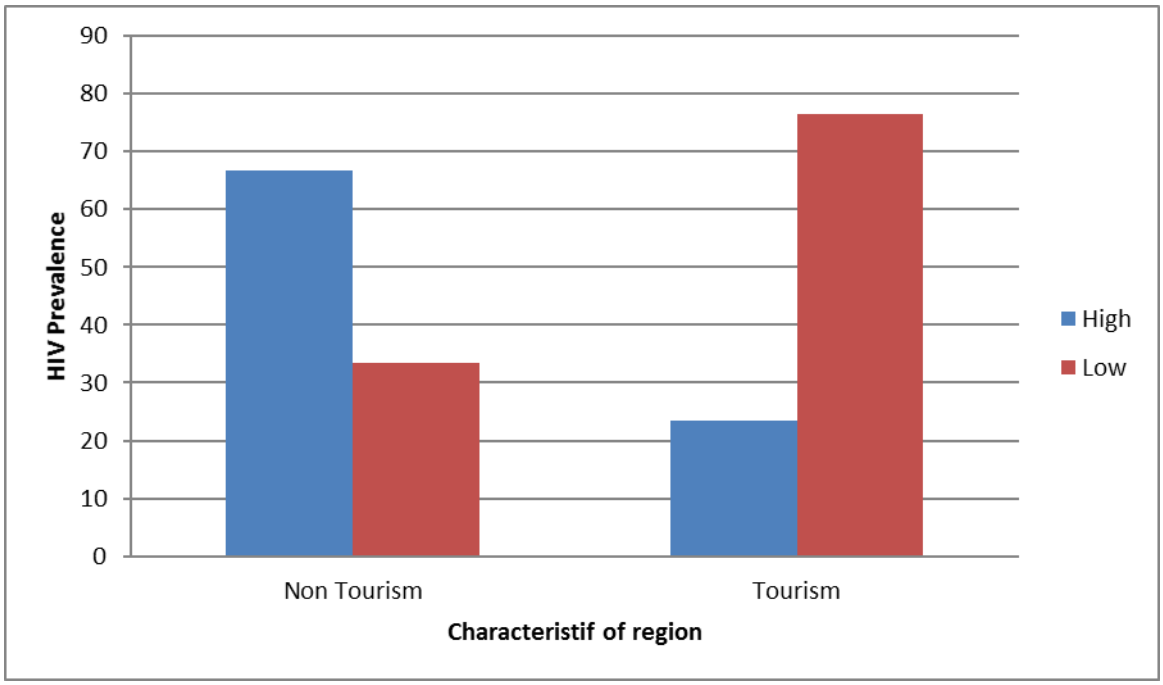

Please, give title below the graph

Based on univariate analysis, the graphic that analiyzed are city classification with the most (75%) classified to medium city with low HIV/AIDS prevalence. The highway variable present the result is most (61,1%) classified to national highway with low HIV/AIDS prevalence. Characteristic of the region variable mostly (76,4%) classified to tourism with low HIV/AIDS prevalence.

After the univariate analyze, to know and describe the related between the independent and dependent variable that required of the expected count values more than 5,

then will be analysis with bivariate using the chi square and if not required will analysis with fisher exact, with signification p-value less than 0,05 (<0,05). Final correlate analysis between each independent variable and dependent variable, present into table 2.

Table 2. Bivariate analysis from city classification, higway type and characteristic of region with HIV/AIDS prevalence in West Java Indonesia

Variable	HIV				p	95% CI
	high		low			
	f	%	f	%		
City classification						
a. small city	5	83.33	1	16.67	0.018*	0,001 - 0,089
b. medium city	5	25.00	15	75.00		
Highway type:						
a. province	3	37.50	5	52.50	1,000*	0,145 - 9047
b. national	7	38.89	11	61.11		
Characteristic of the region:						
a. Non tourism	6	66.67	3	33.33	0.046*	0,001-1,027
b. tourism	4	23.53	13	76.47		

*based on Fisher exact test.

Based on fisher exact test result be obtained that the variables related is classification of the town and characteristics of the region. Whereas variables that didn't related that is availability of street. Please, rewrite something like :

According to table 2, HIV prevalances were related to city classification (p=0.018) and characteristic of region (p=0.046), but HIV prevalence was not related to highway type (p=1.000)

Based on bivariate analysis results which have been done, then the result be obtained 3 (three) variables that qualified to do in multivariate analysis. The requirement for insert an independent variable in multivariable analysis that is p=<0,25 value. Then the variable that qualify that is : classification of the town and characteristics of the region.

Furthermore to know about the dominant variable that influential to incident of HIV/AIDS in West Java Province then performed a multivariate analysis with multiple logistic regression. Multiple logistic regression performed in gradually with Backward methods to obtain the simplest final model where all variables showed p-values < 0,05 , and analysis result as presented at Table 3.

Table 3. Multivariate analysis result the risk factors of HIV in children

Variables	**B**	**P Value**	**OR**	**95% CI**
Stage 1				
classification of the town	-1,86	0,6*	0,095	0.008-1,132
characteristics of the region	-1,44	0,149*	0,233	0,032-1,685
Note : -2 Log-Likelihood = -12.902137		0,0127**		

*:based on Wald statistic **:based on likelihood ratio statistic

At Table 3. multivariate analysis performed by chi-square test results that qualified (p<0,25). For the first phase interaction test performed issued variable characteristics of the region (p=0,149). Based on the results of logistic regression in the final stage, derived variables classification of the town (p=0,063, OR=0,095 please, show 95% CI if you apply OR) has a dominant relationship in the incidence of HIV / AIDS in West Java.

Based on multivariate analysis obtained (three) variables that become models candidate yaitu (p<0,25), that is classification of the town and characteristics of the region. The best models will consider two assestment that is ratio Log likelihood (p<0,05) significant. Model selection is done for all independent variables that qualified into model. Variable that aren't significant performed in gradually start from variable that has the largest p value. After do the interaction test obtain variables that set as fit model that is characteristics of the region and the use of condoms by the following equation:

Comparison 1

$Y=1+1,86\ X_1$(Classification ot town) $-1,44\ X_2$ (characteristics of the region)

DISCUSSION

Emphasize : explain the reason WHY the variables were not related each other, if the variables were related elaborate further implication

Incident of HIV in West Java to the end of 2014 year as many 5178 case that spread in 26 regency/city in West Java. Regency/city that have the highest incidence rate of HIV/AIDS is Bandung city as many 653 and 1750 case the lowest incidence rate Purwakarta Regency is no case. The highest prevalence occured in 7 regency/city in West Java and the lowest prevalence occured in 19 regency/city in West Java. Regency that have the highest incident of HIV have a characteristic that included medium city and large cities, have a national roads, have a tourism spot. Bandung city, Bogor city, Sukabumi city an area that have advantages of the tourism area and counted as a national tourist destination, whereas Bekasi city, Subang regency, Indramayu regency and Cirebon city are an area which crossed by national roads that is the north coast of West Java.

Characteristics of the Regency / City which has the advantage in tourist attraction or become tourism area which is has a high mobility rate travelers. Tourist have a potential to do unprotected sexual intercourse at tourist spots. That activity viewed from any side is an illegal activity in Indonesia, in terms of the law, social or religious. Unprotected sexual intercourse which then arise from tourism activities developing covertly and difficult to eradicate though it already become a public secret.

Regency/City which has a high prevalence has characteristics has a national track northern coastal road north coast (coast). The line was crossed by the driver and helper even the security officers and groups of workers whose vulnerable against the transmission of HIV / AIDS because the job situation, living conditions and other risk situations. Factors that may increase the incidence of HIV on the northern coast line espatially Subang Regency, which originally was plantation areas and now has turned into an industrial area. It can bring a new problems related to the entertainment industry in Subang, including along the northern coastal road.

Based on the research results showing there is a relationship between classification of the town that is moderate cities and major cities in West Java. This is not in line with the Ramdhani research, Aminudin and Bahar in 2013 in Makassar. The majority of Indonesia's

population is a migrant actors. They chose to live apart from family within a certain time for a living or work outside the city even outside the island. This condition occurs because in the village or in the city where they live can not provide jobs with wages that they want. Regency that partially rural areas which is located in the east and southwest of West Java province has reduces due to migration out of the region. [9]

Living in the big city would attract people from village to town with the result that urbanization and migration happened. Population migration has an economic vulnerability, social and work put them in the context of an increased risk of contracting HIV [10]. Urbanization and migration is characteristic of the high mobility of population. Mobility can make a person go into a high risk situations [11]. Population that have a high mobility or have a frequency to settle in a new place with the partner they have a higher risk on transmission Sexually Transmitted Diseases (STIs) than the residents who have their living conditions are stable or fixed [12]. Due to the people far from their families and communities. Where sexual norms and social applied and adhered to at different levels, now they must adapted to the new environment [7].

This condition as same as the result of a comprehensive research about population movements with HIV / AIDS in Kenya with hypotheses test which states when compared with those who are not immigrants, migrants men and women in urban and rural areas seem more tend to seen in the activities of sexual which can increase their risk of contracting HIV and eventually lead to AIDS [13]. AIDS who previously become a problem in major cities is now spreading to smaller towns [14]. Progression of HIV infection in Indonesia not only happen in big cities, but now HIV infection has entered the small towns [15].

Availability of roads in regency/cities in West Java not related to the incidence of HIV/AIDS. It is because of their regency/cities which has a national road only a small fraction is only 7 districts of the city. However, national roads in the district / city can be affecting the socio-cultural values of local communities. Workers in the transportation area are an active worker who use the highway. Group of truck driver who crossing the coast road north in West Java and Central Java is known more familiar with the place for layover which become their references. Many places layover along the north coast of West Java. Most of the group of truckers (19.1%) which crosses the northern coasts of West Java admitted layover in Indramayu. Other region which are mentioned as the place for layover is Cikampek (10.9%), Cirebon (5.5%) and Karawang (4.5%). In the northern coastal road in Central Java the place for layover which are mentioned by many of a group truckers is Semarang (11.8%), Rembang (11.1%) and Batang (8.3). In the northern coastal road in East Java, Compreng area becoming the reference as the place for layover the truck driver that crosses this line [8]. In the place for layover arise an illegal localization or a place to conduct sexual transactions. An illegal localization are lesehan stalls in side of the road, in cafes or discotheques, and in a hotel or inn.

The relationship between the characteristics of the tourism region and non-tourism related with the incidence of HIV / AIDS in West Java. This is in accordance with the Ramadhani research, Aminudin [4], characteristics of the tourism region related with HIV incidence in South Sulawesi with the p value of 0.019 ($p < 0.05$). This is because the large number of travelers who visiting and go out from tourism areas, and enjoy the natural beauty

In tourist attraction. with temporary residence (stay overnight) at the hotel around the tourist spots. So, the number of tourist arrivals as the cause of the spread of HIV / AIDS. This is caused by entertainment venues that have commercial sex workers [2]. The tourism sector contribute significantly on the economy of a country including local governments. Nevertheless, there is a phenomenon arising from the tourism activities in an area. That phenomenon is the impact of tourism activities on the environment, socio-cultural and economic communities who are around tourist destinations. As a result of this phenomenon,

arose various kinds of negative activities one of them is prostitution activity. Prostitution viewed from any side are an illegal activity in Indonesia, both in terms of the law, social or religious. Prostitution then raised from tourism activities developing covertly and difficult to be removed although it has become a public secret.

The development of prostitution is a logical consequence from the development of the tourism industry. Sexual diseases who is currently happens also an effects of tourism development which includes a prostitution activity. This is because a wrong opinion who consider that sexual activity as a general rule, not only for gets descent but also considered as a procreation (gain a pleasure and an enjoyment) and entertainment for human biological needs [(16)]. To overcome them, we need an effective and efficient policies, however, the local government perspective on HIV / AIDS will largely determine the policy [(17)].

Prostitution which often occurs around tourist destinations which led the tourism sector related to the spread of HIV / AIDS. The number of tourists in the tourism area can also be regarded as the cause of the spread of HIV / AIDS. This is caused by entertainment venues that have commercial sex workers [(18)]. In addition, the number of travelers in contact with locals accelerate the spread of AIDS. So, the number of cases of HIV / AIDS will increase steadily concurrently with the development of tourism industry if there is no prevention and optimal control. Advanced provinces in the tourism industry has a number of people living with HIV / AIDS which is also high [(19)].

CONCLUSION

The conclusion of this study is shows the spatial distribution the highest incidence of HIV occurred in the area with tourist destinations or have a characteristics of tourist attraction and areas that have national lines, that is the north coast (Pantura). There is a relationship between the classification of the town, the availability and characteristics of the region with the incidence of HIV / AIDS in West Java, there are currently no correlation between the availability of the road with the incidence of HIV / AIDS in West Java. The results of logistic regression test showing that the most dominant variable is classification of town with the incidence of HIV/AIDS in West Java. Recommendations to the government of West Java province, that prevention efforts of HIV/AIDS consider the spatial characteristics such as the characteristics of the region, classification of the town.

ACKNOWLEDGEMENTS:

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For Journal → use Italics for the title of journal

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Determinant And Spatial Distribution of HIV/AIDS Prevalence In West Java, Indonesia : Analysis of Secondary Data

ABSTRACK

HIV/AIDS is a health problem in the West Java Province and unknown patterns of spatial detail until now. The objective of this study was to determine the spatial Distribution and determinants of HIV/AIDS in West Java. Design cross-sectional study used secondary data from 2010 until 2013 with a sample of 26 Cities at January-Oktober 2015. Analysis used univariate and bivariate (Chi-square test) and multivariate (logistic regression). The result of research shods the spatial distribution of HIV/AIDS prevalence, The highest prevalence of HIV and AIDS as 7 Cities in West Java and the lowest 19 Cities. Statistical analysis showed that determinant of classification of the town (p-value: 0.01, 95% CI: 0.001-0.089), the type of highway (p-value: 1.0, 95% CI: 0.145-9047), and characteristics of the region (p-value: 0.04 , 95% CI: 0.001-1.027. The conclusion is spatial distibution highest HIV incidence in areas with tourist destinations and areas that have national lines (north coast). There is a relationship between the classification of the town, characteristics of the region and the use of condoms is dominant factor and there is no relationship between the type of highway with the HIV/AIDS in West Java.

Keyword : Spatial, Determinant, HIV/AIDS, West Java

ABSTRAK

HIV/AIDS merupakan masalah kesehatan di Provinsi Jawa Barat dan sampai saat ini belum diketahui pola spasial yang terinci. Tujuan penelitian untuk mengetahui distribusi spasial dan determinan kejadian HIV/AIDS di Jawa Barat. Desain studi *cross sectional* menggunakan data sekunder tahun 2010-2013 dengan sampel sebanyak 26 Kabupaten/Kota di Jawa Barat yang dilaksanakan pada bulan Januari-Oktober 2015. Metode analisis univariat dan bivariate dengan uji statistik *Chi-square test* dan analisis multivariate (regresi logistik). Hasil penelitian distribusi spasial menunjukan sebaran prevalensi HIV/AIDS tertinggi 7 Kabupaten/Kota di Jawa Barat dan terendah 19 Kabupaten/Kota di Jawa Barat. Hasil Analisis Bivariat menunjukan klasifikasi kota (nilai p: 0.018, 95% CI: 0,001 - 0,089), jenis jalan raya (nilai P: 1,000, 95% CI : 0,145 – 9047) dan karekteristik wilayah (nilai p: 0,046, 95% CI: 0,001-1,027). Kesimpulan distribusi spasial kejadian HIV tertinggi di daerah dengan tujuan wisata dan daerah yang memiliki jalur nasional (pantura). Terdapat hubungan antara klasifikasi kota, karekteristik wilayah dan penggunaan kondom paling dominan dengan kejadian HIV/AIDS dan tidak terdapat hubungan antara jenis jalan raya dengan kejadian HIV/AIDS di Jawa Barat.

Kata Kunci : Spasial, Determinan, HIV/AIDS, Jawa Barat

INTRODUCTION

HIV and AIDS are the world problems actually risk in infection transmitied, morbidity and mortality. Globally HIV cases in 2011, there are 34 million people was living with HIV, 30.7 million are among the adults. 16.7 million people infected are woman, 3.3 million are among children under 15 years. 2,5 million people live in HIV new case, with 2,2 million people among adults and 330 thousand among children under 15 years. Dead cause of AIDS are 1,8 million people, with 1,5 million people adult and 230 thousand are children under 15 years[(1)].

Human Immunodeficiency Virus (HIV) is a retroviral that infected the human imunited cells (espatially CD4 positive T-sel and primary makrofag antibody components), it can destroy or disturb that function. This infection can cause the immunity degradation, that can cause an immunity deficiency. Acquired Immunodeficiency Syndrome (AIDS) describes all both the symptom and immunity degradation. HIV infection was signed as AIDS causes, amount HIV in the human body and infection symptom are indication that the HIV was becoming AIDS[(2)].

In Indonesia was reported AIDS cumulative case amount 22.726 in 32 provinces. Higher risk community is in productive age between 20-29 ages (47,8%), in 30-39 ages community (30,9%), and 40-49 age community (9,1%). From that case, 4250 or 18,7% died case. West Java province are included to 8 provinces with the highest case in Indonesia. all regency or city in West Java province have found the HIV and AIDS. The most higher risk province is Bandung City, Bekasi and Sukabumi. The lower risk area of HIV/AIDS is Banjar that has only had 11 case in 2012.

Cumulative HIV/AIDS case in West Java from 1987 until march 2013 there are 7621 HIV case and 4131 for AIDS case. The date describe that HIV has a transmission trend start from 2008 as much as 67% new case in HIV and for AIDS dominated by injecting drus user.While in 2012 show that the new case of HIV and AIDS are dominated by heterosexual, 64% from all case [(3)].

HIV AIDS impact so worried, because this syndrome caused the mortality and morbidity rate in the productive age community. This epidemic is rising in injection drug user and suction drugs user. Sexual intercourse without condome is also the risk factor that can make the raising of HIV AIDS case. Distribution of condom user in west java province in 2010 is 49.522, in 2011 increased in 50.234 and 49.522 in 2012. Motivating factors that make the epidemic found in all regions are : seks industries, low of condom user, injection drugs user and medical operatif.

Spatial epidemiology is a branch study that related to, description, measure and explain of geographic variance distribution of disease. Spatial epidemiology is the description and analysis from the geographic distribution of disease. In this era, spatial epidemiology as important as health problems, for example in bio-terrorism that make the complex analysis. In West Java province have not identified the spatial pattern for HIV and AIDS. This research is main to anaylsis of spatial distribution and determinants of HIV AIDS in West Java Province. While, the spatial aim of this research is to know the spatial distribution by prevalence levels and determinants, territory characteristic, classification of city, highway type and condom user.

METHOD

This is the analytic observational research with the cross sectional design in West Java Province. The data was collect by secondary date from an instance that is: date of HIV and AIDS case from West Java health ministry in 2010-2013, date, city classification, highway and characteristic for region in all west java province collected from Badan Pusat Statistik (BPS). The colleted data then analysis with STATA 12 version. The analysis was steping by univariate, bivariate and multivariate analysis to see the relation the independent and independent variance used the bivariate analysis and used the chi-square for statistic analysis test. From this analysis presents the correlation of independent variable or not correlate with the depend variable. Logistic regression for multivariate in two steps, the first step is an interaction to test to eliminate the variable with the p value less than 0,05, and the choose candidate the regression logistic model with all independence variance into the model. Not significan variable is out step by step, start from the higest p value until that variables

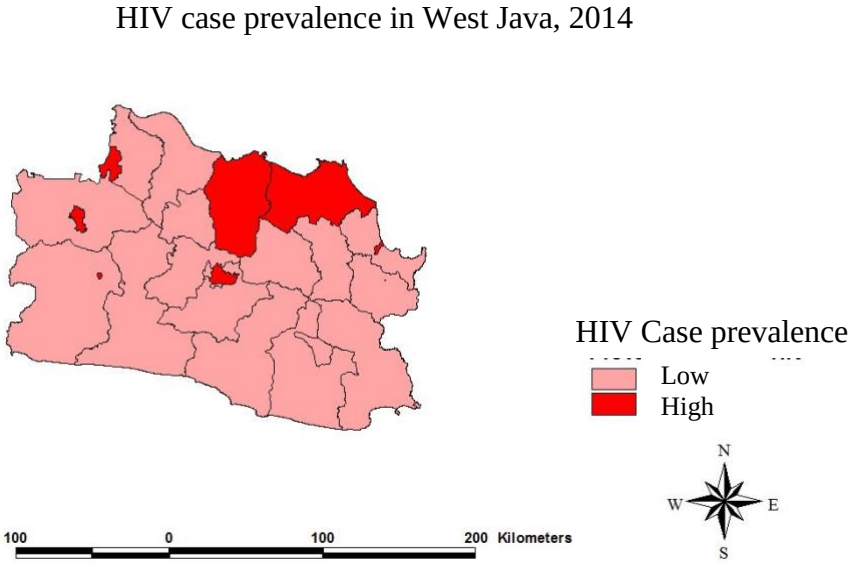
assigned to model (fit model) depend from the best from to test that is log likehood ($p<0,05$)[7].

Location is in West Java Province Indonesia, for 9 months start from January 2015-October 2015. The population is all HIV AIDS cases in all regions in West Java Province. Sample of this research is completed date of HIV AIDS from all regions in West Java Province in 2010-2013. With nonprobability sampling with exhaustive sampling that is the completed HIV AIDS case date in all regions as variable. The independent variables are territory characteristic, city classification, highway and condom user. The dependent variables are HIV AIDS in the west java province.

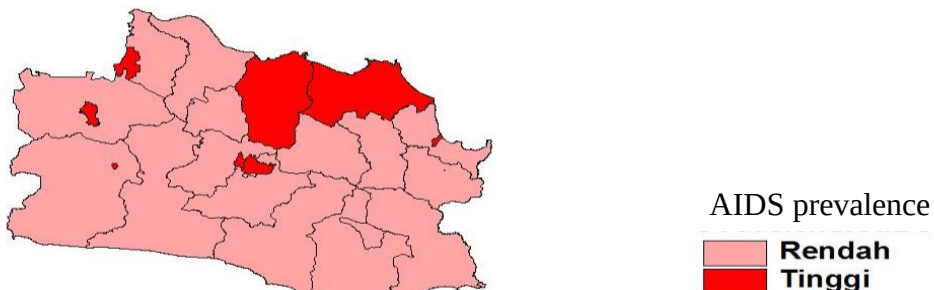
RESULT

Based from spatial analysis of HIV/AIDS in West Java province, present the result:

Picture 1. HIV case prevalence in West Java in 2014



Based on picture 1, highest HIV case prevalence were in 7 regions and lowest were in 19 regions in West Java Province.

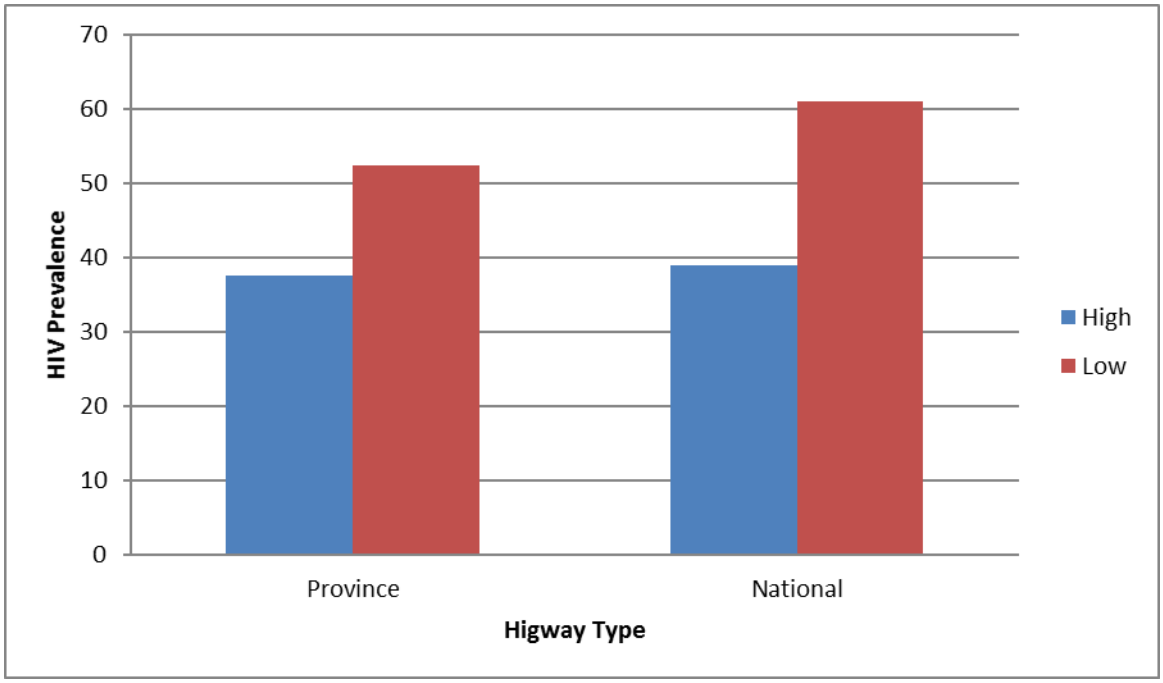


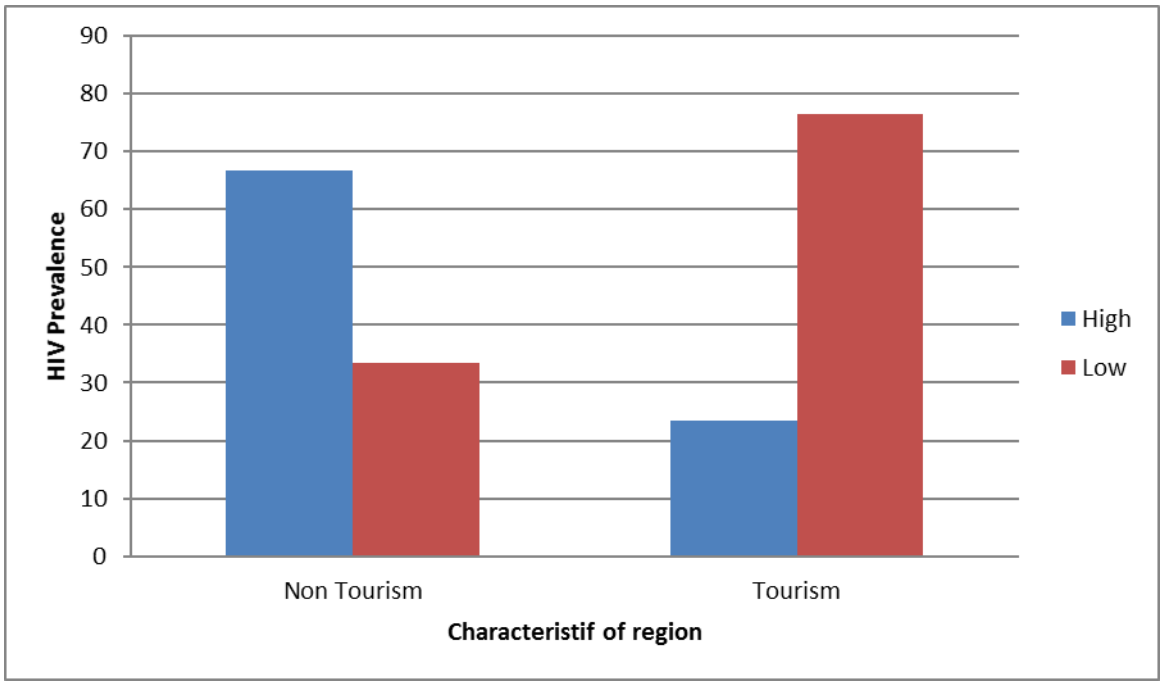
Low
High

Picture 2. Distribution of AIDS prevalence in West Java Province 2014

Based on picture 2, in West Java province that is 7 region/city the highest and 19 region/city lowers of AIDS prevalence. The result of univariate analysis that is :

Table 1. Univariate analysis from city classification,highway type, characteristif of region and HIV/AIDS prevalence in West Java Indonesia





Based on univariate analysis, the graphic that analiyzed are city classification with the most (75%) classified to medium city with low HIV/AIDS prevalence. The highway variable present the result is most (61,1%) classified to national highway with low HIV/AIDS prevalence. Characteristic of the region variable mostly (76,4%) classified to tourism with low HIV/AIDS prevalence.

After the univariate analyze, to know and describe the related between the independent and dependent variable that required of the expected count values more than 5, then will be analysis with bivariate using the chi square and if not required will analysis with fisher exact, with signification p-value less than 0,05 (<0,05). Final correlate analysis between each independent variable and dependent variable, present into table 2.

Table 2. Bivariate analysis from city classification, higway type and characteristic of region with HIV/AIDS prevalence in West Java Indonesia

Variable	HIV					
	high		low			95% CI
	f	%	f	%	*p*	
City classification						
a. small city	5	83.33	1	16.67	0.018	0,001 - 0,089
b. medium city	5	25.00	15	75.00		
Highway type:						
a. province	3	37.50	5	52.50	1,000	0,145 - 9047
b. national	7	38.89	11	61.11		
Characteristic of the region:						
a. Non tourism	6	66.67	3	33.33	0.046	0,001-1,027
b. tourism	4	23.53	13	76.47		

Based on fisher exact test result be obtained that the variables related is classification of the town and characteristics of the region. Whereas variables that didn't related that is availability of street.

Based on bivariate analysis resultswhich have been done, then the result be obtained 3 (three) variables that qualified to do in multivariate analysis. The requirement for insert an independent variable in multivariable analysis that is p=<0,25 value. Then the variable that qualify that is : classification of the town and characteristics of the region.

Furthermore to know the dominant variable that influential to incident of HIV/AIDS in West Java Province then performed a multivariate analysis with multiple logistic regression. Multiple logistic regression performed in gradually with Backward methods to obtain the simplest final model where all the variables have p-Wald <0,05 value, and analysis result as presented at Table 3.

Table 3. Multivariate analysis result the risk factors of HIV in children

Variables	**B**	**P Value**	**OR**	**95% CI**
Stage 1				
classification of the town	-1,86	0,6	0,095	0.008-1,132
characteristics of the region	-1,44	0,149	0,233	0,032-1,685
Note : -2 Log-Likelihood = -12.902137 p-value=0,0127				

At Table 3. multivariate analysis performed by chi-square test results that qualified (p<0,25). For the first phase interaction test performed issued variable characteristics of the region (p=0,149). Based on the results of logistic regression in the final stage, derived variables classification of the town (p=0,063, OR=0,095) has a dominant relationship in the incidence of HIV / AIDS in West Java.

Based on multivariate analysis obtained (three) variables that become models candidate yaitu (p<0,25), that is classification of the town and characteristics of the region. The best models will consider two assestment that is ratio Log likelihood (p<0,05) significant. Model selection is done for all independent variables that qualified into model. Variable that aren't significant performed in gradually start from variable that has the largest

p value. After do the interaction test obtain variables that set as fit model that is characteristics of the region and the use of condoms by the following equation:

Comparison 1

$Y=1+1,86\ X_1$(Classification ot town) $-1,44\ X_2$ (characteristics of the region)

DISCUSSION

Incident of HIV in West Java to the end of 2014 year as many 5178 case that spread in 26 regency/city in West Java. Regency/city that have the highest incidence rate of HIV/AIDS is Bandung city as many 653 and 1750 case the lowest incidence rate Purwakarta Regency is no case. The highest prevalence occured in 7 regency/city in West Java and the lowest prevalence occured in 19 regency/city in West Java. Regency that have the highest incident of HIV have a characteristic that included medium city and large cities, have a national roads, have a tourism spot. Bandung city, Bogor city, Sukabumi city an area that have advantages of the tourism area and counted as a national tourist destination, whereas Bekasi city, Subang regency, Indramayu regency and Cirebon city are an area which crossed by national roads that is the north coast of West Java.

Characteristics of the Regency / City which has the advantage in tourist attraction or become tourism area which is has a high mobility rate travelers. Tourist have a potential to do unprotected sexual intercourse at tourist spots. That activity viewed from any side is an illegal activity in Indonesia, in terms of the law, social or religious. Unprotected sexual intercourse which then arise from tourism activities developing covertly and difficult to eradicate though it already become a public secret.

Regency/City which has a high prevalence has characteristics has a national track northern coastal road north coast (coast). The line was crossed by the driver and helper even the security officers and groups of workers whose vulnerable against the transmission of HIV / AIDS because the job situation, living conditions and other risk situations. Factors that may increase the incidence of HIV on the northern coast line espatially Subang Regency, which originally was plantation areas and now has turned into an industrial area. It can bring a new problems related to the entertainment industry in Subang, including along the northern coastal road.

Based on the research results showing there is a relationship between classification of the town that is moderate cities and major cities in West Java. This is not in line with the Ramdhani research, Aminudin and Bahar in 2013 in Makassar. The majority of Indonesia's population is a migrant actors. They chose to live apart from family within a certain time for a living or work outside the city even outside the island. This condition occurs because in the village or in the city where they live can not provide jobs with wages that they want. Regency that partially rural areas which is located in the east and southwest of West Java province has reduces due to migration out of the region. [9]

Living in the big city would attract people from village to town with the result that urbanization and migration happened. Population migration has an economic vulnerability, social and work put them in the context of an increased risk of contracting HIV [10]. Urbanization and migration is characteristic of the high mobility of population. Mobility can make a person go into a high risk situations [11]. Population that have a high mobility or have a frequency to settle in a new place with the partner they have a higher risk on transmission Sexually Transmitted Diseases (STIs) than the residents who have their living conditions are stable or fixed [12]. Due to the people far from their families and communities. Where sexual norms and social applied and adhered to at different levels, now they must adapted to the new environment [7].

This condition as same as the result of a comprehensive research about population movements with HIV / AIDS in Kenya with hypotheses test which states when compared with those who are not immigrants, migrants men and women in urban and rural areas seem more tend to seen in the activities of sexual which can increase their risk of contracting HIV and eventually lead to AIDS [13]. AIDS who previously become a problem in major cities is now spreading to smaller towns [14]. Progression of HIV infection in Indonesia not only happen in big cities, but now HIV infection has entered the small towns [15].

Availability of roads in regency/cities in West Java not related to the incidence of HIV/AIDS. It is because of their regency/cities which has a national road only a small fraction is only 7 districts of the city. However, national roads in the district / city can be affecting the socio-cultural values of local communities. Workers in the transportation area are an active worker who use the highway. Group of truck driver who crossing the coast road north in West Java and Central Java is known more familiar with the place for layover which become their references. Many places layover along the north coast of West Java. Most of the group of truckers (19.1%) which crosses the northern coasts of West Java admitted layover in Indramayu. Other region which are mentioned as the place for layover is Cikampek (10.9%), Cirebon (5.5%) and Karawang (4.5%). In the northern coastal road in Central Java the place for layover which are mentioned by many of a group truckers is Semarang (11.8%), Rembang (11.1%) and Batang (8.3). In the northern coastal road in East Java, Compreng area becoming the reference as the place for layover the truck driver that crosses this line [8]. In the place for layover arise an illegal localization or a place to conduct sexual transactions. An illegal localization are lesehan stalls in side of the road, in cafes or discotheques, and in a hotel or inn.

The relationship between the characteristics of the tourism region and non-tourism related with the incidence of HIV / AIDS in West Java. This is in accordance with the Ramadhani research, Aminudin [4], characteristics of the tourism region related with HIV incidence in South Sulawesi with the p value of 0.019 ($p < 0.05$). This is because the large number of travelers who visiting and go out from tourism areas, and enjoy the natural beauty

In tourist attraction. with temporary residence (stay overnight) at the hotel around the tourist spots. So, the number of tourist arrivals as the cause of the spread of HIV / AIDS. This is caused by entertainment venues that have commercial sex workers [2]. The tourism sector contribute significantly on the economy of a country including local governments. Nevertheless, there is a phenomenon arising from the tourism activities in an area. That phenomenon is the impact of tourism activities on the environment, socio-cultural and economic communities who are around tourist destinations. As a result of this phenomenon, arose various kinds of negative activities one of them is prostitution activity. Prostitution viewed from any side are an illegal activity in Indonesia, both in terms of the law, social or religious. Prostitution then raised from tourism activities developing covertly and difficult to be removed although it has become a public secret.

The development of prostitution is a logical consequence from the development of the tourism industry. Sexual diseases who is currently happens also an effects of tourism development which includes a prostitution activity. This is because a wrong opinion who consider that sexual activity as a general rule, not only for gets descent but also considered as a procreation (gain a pleasure and an enjoyment) and entertainment for human biological needs [16]. To overcome them, we need an effective and efficient policies, however, the local government perspective on HIV / AIDS will largely determine the policy [17].

Prostitution which often occurs around tourist destinations which led the tourism sector related to the spread of HIV / AIDS. The number of tourists in the tourism area can also be regarded as the cause of the spread of HIV / AIDS. This is caused by entertainment venues that have commercial sex workers [18]. In addition, the number of travelers in contact

with locals accelerate the spread of AIDS. So, the number of cases of HIV / AIDS will increase steadily concurrently with the development of tourism industry if there is no prevention and optimal control. Advanced provinces in the tourism industry has a number of people living with HIV / AIDS which is also high [19].

CONCLUSION

The conclusion of this study is shows the spatial distribution the highest incidence of HIV occurred in the area with tourist destinations or have a characteristics of tourist attraction and areas that have national lines, that is the north coast (Pantura). There is a relationship between the classification of the town, the availability and characteristics of the region with the incidence of HIV / AIDS in West Java, there are currently no correlation between the availability of the road with the incidence of HIV / AIDS in West Java. The results of logistic regression test showing that the most dominant variable is classification of town with the incidence of HIV/AIDS in West Java. Recommendations to the government of West Java province, that prevention efforts of HIV/AIDS consider the spatial characteristics such as the characteristics of the region, classification of the town.

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Determinants of Tourism and HIV/AIDS Incidence in West Java: Analysis of Secondary Data Year 2016

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Abstract

Indonesia defined as tourist destination where the international and domestic tourist enjoyed the tourist attractions. Due to prostitution in tourist place, it has a risk that can increase the prevalence of HIV / AIDS which exist in the tourism industry and tourist travel visits. The incidence and spread of AIDS in various parts of West Java is a problem for tourism which is considered as tourism industry. These issues become acute in locations where sexual attraction is used as a determinant of tourist portability. The purpose of research is to determine the relationship of tourism with the incidence of HIV / AIDS in West Java. Non-reactive research design is used to collect secondary data from Central Bureau of Statistics (BPS) in 2016 from 26 regencies / cities in West Java and the research conducted in January-October 2016. Univariate and bivariate analysis methods with Spearman's statistical test and multivariate analysis (linear regression) has been applied. Result of univariate analysis of visits to tourist spots (mean = 1,064,570 persons, median = 510.471, SD = 1.349.947), visit to accommodation (mean = 409.004 times per year, median = 116.996.50, SD = 827.377,752). The total number of recognized/star marked hotels (mean = 8.85 hotel, median = 3.50, SD = 19,174). Average guests per day at hotel = 504,08 persons per year, median = 319, SD = 659,281.Bivariate analysis results, number of starred hotels (p = 0,003, r: -0,552), visit to accommodation (p = 0,009, r = 0,499) and average guest per day (p = 0,022, r = 0,447). Results of multivariate analysis showed that, accommodation visits is (p = 0,000). The conclusion of tourism determinant associated with the incidence of HIV / AIDS is the number of star marked hotels, visits for accommodation and the average guest per day. Suggestion, expected that, local government should take initiative to improve health promotion in tourist place.

Key word : Tourism, Determinant, HIV/AIDS, West Java

Introduction

HIV and AIDS disease is still a health problem in many countries in the world that is the high rates of transmission, morbidity and mortality. Data of HIV cases globally in 2011 indicate that 34 million people are living with HIV with details of 30.7 million of those people are adults, 16.7 million of those infected are women, and 3.3 million children are under the age of 15 years. There are 2.5 million new HIV-infected people consisting of 2.2 million adults and 330,000 children under the age of 15 years. Meanwhile, the number of deaths due to AIDS is 1.8 million people consisting of 1.5 million adults and 230,000 children under the age of 15 years.(1)

Human Immunodeficiency Virus (HIV) is retrovirus that infects cells of human immune system, especially CD4 positive T-cells and macrophages of the major components of the cell immune system, and destroys or disrupts its function. This viral infection results in a persistent decline in the immune system, which will lead to immune deficiency. Various symptoms and infections associated with decreased immune system are Acquired Immunodeficiency Syndrome (AIDS). Thus HIV infection has been determined as the cause of AIDS with indicators of HIV level in the body and the incidence of certain infections. This suggests that HIV infection has developed into AIDS.(2)

Conditions that support the increasing prevalence of HIV in a region are the sex industry in tourism activity and the high mobility of tourists(3), who take travels and visits to tourist destinations.(4)(5) In the current situation, human trafficking, sexually transmitted infections, pressure from local communities and threats to image changes in tourist destinations cannot be avoided. (6) The number of tourists visiting the tourist attractions in Indonesia continues to increase from year to year around 10% annually where Bali contributes the highest of several cities. Indonesia as a tourist destination that has various forms of tourist destinations that can be enjoyed by both domestic and international tourists, has a risk as an area that may increase the prevalence of HIV and AIDS. This is evident from HIV data that has been increasing annually. (4) Based on cumulative data of AIDS cases in Imdonesia, as many as 22,726 cases spread across 32 provinces. The highest case is dominated by productive ages, such as the age of 20-29 years (47.8%), followed by the age group of 30-39 years (30.9%), and the age group of 40-49 years (9.1%). Of the total, as many as 4,250 cases or 18.7% died.(8)

West Java Province that has many destinations attracting tourists to visit also has a risk of the increasing HIV and AIDS cases. Study by Heriana (2011) finds a relation between classification of area (tourism/non-tourism) around District/City in West Java and the prevalence of HIV and AIDS.(9) Based on national data, West Java is included into eight provinces with the highest number of the case in Indonesia. Data of HIV/AIDS cases in West Java accumulatively since 1987 up to March 2013 present 7,621 HIV cases and 4,131 AIDS cases. Based on this data, the trend of increasing HIV transmission has occurred in 2008 as much as 67% of new HIV and AIDS cases which are dominated by the use of injecting drugs. While in 2012, new cases of HIV and AIDS are dominated by heterosexual factor which amounted to 64% of the total cases. HIV and AIDS in West Java are spread across all districts/cities with the highest data of cases in Bandung City, Bekasi City and Sukabumi City, while the area with the lowest cases of HIV/AIDS is Banjar City until the end of 2012 recorded as many as 11 cases.(10)

Factors affecting on the increasing prevalence of HIV and AIDS are tourism industry and tourists' visits. Tourist is a person who visits in an area outside his/her residence for at least 24 hours driven by a variety of purposes, such as vacation, recreation, sports, business, visiting friends and family, missions, attending meetings, conferences, visits for health, study and religion reasons.(7) HIV prevalence is increasing rapidly in areas known as tourist destinations including sex industry. (5) This increase in prevalence is affected by visits to tourist attractions

enjoyed by tourists, visits to hotels as temporary residence of tourists and many star hotels including tourists' per-day visit.[11]

By the increase in visit to tourist attractions and accommodation (hotel) by tourists in the last 30 years, it is almost impossible that the spread of infectious disease transmission can be prevented.[12] The risk of HIV infection will be increased if condoms are unavailable in star hotels and unqualified. Regarding the actual use of condoms, a study found only 34% of sex tourists from Switzerland consistently use condoms while abroad. A total of 28% of men in the Melbourne clinic, Australia, reported consistent use of condomes during sexual intercourse while traveling in Asia, and sexually transmitted diseases were identified in 73% of men examined. [5] The incidence and spread of AIDS in various regions become a problem for tourism-producing regions that have tourism industry. These problems become acute in locations where sexual attraction is used as a determinant of tourist portability. The tourism industry and tourism policy makers have just began to see the problem of the impact of tourism with the incidence of AIDS, which has so far not been explored or certainly defined yet. The complex problems emerging from between tourism and AIDS deserve a systematic in-depth study.

Method

This study used non-reactive research design by using secondary data, which is the results of Central Bureau of Statistics survey in 2017 conducted in West Java Province. Data were collected in form of secondary data obtained from several related institutions including data of HIV and AIDS cases, the number of hotels, the number of visits to tourist attractions, the total of accommodation visits and the average number of visitors per day in Districts/Cities over West Java Province that were obtained from the records by Central Bureau of Statistics of West Java Province. Data collected were then processed by using SPPS and analyzed. Data analysis was conducted gradually, namely univariate, bivariate and multivariate analysis. Univariate analysis included frequency distribution of the number of hotels, visits to tourist attractions, accommodation visits and average visitors per day in Districts/Cities over West Java Province. Biavariate analysis was conducted to determine relations including independent and dependent variables. Statistical test in this analysis used Spearman. This analysis would obtain independent variables significantly related or not related with dependent variable. Multivariate analysis was conducted with linear regression test consisting of two stages. The first stage was interaction test in aim to exclude variables with p value > 0.05, then the selection of logistic regression model candidates was conducted by including all independent variable that met the requirements into the model. Insignificant variables were excluded gradually, starting from variables with the highest p value so those variables would be determined as fit model by considering the best model of two assessments, namely ratio Log likelihood ($p < 0.05$)(13).

Location of study was in West Java Province. This study was conducted within 9 months, from January 2015 to October 2015. Population of study was HIV and AIDS incidence in every District/City in West Java Province. Samples in this study were the complete data of HIV and AIDS incidence in District/City in West Java Province by taking non-probability sampling using Exhauting Sampling. Variables in this study consisted of independent and dependent variable. Independent variable consisted of the number of hotels, visits to tourist attractions, accommodation visits and average visitors per day in District/City over West Java Province. Dependent variable was HIV and AIDS incidence in West Java Province.

Results

Univariate analysis showed the following results:

Table 1. Results of Univariate Analysis

Variable	Mean	Median	SD	Min-Max
Visits to Tourist Attractions	1,064,570	510,471	1,349,947	0 – 5,645,569
Accommodation visits	409.004	116,996.50	827,377.752	2,400-3513705
Star Hotels	8.85	3.50	19.174	0-99
Average visitors per day	504.08	319	659.281	24-3.160

Based on univariate analysis results, the number of visits to tourist attractions, accommodations, star hotels and average visitors per day can be seen. The average visits to tourist attractions in West Java was 1,064,570 visitos with median 510,471 and deviation standards 1,349,947. The average accommodation visits in West Java was 409,004 times per year with median 116,996.50 and deviation standard 827,377.752. The average number of star hotels in West Java was 8.85 hotels with median 3.50 and deviation standard 19.174. The average visitors per day in hotels in West Java was 504.08 visitors every year with median 319 and deviation standard 659.281.

Bivariate analysis with correlation test obtained that accommodation visits, the number of hotels, and average visitors per day had strong and positive relation with R value 0.069; 0.499; 0.552; and 0.447 respectively. This means that the more number of visits to tourist attractions, the more HIV incidence increasing. The more accommodation visits the more HIV incidence increasing. The more number of hotels, the more HIV incidence increasing. The more average number of visitos per day, the more HIV incidence increasing. Meanwhile, visits to tourist attractions did not have relation with HIV incidence.

Table 2. Results of Bivariate Analysis

	HIV Incidence
Visits to Tourist Attractions	r=0.069 p=0.737
Accommodation visits	r=-0.499 P=0.009
Number of Star Hotels	r= -0.552 p=0.003
Average visitors per day	r=-0.447 P=0.022

Based on results of bivariate analysis with spearman rank test, there were 3 (three) variables that met the requirement to apply multivariate analysis. The requirement to involve independent variables in multivariable analysis was p value =<0.25, then variables which met the requirement were the number of hotels, accommodation visits and average visitors per day.

Furthermore, to determine the dominant variable influential to HIV/AIDS incidence in West Java Province, multivariate analysis with linear regression test was then conducted. Linear regression test was conducted gradually by backward method until the most simple final model obtained, in which all variables had p-Wald < 0.05, and the results of analysis were as presented in Table 3.

Table 3. Results of Multivariate Analysis on HIV Incidence in West Java

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	p
		B	SE	Beta	
Model 1	Accommodation Visits	0.000	0.000	1.930	0.067
	The Number of Hotels	3.464	3.498	0.412	0.033
	Average Visitors	-0.054	0.086	-0.221	0.538
	Constants	97.416	32.774		0.007
Model 2	Accommodation Visits	0.000	.000	0.523	0.065
	The Number of Hotels	1.818	2.272	0.216	0.432
	Constants	85.196	25.956		0.003
Model 3	Accommodation Visits	0.000	0.000	0.704	0.000
	Constants	86.786	25.685		0.002

Multivariate analysis was conducted to determine the dominant factor of HIV incidence in West Java. The dominant factor was determined by examining standardized coefficient of each independent variable. In Table 3, model selection was conducted on all independent variables that met the requirement included into the model. Insignificant variables were excluded gradually starting from variable with the highest p value. Based on multivariate analysis applying the requirement $p < 0.25$, variable the average visitors per day ($p = 0.538$) was excluded at the first stage of interaction test. In the second stage of interaction process, variable the number of hotels was excluded ($p = 0.432$). The final stage of linear regression results obtained variable the accommodation visits ($p = 0.000$, $r = 0.704$). By the independent variable with the highest value of standardized coefficient from the most fit and qualified model, accommodation visit was determined as the dominant factor of the increasing HIV incidence in West Java with standardized coefficient. Multivariate analysis obtained 3 (three) variables that became model candidates ($p < 0.25$), namely the number of hotels, accommodation visits and the average visitors per day. After the interaction test was conducted, variable determined as the fit model was accommodation visits with the equation as follows: Equation 1.

$$Y=86.786+0.000\ X_1 \text{ (accommodation visits)}$$

Discussion

Tourism areas in West Java are more risky to get exposed to HIV infection than non-tourism areas.[9] Prevalence of HIV incidence in West Java continuously increases, up to the end of 2014, as many as 5178 HIV cases spread across 26 Districts/Cities in West Java. District/City with the highest number of HIV and AIDS cases is Bandung City with 653 and 1750 cases, and the lowest is Purwakarta District with no case found. The highest prevalence occurs in 7 Districts/Cities and the lowest in 19 District/Cities in West Java. Most of Districts and Cities in West Java belong to regions that have tourist destinations, both natural and artificial tourisms, and available accommodations for tourists. Moreover, every District/City in West Java has supporting facilities, such as hotels as the transit place for tourists to visit any tourist destinations.

Related to accommodation problem, hotel is one of accommodation types mostly taken in the world as proven by the highest number of rooms of all accommodation types are those provided by hotels. Definition of hotel itself is one type of accommodation in which the building is used partly or entirely to provide lodging service, food and beverages as well as other supporting public services and managed commercially.[14] Accommodation visits based on results of this study had a significant relation to prevalence of HIV incidence in a region.

The more tourists visiting accommodations in West Java will be at increased risk of HIV prevalence. This is because tourists take trips to attracting places or tourist attractions and will enjoy the atmosphere of region in aim of refreshing, seeking tranquility and comfort and getting pleasure and happiness by being in the tourist attraction, by staying temporarily (stay) at hotels to enjoy the beauty of the tour. So that, there is a tendency to perform sexual transactions and sexual intercourse that can be done at the hotels. In addition, hotel has the attraction of entertainment venue that have commercial sex workers.[2]

Tourism area including tourist accommodation is the epicenters of demographic and social changes in relation to HIV risk, such as sexual transaction, increase in use of alcohol and other addictive substances, and internal migration.[15] Tourists who have taken tours already involve in romantic and sexual meeting from many types of tourist activities. Sometimes, sexual transaction or prospects of sexual intercourse during tour in the destinations and tourist accommodation would be the main reasons to decide in selecting tourist destinations.[6] Sexual meeting in tourist accommodation on holiday potentially becomes the major cause of morbidity, and the risk is an increase in sexual disease cases including HIV and most likely to occur among young people and tourists.[16] Results of study by Rice *et al.*, (2012) in UK shows that a great number of adults born in UK obtain HIV infection in general HIV-epidemic countries, and in public holiday destinations including tourist accommodation. The particular concern is the high proportion of men infected because of sexual intercourse with commercial sex workers.[17]

Hotel as tourist accommodation has grade called as star hotel. The star hotel is a business that uses a building or partial building provided specifically, and everyone can stay, eat and get services and other facilities by making payment and have met the requirements. Classification of star hotels is based on standard requirements and operational technique assessment. Results of this study show a significant relation between availability of star hotels in a district/city region and HIV prevalence. Ethnographic study in one of hotels in San Fransisco finds that based on cultural concept, there are several themes revealed including the meaning of hotel as supporting community for tourists.[18] Tourism area is not only the center of tourist visits, but also as continuously growing place of densely populated areas. Because of development of the region that is tourist destination area, this will affect on the great development of hotel, so star hotels slowly establish as one of tourist attractions. Moreover, in line with the development of the tourism area, entertainment facilities start to arise. These arising entertainment facilities are stalls, café around storefront, massage place, karaoke place and night club. These entertainment facilities become factor for the possibility of sex business transactions or prostitution localization. Tourists visiting to tourist destinations mostly choose hotels with many stars than standard class hotel because of many reasons, such as the large room to stay, comfort, hygiene and any other facilities offered by star hotels. The more number of star in a hotel, the more facilities provided.[14] This includes facilities that let sex business transaction, so that sex transactions will occur between customers and the sex workers in star hotels, which affects on the increasing disease prevalence of HIV infection.

By the number of star attached to hotel as the accommodation place, therefore, this will increase visit of tourists from many regions going to tourist area, then increase the average number of visitors per day coming to a tourist region.[19] Based on data obtained from results of study, the average visitors per day coming to a tourist attraction had a significant relation to prevalence of HIV case in a region. Visitors coming to a tourist attraction generally have a purpose to stay temporarily to enjoy tourism potential in an area or to attend a work/business meeting. The longer the day spent to visit tourist attractions, the greater possibility of tourists to enjoy existing facilities in the area, including the possibility for tourists trying sexual business transactions. According to study by Trong T.H.A.O conducted in Northern Tanzania, the risk factors of the increasing HIV case prevalence occur on women who have sexual

partners more than one partner.[20] This is in line with study by Ramadhani *et al.,* (2014), characteristics of tourism area relates to HIV incidence in South Sulawesi Province with p value 0.019 ($p<0.05$).[21] This is because of the high number of tourists who are mobile in and out of the tourist area and enjoy the beauty of the tour by staying temporarily in the hotel around tourist attractions, so the number of tourist visits in tourist area is the cause of spread of HIV/AIDS disease due to entertainment vanues that have commercial sex workers.[22]

Tourism sector significantly contributes to the economy of a country including local government.[23] Nevertheless, there is a phenomenon emerged from the tourism activity towards environment, socioculture and economy of community living around the tourist destination. As a result of this phenomenon, various negative activities arise, one of which is prostitution activity. Prostitution from any perspectives is an illegal activity in Indonesia, both law, social and religion.[9] Prostitution resulted from tourism activities is evolving covertly and difficult to eradicate, even though it has already been a public secret.[24]

The development of prostitution activity is a logical consequence of the development of tourism activity. Diseases because of sexual intercourse nowadays also become the effect of the development of tourism which contains prostitution activity.[4] This is due to misleading assumption that sexual actvities not only generally aim to create generation, but also to be as procreation (getting enjoyment and pleasure) as well as entertainment to fulfill biological needs of human.[25] For the countermeasures, effective and efficient policy is needed, however, the perpective of local government concerning HIV/AID will be very decisive towards the policy.[26]

The prostitution activity that is rampant around tourist destinations cause tourism sector associate with the spread of HIV/AIDS virus. The number of tourist visits in tourism areas can also be considered as the cause of the spread of HIV/AIDS disease. This is due to entertainment venues that have commercial sex workers.[27] In addition, the high number of tourists in contact with the local people accelerates the spread of AIDS disease. Thus the number of HIV/AIDS cases will increase steadily along with the development of tourism industry if there is no optimal prevention and control. Provinces advanced in tourism industry have a high number of HIV/AIDS sufferers.

Conclusion

In conclusion, there is a relation found between tourism determinants, namely accommodation, the number of star hotels and the average visitors per day with HIV/AIDS incidence in West Java. Meanwhile, visits to tourist attractions and HIV/AIDS in West Java do not have relation. Results of logistic regression test show that the most dominat variable is accommodation visits with HIV/AIDS incidence in West Java. The recommendation for the Government of West Java Province is that the attempt to overcome HIV/AIDS should consider characteristics of tourism through the improvement of health promotion in tourist attractions.

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Determinants of Tourism and HIV/AIDS Incidence in West Java: Analysis of Secondary Data Year 2016

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Abstract

Indonesia defined as tourist destination where the international and domestic tourist enjoyed the tourist attractions. Due to prostitution in tourist place, it has a risk that can increase the prevalence of HIV / AIDS which exist in the tourism industry and tourist travel visits. The incidence and spread of AIDS in various parts of West Java is a problem for tourism which is considered as tourism industry. These issues become acute in locations where sexual attraction is used as a determinant of tourist portability. The purpose of research is to determine the relationship of tourism with the incidence of HIV / AIDS in West Java. Non-reactive research design is used to collect secondary data from Central Bureau of Statistics (BPS) in 2016 from 26 regencies / cities in West Java and the research conducted in January-October 2016. Univariate and bivariate analysis methods with Spearman's statistical test and multivariate analysis (linear regression) has been applied. Result of univariate analysis of visits to tourist spots (mean = 1,064,570 persons, median = 510.471, SD = 1.349.947), visit to accommodation (mean = 409.004 times per year, median = 116.996.50, SD = 827.377,752). The total number of recognized/star marked hotels (mean = 8.85 hotel, median = 3.50, SD = 19,174). Average guests per day at hotel = 504,08 persons per year, median = 319, SD = 659,281.Bivariate analysis results, number of starred hotels (p = 0,003, r: -0,552), visit to accommodation (p = 0,009, r = 0,499) and average guest per day (p = 0,022, r = 0,447). Results of multivariate analysis showed that, accommodation visits is (p = 0,000). The conclusion of tourism determinant associated with the incidence of HIV / AIDS is the number of star marked hotels, visits for accommodation and the average guest per day. Suggestion, expected that, local government should take initiative to improve health promotion in tourist place.

Key word : Tourism, Determinant, HIV/AIDS, West Java

Introduction

HIV and AIDS disease is still a health problem in many countries in the world that is the high rates of transmission, morbidity and mortality. Data of HIV cases globally in 2011 indicate that 34 million people are living with HIV with details of 30.7 million of those people are adults, 16.7 million of those infected are women, and 3.3 million children are under the age of 15 years. There are 2.5 million new HIV-infected people consisting of 2.2 million adults and 330,000 children under the age of 15 years. Meanwhile, the number of deaths due to AIDS is 1.8 million people consisting of 1.5 million adults and 230,000 children under the age of 15 years.(1)

Human Immunodeficiency Virus (HIV) is retrovirus that infects cells of human immune system, especially CD4 positive T-cells and macrophages of the major components of the cell immune system, and destroys or disrupts its function. This viral infection results in a persistent decline in the immune system, which will lead to immune deficiency. Various symptoms and infections associated with decreased immune system are Acquired Immunodeficiency Syndrome (AIDS). Thus HIV infection has been determined as the cause of AIDS with indicators of HIV level in the body and the incidence of certain infections. This suggests that HIV infection has developed into AIDS.(2)

Conditions that support the increasing prevalence of HIV in a region are the sex industry in tourism activity and the high mobility of tourists(3), who take travels and visits to tourist destinations.(4)(5) In the current situation, human trafficking, sexually transmitted infections, pressure from local communities and threats to image changes in tourist destinations cannot be avoided. (6) The number of tourists visiting the tourist attractions in Indonesia continues to increase from year to year around 10% annually where Bali contributes the highest of several cities. Indonesia as a tourist destination that has various forms of tourist destinations that can be enjoyed by both domestic and international tourists, has a risk as an area that may increase the prevalence of HIV and AIDS. This is evident from HIV data that has been increasing annually. (4) Based on cumulative data of AIDS cases in Imdonesia, as many as 22,726 cases spread across 32 provinces. The highest case is dominated by productive ages, such as the age of 20-29 years (47.8%), followed by the age group of 30-39 years (30.9%), and the age group of 40-49 years (9.1%). Of the total, as many as 4,250 cases or 18.7% died.(8)

West Java Province that has many destinations attracting tourists to visit also has a risk of the increasing HIV and AIDS cases. Study by Heriana (2011) finds a relation between classification of area (tourism/non-tourism) around District/City in West Java and the prevalence of HIV and AIDS.(9) Based on national data, West Java is included into eight provinces with the highest number of the case in Indonesia. Data of HIV/AIDS cases in West Java accumulatively since 1987 up to March 2013 present 7,621 HIV cases and 4,131 AIDS cases. Based on this data, the trend of increasing HIV transmission has occurred in 2008 as much as 67% of new HIV and AIDS cases which are dominated by the use of injecting drugs. While in 2012, new cases of HIV and AIDS are dominated by heterosexual factor which amounted to 64% of the total cases. HIV and AIDS in West Java are spread across all districts/cities with the highest data of cases in Bandung City, Bekasi City and Sukabumi City, while the area with the lowest cases of HIV/AIDS is Banjar City until the end of 2012 recorded as many as 11 cases.(10)

Factors affecting on the increasing prevalence of HIV and AIDS are tourism industry and tourists' visits. Tourist is a person who visits in an area outside his/her residence for at least 24 hours driven by a variety of purposes, such as vacation, recreation, sports, business, visiting friends and family, missions, attending meetings, conferences, visits for health, study and religion reasons.(7) HIV prevalence is increasing rapidly in areas known as tourist destinations including sex industry. (5) This increase in prevalence is affected by visits to

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Results

Univariate analysis showed the following results:

Table 1. Results of Univariate Analysis

Variable	Mean	Median	SD	Min-Max
Visits to Tourist Attractions	1,064,570	510,471	1,349,947	0 – 5,645,569
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Accommodation visits	r=-0.499 P=0.009
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Average visitors per day	r=-0.447 P=0.022

Based on results of bivariate analysis with spearman rank test, there were 3 (three) variables that met the requirement to apply multivariate analysis. The requirement to involve independent variables in multivariable analysis was p value =<0.25, then variables which met the requirement were the number of hotels, accommodation visits and average visitors per day.

Furthermore, to determine the dominant variable influential to HIV/AIDS incidence in West Java Province, multivariate analysis with linear regression test was then conducted. Linear regression test was conducted gradually by backward method until the most simple final model obtained, in which all variables had p-Wald < 0.05, and the results of analysis were as presented in Table 3.

Table 3. Results of Multivariate Analysis on HIV Incidence in West Java

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	p
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Multivariate analysis was conducted to determine the dominant factor of HIV incidence in West Java. The dominant factor was determined by examining standardized coefficient of each independent variable. In Table 3, model selection was conducted on all independent variables that met the requirement included into the model. Insignificant variables were excluded gradually starting from variable with the highest p value. Based on multivariate analysis applying the requirement $p < 0.25$, variable the average visitors per day ($p = 0.538$) was excluded at the first stage of interaction test. In the second stage of interaction process, variable the number of hotels was excluded ($p = 0.432$). The final stage of linear regression results obtained variable the accommodation visits ($p = 0.000$, $r = 0.704$). By the independent variable with the highest value of standardized coefficient from the most fit and qualified model, accommodation visit was determined as the dominant factor of the increasing HIV incidence in West Java with standardized coefficient. Multivariate analysis obtained 3 (three) variables that became model candidates ($p < 0.25$), namely the number of hotels, accommodation visits and the average visitors per day. After the interaction test was conducted, variable determined as the fit model was accommodation visits with the equation as follows:

Equation 1.

$$Y=86.786+0.000\ X_1 \text{ (accommodation visits)}$$

Discussion

Tourism areas in West Java are more risky to get exposed to HIV infection than non-tourism areas.[9] Prevalence of HIV incidence in West Java continuously increases, up to the end of 2014, as many as 5178 HIV cases spread across 26 Districts/Cities in West Java. District/City with the highest number of HIV and AIDS cases is Bandung City with 653 and 1750 cases, and the lowest is Purwakarta District with no case found. The highest prevalence occurs in 7 Districts/Cities and the lowest in 19 District/Cities in West Java. Most of Districts and Cities in West Java belong to regions that have tourist destinations, both natural and artificial tourisms, and available accommodations for tourists. Moreover, every District/City in West Java has supporting facilities, such as hotels as the transit place for tourists to visit any tourist destinations.

Related to accommodation problem, hotel is one of accommodation types mostly taken in the world as proven by the highest number of rooms of all accommodation types are those provided by hotels. Definition of hotel itself is one type of accommodation in which the building is used partly or entirely to provide lodging service, food and beverages as well as

other supporting public services and managed commercially.[14] Accommodation visits based on results of this study had a significant relation to prevalence of HIV incidence in a region. The more tourists visiting accommodations in West Java will be at increased risk of HIV prevalence. This is because tourists take trips to attracting places or tourist attractions and will enjoy the atmosphere of region in aim of refreshing, seeking tranquility and comfort and getting pleasure and happiness by being in the tourist attraction, by staying temporarily (stay) at hotels to enjoy the beauty of the tour. So that, there is a tendency to perform sexual transactions and sexual intercourse that can be done at the hotels. In addition, hotel has the attraction of entertainment venue that have commercial sex workers.[2]

Tourism area including tourist accommodation is the epicenters of demographic and social changes in relation to HIV risk, such as sexual transaction, increase in use of alcohol and other addictive substances, and internal migration.[15] Tourists who have taken tours already involve in romantic and sexual meeting from many types of tourist activities. Sometimes, sexual transaction or prospects of sexual intercourse during tour in the destinations and tourist accommodation would be the main reasons to decide in selecting tourist destinations.[6] Sexual meeting in tourist accommodation on holiday potentially becomes the major cause of morbidity, and the risk is an increase in sexual disease cases including HIV and most likely to occur among young people and tourists.[16] Results of study by Rice *et al.,* (2012) in UK shows that a great number of adults born in UK obtain HIV infection in general HIV-epidemic countries, and in public holiday destinations including tourist accommodation. The particular concern is the high proportion of men infected because of sexual intercourse with commercial sex workers.[17]

Hotel as tourist accommodation has grade called as star hotel. The star hotel is a business that uses a building or partial building provided specifically, and everyone can stay, eat and get services and other facilities by making payment and have met the requirements. Classification of star hotels is based on standard requirements and operational technique assessment. Results of this study show a significant relation between availability of star hotels in a district/city region and HIV prevalence. Ethnographic study in one of hotels in San Fransisco finds that based on cultural concept, there are several themes revealed including the meaning of hotel as supporting community for tourists.[18] Tourism area is not only the center of tourist visits, but also as continuously growing place of densely populated areas. Because of development of the region that is tourist destination area, this will affect on the great development of hotel, so star hotels slowly establish as one of tourist attractions. Moreover, in line with the development of the tourism area, entertainment facilities start to arise. These arising entertainment facilities are stalls, café around storefront, massage place, karaoke place and night club. These entertainment facilities become factor for the possibility of sex business transactions or prostitution localization. Tourists visiting to tourist destinations mostly choose hotels with many stars than standard class hotel because of many reasons, such as the large room to stay, comfort, hygiene and any other facilities offered by star hotels. The more number of star in a hotel, the more facilities provided.[14] This includes facilities that let sex business transaction, so that sex transactions will occur between customers and the sex workers in star hotels, which affects on the increasing disease prevalence of HIV infection.

By the number of star attached to hotel as the accommodation place, therefore, this will increase visit of tourists from many regions going to tourist area, then increase the average number of visitors per day coming to a tourist region.[19] Based on data obtained from results of study, the average visitors per day coming to a tourist attraction had a significant relation to prevalence of HIV case in a region. Visitors coming to a tourist attraction generally have a purpose to stay temporarily to enjoy tourism potential in an area or to attend a work/business meeting. The longer the day spent to visit tourist attractions, the greater possibility of tourists to enjoy existing facilities in the area, including the possibility for

tourists trying sexual business transactions. According to study by Trong T.H.A.O conducted in Northern Tanzania, the risk factors of the increasing HIV case prevalence occur on women who have sexual partners more than one partner.[20] This is in line with study by Ramadhani *et al.*, (2014), characteristics of tourism area relates to HIV incidence in South Sulawesi Province with p value 0.019 ($p<0.05$).[21] This is because of the high number of tourists who are mobile in and out of the tourist area and enjoy the beauty of the tour by staying temporarily in the hotel around tourist attractions, so the number of tourist visits in tourist area is the cause of spread of HIV/AIDS disease due to entertainment vanues that have commercial sex workers.[22]

Tourism sector significantly contributes to the economy of a country including local government.[23] Nevertheless, there is a phenomenon emerged from the tourism activity towards environment, socioculture and economy of community living around the tourist destination. As a result of this phenomenon, various negative activities arise, one of which is prostitution activity. Prostitution from any perspectives is an illegal activity in Indonesia, both law, social and religion.[9] Prostitution resulted from tourism activities is evolving covertly and difficult to eradicate, even though it has already been a public secret.[24]

The development of prostitution activity is a logical consequence of the development of tourism activity. Diseases because of sexual intercourse nowadays also become the effect of the development of tourism which contains prostitution activity.[4] This is due to misleading assumption that sexual actvities not only generally aim to create generation, but also to be as procreation (getting enjoyment and pleasure) as well as entertainment to fulfill biological needs of human.[25] For the countermeasures, effective and efficient policy is needed, however, the perpective of local government concerning HIV/AID will be very decisive towards the policy.[26]

The prostitution activity that is rampant around tourist destinations cause tourism sector associate with the spread of HIV/AIDS virus. The number of tourist visits in tourism areas can also be considered as the cause of the spread of HIV/AIDS disease. This is due to entertainment venues that have commercial sex workers.[27] In addition, the high number of tourists in contact with the local people accelerates the spread of AIDS disease. Thus the number of HIV/AIDS cases will increase steadily along with the development of tourism industry if there is no optimal prevention and control. Provinces advanced in tourism industry have a high number of HIV/AIDS sufferers.

Conclusion

In conclusion, there is a relation found between tourism determinants, namely accommodation, the number of star hotels and the average visitors per day with HIV/AIDS incidence in West Java. Meanwhile, visits to tourist attractions and HIV/AIDS in West Java do not have relation. Results of logistic regression test show that the most dominat variable is accommodation visits with HIV/AIDS incidence in West Java. The recommendation for the Government of West Java Province is that the attempt to overcome HIV/AIDS should consider characteristics of tourism through the improvement of health promotion in tourist attractions.

Acknowledgment

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Determinants of Tourism and HIV/AIDS Incidence in West Java: Analysis of Secondary Data Year 2016

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Abstract

Indonesia defined as tourist destination where the international and domestic tourist enjoyed the tourist attractions. Due to prostitution in tourist place, it has a risk that can increase the prevalence of HIV / AIDS which exist in the tourism industry and tourist travel visits. The incidence and spread of AIDS in various parts of West Java is a problem for tourism which is considered as tourism industry. These issues become acute in locations where sexual attraction is used as a determinant of tourist portability. The purpose of research was to determine the relationship of tourism with the incidence of HIV / AIDS in West Java. Non-reactive research design was used to collect secondary data from Central Bureau of Statistics (BPS) in 2016 from 26 regencies / cities in West Java and the research conducted in January-October 2016. Univariate and bivariate analysis methods with Spearman's statistical test and multivariate analysis (multiple logistic) were applied. Result of univariate analysis of visits to tourist spots was (mean = 1,064,570 persons, median = 510.471, SD = 1.349.947), visit to accommodation was (mean = 409.004 times per year, median = 116.996.50, SD = 827.377,752). The total number of recognized/star marked hotels was mean = 8.85 hotel, median = 3.50, SD = 19,174). Average guests per day at hotels was = 504,08 persons per year, median = 319, SD = 659,281.Bivariate analysis results, number of starred hotels was (p = 0,003, r: -0,552), visit to accommodation was(p = 0,009, r = 0,499) and average guest per per day was p = 0,022, r = 0,447). Results of multivariate analysis showed that, accommodation visits was p = 0,000). The conclusion of tourism determinant associated with the incidence of HIV / AIDS is the number of star marked hotels, visits for accommodation and the average guest per day. Suggestion, expected that, local government should take initiative to improve health promotion in tourist place.

Keywords : Tourism, Determinant, HIV/AIDS, West Java

Introduction

HIV and AIDS disease is still a health problem in many countries in the world that is the high rates of transmission, morbidity and mortality. Data of HIV cases globally in 2011 indicate that 34 million people are living with HIV with details of 30.7 million of those people are adults, 16.7 million of those infected are women, and 3.3 million children are under the age of 15 years. There are 2.5 million new HIV-infected people consisting of 2.2 million adults and 330,000 children under the age of 15 years. Meanwhile, the number of deaths due to AIDS is 1.8 million people consisting of 1.5 million adults and 230,000 children under the age of 15 years.(1)

Human Immunodeficiency Virus (HIV) is retrovirus that infects cells of human immune system, especially CD4 positive T-cells and macrophages of the major components of the cell immune system, and destroys or disrupts its function. This viral infection results in a persistent decline in the immune system, which will lead to immune deficiency. Various symptoms and infections associated with decreased immune system are Acquired Immunodeficiency Syndrome (AIDS). Thus HIV infection has been determined as the cause of AIDS with indicators of HIV level in the body and the incidence of certain infections. This suggests that HIV infection has developed into AIDS.(2)

Conditions that support the increasing prevalence of HIV in a region are the sex industry in tourism activity and the high mobility of tourists(3), who take travels and visits to tourist destinations.(4)(5) In the current situation, human trafficking, sexually transmitted infections, pressure from local communities and threats to image changes in tourist destinations cannot be avoided. (6) The number of tourists visiting the tourist attractions in Indonesia continues to increase from year to year around 10% annually where Bali contributes the highest of several cities. Indonesia as a tourist destination that has various forms of tourist destinations that can be enjoyed by both domestic and international tourists, has a risk as an area that may increase the prevalence of HIV and AIDS. This is evident from HIV data that has been increasing annually. (4) Based on cumulative data of AIDS cases in Imdonesia, as many as 22,726 cases spread across 32 provinces. The highest case is dominated by productive ages, such as the age of 20-29 years (47.8%), followed by the age group of 30-39 years (30.9%), and the age group of 40-49 years (9.1%). Of the total, as many as 4,250 cases or 18.7% died.(8)

West Java Province that has many destinations attracting tourists to visit also has a risk of the increasing HIV and AIDS cases. Study by Heriana (2011) finds a relation between classification of area (tourism/non-tourism) around District/City in West Java and the prevalence of HIV and AIDS.(9) Based on national data, West Java is included into eight provinces with the highest number of the case in Indonesia. Data of HIV/AIDS cases in West Java accumulatively since 1987 up to March 2013 present 7,621 HIV cases and 4,131 AIDS cases. Based on this data, the trend of increasing HIV transmission has occurred in 2008 as much as 67% of new HIV and AIDS cases which are dominated by the use of injecting drugs. While in 2012, new cases of HIV and AIDS are dominated by heterosexual factor which amounted to 64% of the total cases. HIV and AIDS in West Java are spread across all districts/cities with the highest data of cases in Bandung City, Bekasi City and Sukabumi City, while the area with the lowest cases of HIV/AIDS is Banjar City until the end of 2012 recorded as many as 11 cases.(10)

Factors affecting on the increasing prevalence of HIV and AIDS are tourism industry and tourists' visits. Tourist is a person who visits in an area outside his/her residence for at least 24 hours driven by a variety of purposes, such as vacation, recreation, sports, business, visiting friends and family, missions, attending meetings, conferences, visits for health, study and religion reasons.(7) HIV prevalence is increasing rapidly in areas known as tourist destinations including sex industry. (5) This increase in prevalence is affected by visits to

tourist attractions enjoyed by tourists, visits to hotels as temporary residence of tourists and many star hotels including tourists' per-day visit.[11]

By the increase in visit to tourist attractions and accommodation (hotel) by tourists in the last 30 years, it is almost impossible that the spread of infectious disease transmission can be prevented.[12] The risk of HIV infection will be increased if condoms are unavailable in star hotels and unqualified. Regarding the actual use of condoms, a study found only 34% of sex tourists from Switzerland consistently use condoms while abroad. A total of 28% of men in the Melbourne clinic, Australia, reported consistent use of condomes during sexual intercourse while traveling in Asia, and sexually transmitted diseases were identified in 73% of men examined. [5] The incidence and spread of AIDS in various regions become a problem for tourism-producing regions that have tourism industry. These problems become acute in locations where sexual attraction is used as a determinant of tourist portability. The tourism industry and tourism policy makers have just began to see the problem of the impact of tourism with the incidence of AIDS, which has so far not been explored or certainly defined yet. The complex problems emerging from between tourism and AIDS deserve a systematic in-depth study. The purpose of research was to determine the relationship of tourism with the incidence of HIV / AIDS in West Java.

Method

This study used non-reactive research design by using secondary data, which is the results of Central Bureau of Statistics survey in 2017 conducted in West Java Province. Data were collected in form of secondary data obtained from several related institutions including data of HIV and AIDS cases, the number of hotels, the number of visits to tourist attractions, the total of accommodation visits and the average number of visitors per day in Districts/Cities over West Java Province that were obtained from the records by Central Bureau of Statistics of West Java Province. Data collected were then processed by using SPPS and analyzed. Data analysis was conducted gradually, namely univariate, bivariate and multivariate analysis. Univariate analysis included frequency distribution of the number of hotels, visits to tourist attractions, accommodation visits and average visitors per day in Districts/Cities over West Java Province. Biavariate analysis was conducted to determine relations including independent and dependent variables. Statistical test in this analysis used Spearman. This analysis would obtain independent variables significantly related or not related with dependent variable. Multivariate analysis was conducted with linear regression test consisting of two stages. The first stage was interaction test in aim to exclude variables with p value > 0.05, then the selection of logistic regression model candidates was conducted by including all independent variable that met the requirements into the model. Insignificant variables were excluded gradually, starting from variables with the highest p value so those variables would be determined as fit model by considering the best model of two assessments, namely ratio Log likelihood ($p < 0.05$)(13).

Location of study was in West Java Province. This study was conducted within 9 months, from January 2015 to October 2015. Population of study was HIV and AIDS incidence in every District/City in West Java Province. Samples in this study were the complete data of HIV and AIDS incidence in District/City in West Java Province by taking non-probability sampling using Exhauting Sampling. Variables in this study consisted of independent and dependent variable. Independent variable consisted of the number of hotels, visits to tourist attractions, accommodation visits and average visitors per day in District/City over West Java Province. Dependent variable was HIV and AIDS incidence in West Java Province.

Results

Univariate analysis showed the following results:

Table 1. Results of Univariate Analysis

Variable	Mean	Median	SD	Min-Max
Visits to Tourist Attractions	1,064,570	510,471	1,349,947	0 – 5,645,569
Accommodation visits	409.004	116,996.50	827,377.752	2,400-3513705
Star Hotels	8.85	3.50	19.174	0-99
Average visitors per day	504.08	319	659.281	24-3.160

Based on univariate analysis results, the number of visits to tourist attractions, accommodations, star hotels and average visitors per day can be seen. The average visits to tourist attractions in West Java was 1,064,570 visitos with median 510,471 and deviation standards 1,349,947. The average accommodation visits in West Java was 409,004 times per year with median 116,996.50 and deviation standard 827,377.752. The average number of star hotels in West Java was 8.85 hotels with median 3.50 and deviation standard 19.174. The average visitors per day in hotels in West Java was 504.08 visitors every year with median 319 and deviation standard 659.281.

Bivariate analysis with correlation test obtained that accommodation visits, the number of hotels, and average visitors per day had strong and positive relation with R value 0.069; 0.499; 0.552; and 0.447 respectively. This means that the more number of visits to tourist attractions, the more HIV incidence increasing. The more accommodation visits the more HIV incidence increasing. The more number of hotels, the more HIV incidence increasing. The more average number of visitos per day, the more HIV incidence increasing. Meanwhile, visits to tourist attractions did not have relation with HIV incidence.

Table 2. Results of Bivariate Analysis

	HIV Incidence
Visits to Tourist Attractions	r=0.069 p=0.737
Accommodation visits	r=-0.499 P=0.009
Number of Star Hotels	r= -0.552 p=0.003
Average visitors per day	r=-0.447 P=0.022

Based on results of bivariate analysis with spearman rank test, there were 3 (three) variables that met the requirement to apply multivariate analysis. The requirement to involve independent variables in multivariable analysis was p value =<0.25, then variables which met the requirement were the number of hotels, accommodation visits and average visitors per day.

Furthermore, to determine the dominant variable influential to HIV/AIDS incidence in West Java Province, multivariate analysis with linear regression test was then conducted. Linear regression test was conducted gradually by backward method until the most simple final model obtained, in which all variables had p-Wald < 0.05, and the results of analysis were as presented in Table 3.

Table 3. Results of Multivariate Analysis on HIV Incidence in West Java

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	p
		B	SE	Beta	
Model 1	Accommodation Visits	0.000	0.000	1.930	0.067
	The Number of Hotels	3.464	3.498	0.412	0.033
	Average Visitors	-0.054	0.086	-0.221	0.538
	Constants	97.416	32.774		0.007
Model 2	Accommodation Visits	0.000	.000	0.523	0.065
	The Number of Hotels	1.818	2.272	0.216	0.432
	Constants	85.196	25.956		0.003
Model 3	Accommodation Visits	0.000	0.000	0.704	0.000
	Constants	86.786	25.685		0.002

Multivariate analysis was conducted to determine the dominant factor of HIV incidence in West Java. The dominant factor was determined by examining standardized coefficient of each independent variable. In Table 3, model selection was conducted on all independent variables that met the requirement included into the model. Insignificant variables were excluded gradually starting from variable with the highest p value. Based on multivariate analysis applying the requirement $p < 0.25$, variable the average visitors per day ($p = 0.538$) was excluded at the first stage of interaction test. In the second stage of interaction process, variable the number of hotels was excluded ($p = 0.432$). The final stage of linear regression results obtained variable the accommodation visits ($p = 0.000$, $r = 0.704$). By the independent variable with the highest value of standardized coefficient from the most fit and qualified model, accommodation visit was determined as the dominant factor of the increasing HIV incidence in West Java with standardized coefficient. Multivariate analysis obtained 3 (three) variables that became model candidates ($p < 0.25$), namely the number of hotels, accommodation visits and the average visitors per day. After the interaction test was conducted, variable determined as the fit model was accommodation visits with the equation as follows:

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Discussion

Tourism areas in West Java are more risky to get exposed to HIV infection than non-tourism areas.[9] Prevalence of HIV incidence in West Java continuously increases, up to the end of 2014, as many as 5178 HIV cases spread across 26 Districts/Cities in West Java. District/City with the highest number of HIV and AIDS cases is Bandung City with 653 and 1750 cases, and the lowest is Purwakarta District with no case found. The highest prevalence occurs in 7 Districts/Cities and the lowest in 19 District/Cities in West Java. Most of Districts and Cities in West Java belong to regions that have tourist destinations, both natural and artificial tourisms, and available accommodations for tourists. Moreover, every District/City in West Java has supporting facilities, such as hotels as the transit place for tourists to visit any tourist destinations.

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building is used partly or entirely to provide lodging service, food and beverages as well as other supporting public services and managed commercially.[14] Accommodation visits based on results of this study had a significant relation to prevalence of HIV incidence in a region. The more tourists visiting accommodations in West Java will be at increased risk of HIV prevalence. This is because tourists take trips to attracting places or tourist attractions and will enjoy the atmosphere of region in aim of refreshing, seeking tranquility and comfort and getting pleasure and happiness by being in the tourist attraction, by staying temporarily (stay) at hotels to enjoy the beauty of the tour. So that, there is a tendency to perform sexual transactions and sexual intercourse that can be done at the hotels. In addition, hotel has the attraction of entertainment venue that have commercial sex workers.[2]

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possibility of tourists to enjoy existing facilities in the area, including the possibility for tourists trying sexual business transactions. According to study by Trong T.H.A.O conducted in Northern Tanzania, the risk factors of the increasing HIV case prevalence occur on women who have sexual partners more than one partner.[20] This is in line with study by Ramadhani *et al.*, (2014), characteristics of tourism area relates to HIV incidence in South Sulawesi Province with p value 0.019 ($p<0.05$).[21] This is because of the high number of tourists who are mobile in and out of the tourist area and enjoy the beauty of the tour by staying temporarily in the hotel around tourist attractions, so the number of tourist visits in tourist area is the cause of spread of HIV/AIDS disease due to entertainment vanues that have commercial sex workers.[22]

Tourism sector significantly contributes to the economy of a country including local government.[23] Nevertheless, there is a phenomenon emerged from the tourism activity towards environment, socioculture and economy of community living around the tourist destination. As a result of this phenomenon, various negative activities arise, one of which is prostitution activity. Prostitution from any perspectives is an illegal activity in Indonesia, both law, social and religion.[9] Prostitution resulted from tourism activities is evolving covertly and difficult to eradicate, even though it has already been a public secret.[24]

The development of prostitution activity is a logical consequence of the development of tourism activity. Diseases because of sexual intercourse nowadays also become the effect of the development of tourism which contains prostitution activity.[4] This is due to misleading assumption that sexual actvities not only generally aim to create generation, but also to be as procreation (getting enjoyment and pleasure) as well as entertainment to fulfill biological needs of human.[25] For the countermeasures, effective and efficient policy is needed, however, the perpective of local government concerning HIV/AID will be very decisive towards the policy.[26]

The prostitution activity that is rampant around tourist destinations cause tourism sector associate with the spread of HIV/AIDS virus. The number of tourist visits in tourism areas can also be considered as the cause of the spread of HIV/AIDS disease. This is due to entertainment venues that have commercial sex workers.[27] In addition, the high number of tourists in contact with the local people accelerates the spread of AIDS disease. Thus the number of HIV/AIDS cases will increase steadily along with the development of tourism industry if there is no optimal prevention and control. Provinces advanced in tourism industry have a high number of HIV/AIDS sufferers.

Conclusion

In conclusion, there is a relation found between tourism determinants, namely accommodation, the number of star hotels and the average visitors per day with HIV/AIDS incidence in West Java. Meanwhile, visits to tourist attractions and HIV/AIDS in West Java do not have relation. Results of multiple logistic regression test shows that the most dominat variable is accommodation visits with HIV/AIDS incidence in West Java. The recommendation for the Government of West Java Province is that the attempt to overcome HIV/AIDS should consider characteristics of tourism through the improvement of health promotion in tourist attractions. Tourism office and local health office there needs to be cooperation in prevention of disease and health promotion in place of tourism

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Determinant And Spatial Distribution of HIV/AIDS Prevalence In West Java, Indonesia : Analysis of Secondary Data

ABSTRACK

HIV/AIDS is a health problem in the West Java Province and unknown patterns of spatial detail until now. The objective of this study was to determine the spatial Distribution and determinants of HIV/AIDS in West Java. Design cross-sectional study used secondary data from 2010 until 2013 with a sample of 26 Cities at January-Oktober 2015. Analysis used univariate and bivariate (Chi-square test) and multivariate (logistic regression). The result of research shods the spatial distribution of HIV/AIDS prevalence, The highest prevalence of HIV and AIDS as 7 Cities in West Java and the lowest 19 Cities. Statistical analysis showed that determinant of classification of the town (p-value: 0.01, 95% CI: 0.001-0.089), the type of highway (p-value: 1.0, 95% CI: 0.145-9047), and characteristics of the region (p-value: 0.04 , 95% CI: 0.001-1.027. The conclusion is spatial distibution highest HIV incidence in areas with tourist destinations and areas that have national lines (north coast). There is a relationship between the classification of the town, characteristics of the region and the use of condoms is dominant factor and there is no relationship between the type of highway with the HIV/AIDS in West Java.

Keyword : Spatial, Determinant, HIV/AIDS, West Java

ABSTRAK

HIV/AIDS merupakan masalah kesehatan di Provinsi Jawa Barat dan sampai saat ini belum diketahui pola spasial yang terinci. Tujuan penelitian untuk mengetahui distribusi spasial dan determinan kejadian HIV/AIDS di Jawa Barat. Desain studi *cross sectional* menggunakan data sekunder tahun 2010-2013 dengan sampel sebanyak 26 Kabupaten/Kota di Jawa Barat yang dilaksanakan pada bulan Januari-Oktober 2015. Metode analisis univariat dan bivariate dengan uji statistik *Chi-square test* dan analisis multivariate (regresi logistik). Hasil penelitian distribusi spasial menunjukan sebaran prevalensi HIV/AIDS tertinggi 7 Kabupaten/Kota di Jawa Barat dan terendah 19 Kabupaten/Kota di Jawa Barat. Hasil Analisis Bivariat menunjukan klasifikasi kota (nilai p: 0.018, 95% CI: 0,001 - 0,089), jenis jalan raya (nilai P: 1,000, 95% CI : 0,145 – 9047) dan karekteristik wilayah (nilai p: 0,046, 95% CI: 0,001-1,027). Kesimpulan distribusi spasial kejadian HIV tertinggi di daerah dengan tujuan wisata dan daerah yang memiliki jalur nasional (pantura). Terdapat hubungan antara klasifikasi kota, karekteristik wilayah dan penggunaan kondom paling dominan dengan kejadian HIV/AIDS dan tidak terdapat hubungan antara jenis jalan raya dengan kejadian HIV/AIDS di Jawa Barat.

Kata Kunci : Spasial, Determinan, HIV/AIDS, Jawa Barat

INTRODUCTION

HIV and AIDS are the world problems actually risk in infection transmitied, morbidity and mortality. Globally HIV cases in 2011, there are 34 million people was living with HIV, 30.7 million are among the adults. 16.7 million people infected are woman, 3.3 million are among children under 15 years. 2,5 million people live in HIV new case, with 2,2 million people among adults and 330 thousand among children under 15 years. Dead cause of AIDS are 1,8 million people, with 1,5 million people adult and 230 thousand are children under 15 years[(1)].

Human Immunodeficiency Virus (HIV) is a retroviral that infected the human imunited cells (espatially CD4 positive T-sel and primary makrofag antibody components), it can destroy or disturb that function. This infection can cause the immunity degradation, that can cause an immunity deficiency. Acquired Immunodeficiency Syndrome (AIDS) describes all both the symptom and immunity degradation. HIV infection was signed as AIDS causes, amount HIV in the human body and infection symptom are indication that the HIV was becoming AIDS[(2)].

In Indonesia was reported AIDS cumulative case amount 22.726 in 32 provinces. Higher risk community is in productive age between 20-29 ages (47,8%), in 30-39 ages community (30,9%), and 40-49 age community (9,1%). From that case, 4250 or 18,7% died case. West Java province are included to 8 provinces with the highest case in Indonesia. all regency or city in West Java province have found the HIV and AIDS. The most higher risk province is Bandung City, Bekasi and Sukabumi. The lower risk area of HIV/AIDS is Banjar that has only had 11 case in 2012.

Cumulative HIV/AIDS case in West Java from 1987 until march 2013 there are 7621 HIV case and 4131 for AIDS case. The date describe that HIV has a transmission trend start from 2008 as much as 67% new case in HIV and for AIDS dominated by injecting drus user.While in 2012 show that the new case of HIV and AIDS are dominated by heterosexual, 64% from all case [(3)].

HIV AIDS impact so worried, because this syndrome caused the mortality and morbidity rate in the productive age community. This epidemic is rising in injection drug user and suction drugs user. Sexual intercourse without condome is also the risk factor that can make the raising of HIV AIDS case. Distribution of condom user in west java province in 2010 is 49.522, in 2011 increased in 50.234 and 49.522 in 2012. Motivating factors that make the epidemic found in all regions are : seks industries, low of condom user, injection drugs user and medical operatif.

Spatial epidemiology is a branch study that related to, description, measure and explain of geographic variance distribution of disease. Spatial epidemiology is the description and analysis from the geographic distribution of disease. In this era, spatial epidemiology as important as health problems, for example in bio-terrorism that make the complex analysis. In West Java province have not identified the spatial pattern for HIV and AIDS. This research is main to anaylsis of spatial distribution and determinants of HIV AIDS in West Java Province. While, the spatial aim of this research is to know the spatial distribution by prevalence levels and determinants, territory characteristic, classification of city, highway type and condom user.

METHOD

This is the analytic observational research with the cross sectional design in West Java Province. The data was collect by secondary date from an instance that is: date of HIV and AIDS case from West Java health ministry in 2010-2013, date, city classification, highway and characteristic for region in all west java province collected from Badan Pusat Statistik (BPS). The colleted data then analysis with STATA 12 version. The analysis was steping by univariate, bivariate and multivariate analysis to see the relation the independent and independent variance used the bivariate analysis and used the chi-square for statistic analysis test. From this analysis presents the correlation of independent variable or not correlate with the depend variable. Logistic regression for multivariate in two steps, the first step is an interaction to test to eliminate the variable with the p value less than 0,05, and the choose candidate the regression logistic model with all independence variance into the model. Not significan variable is out step by step, start from the higest p value until that variables

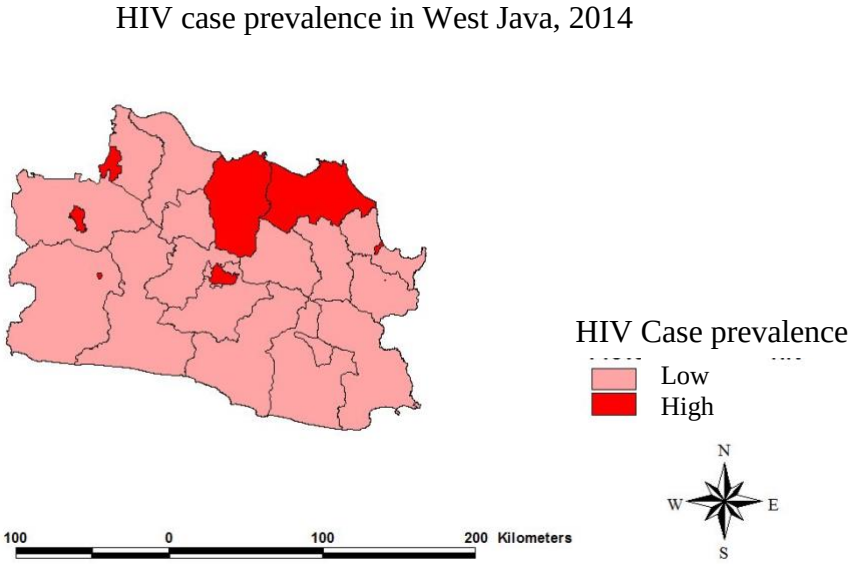
assigned to model (fit model) depend from the best from to test that is log likehood ($p<0,05$)[7].

Location is in West Java Province Indonesia, for 9 months start from January 2015-October 2015. The population is all HIV AIDS cases in all regions in West Java Province. Sample of this research is completed date of HIV AIDS from all regions in West Java Province in 2010-2013. With nonprobability sampling with exhaustive sampling that is the completed HIV AIDS case date in all regions as variable. The independent variables are territory characteristic, city classification, highway and condom user. The dependent variables are HIV AIDS in the west java province.

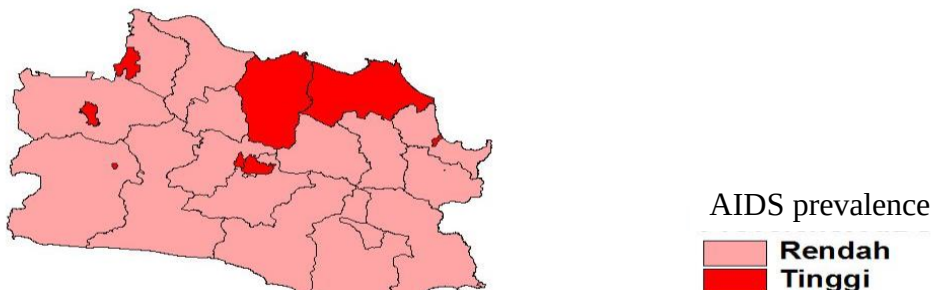
RESULT

Based from spatial analysis of HIV/AIDS in West Java province, present the result:

Picture 1. HIV case prevalence in West Java in 2014



Based on picture 1, highest HIV case prevalence were in 7 regions and lowest were in 19 regions in West Java Province.

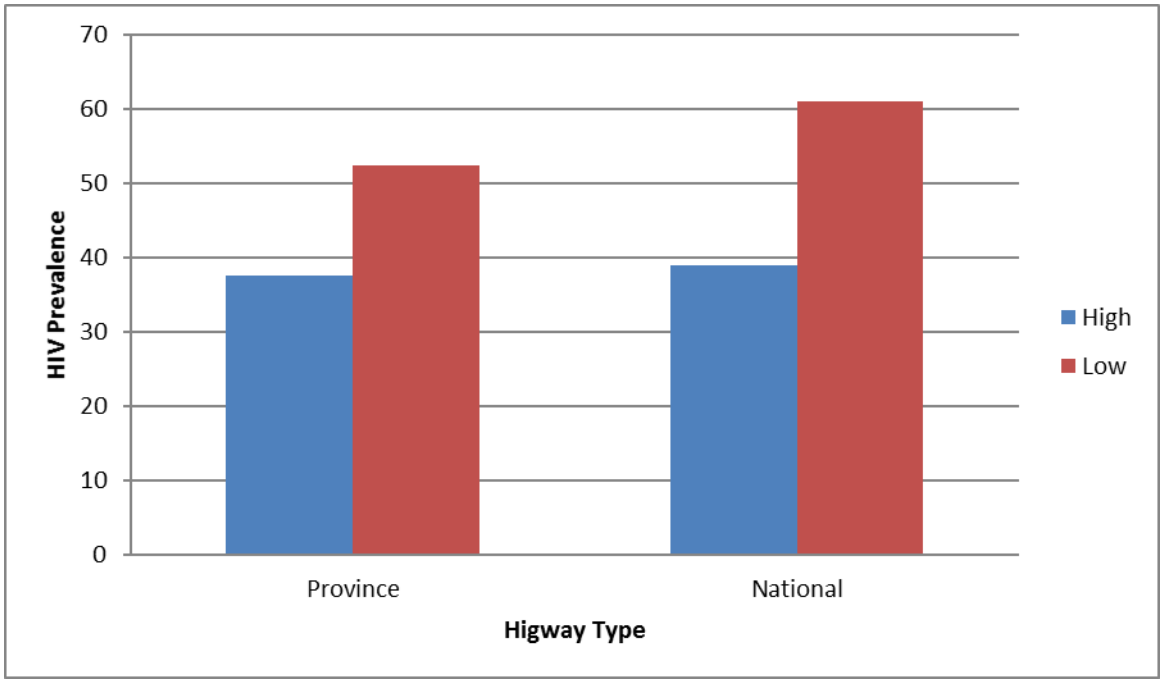


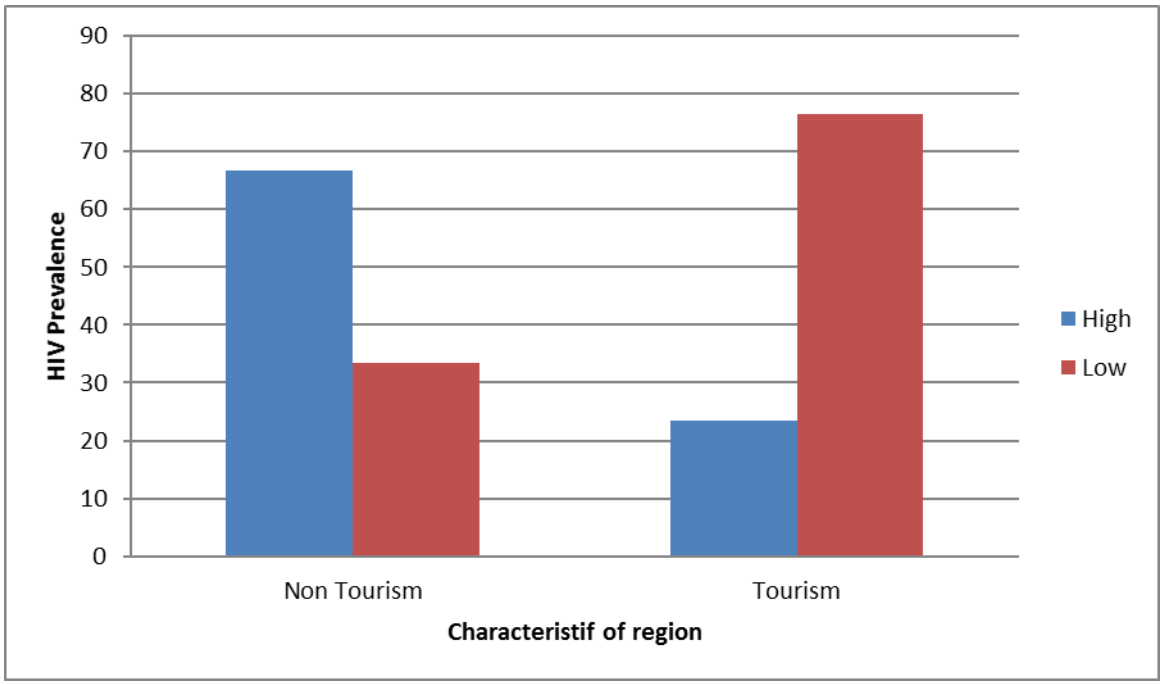
Low
High

Picture 2. Distribution of AIDS prevalence in West Java Province 2014

Based on picture 2, in West Java province that is 7 region/city the highest and 19 region/city lowers of AIDS prevalence. The result of univariate analysis that is :

Table 1. Univariate analysis from city classification,highway type, characteristif of region and HIV/AIDS prevalence in West Java Indonesia





Based on univariate analysis, the graphic that analiyzed are city classification with the most (75%) classified to medium city with low HIV/AIDS prevalence. The highway variable present the result is most (61,1%) classified to national highway with low HIV/AIDS prevalence. Characteristic of the region variable mostly (76,4%) classified to tourism with low HIV/AIDS prevalence.

After the univariate analyze, to know and describe the related between the independent and dependent variable that required of the expected count values more than 5, then will be analysis with bivariate using the chi square and if not required will analysis with fisher exact, with signification p-value less than 0,05 (<0,05). Final correlate analysis between each independent variable and dependent variable, present into table 2.

Table 2. Bivariate analysis from city classification, higway type and characteristic of region with HIV/AIDS prevalence in West Java Indonesia

Variable	HIV					
	high		low			95% CI
	f	%	f	%	*p*	
City classification						
a. small city	5	83.33	1	16.67	0.018	0,001 - 0,089
b. medium city	5	25.00	15	75.00		
Highway type:						
a. province	3	37.50	5	52.50	1,000	0,145 - 9047
b. national	7	38.89	11	61.11		
Characteristic of the region:						
a. Non tourism	6	66.67	3	33.33	0.046	0,001-1,027
b. tourism	4	23.53	13	76.47		

Based on fisher exact test result be obtained that the variables related is classification of the town and characteristics of the region. Whereas variables that didn't related that is availability of street.

Based on bivariate analysis resultswhich have been done, then the result be obtained 3 (three) variables that qualified to do in multivariate analysis. The requirement for insert an independent variable in multivariable analysis that is p=<0,25 value. Then the variable that qualify that is : classification of the town and characteristics of the region.

Furthermore to know the dominant variable that influential to incident of HIV/AIDS in West Java Province then performed a multivariate analysis with multiple logistic regression. Multiple logistic regression performed in gradually with Backward methods to obtain the simplest final model where all the variables have p-Wald <0,05 value, and analysis result as presented at Table 3.

Table 3. Multivariate analysis result the risk factors of HIV in children

Variables	**B**	**P Value**	**OR**	**95% CI**
Stage 1				
classification of the town	-1,86	0,6	0,095	0.008-1,132
characteristics of the region	-1,44	0,149	0,233	0,032-1,685
Note : -2 Log-Likelihood = -12.902137 p-value=0,0127				

At Table 3. multivariate analysis performed by chi-square test results that qualified (p<0,25). For the first phase interaction test performed issued variable characteristics of the region (p=0,149). Based on the results of logistic regression in the final stage, derived variables classification of the town (p=0,063, OR=0,095) has a dominant relationship in the incidence of HIV / AIDS in West Java.

Based on multivariate analysis obtained (three) variables that become models candidate yaitu (p<0,25), that is classification of the town and characteristics of the region. The best models will consider two assestment that is ratio Log likelihood (p<0,05) significant. Model selection is done for all independent variables that qualified into model. Variable that aren't significant performed in gradually start from variable that has the largest

p value. After do the interaction test obtain variables that set as fit model that is characteristics of the region and the use of condoms by the following equation:

Comparison 1

$Y=1+1,86\ X_1$(Classification ot town) $-1,44\ X_2$ (characteristics of the region)

DISCUSSION

Incident of HIV in West Java to the end of 2014 year as many 5178 case that spread in 26 regency/city in West Java. Regency/city that have the highest incidence rate of HIV/AIDS is Bandung city as many 653 and 1750 case the lowest incidence rate Purwakarta Regency is no case. The highest prevalence occured in 7 regency/city in West Java and the lowest prevalence occured in 19 regency/city in West Java. Regency that have the highest incident of HIV have a characteristic that included medium city and large cities, have a national roads, have a tourism spot. Bandung city, Bogor city, Sukabumi city an area that have advantages of the tourism area and counted as a national tourist destination, whereas Bekasi city, Subang regency, Indramayu regency and Cirebon city are an area which crossed by national roads that is the north coast of West Java.

Characteristics of the Regency / City which has the advantage in tourist attraction or become tourism area which is has a high mobility rate travelers. Tourist have a potential to do unprotected sexual intercourse at tourist spots. That activity viewed from any side is an illegal activity in Indonesia, in terms of the law, social or religious. Unprotected sexual intercourse which then arise from tourism activities developing covertly and difficult to eradicate though it already become a public secret.

Regency/City which has a high prevalence has characteristics has a national track northern coastal road north coast (coast). The line was crossed by the driver and helper even the security officers and groups of workers whose vulnerable against the transmission of HIV / AIDS because the job situation, living conditions and other risk situations. Factors that may increase the incidence of HIV on the northern coast line espatially Subang Regency, which originally was plantation areas and now has turned into an industrial area. It can bring a new problems related to the entertainment industry in Subang, including along the northern coastal road.

Based on the research results showing there is a relationship between classification of the town that is moderate cities and major cities in West Java. This is not in line with the Ramdhani research, Aminudin and Bahar in 2013 in Makassar. The majority of Indonesia's population is a migrant actors. They chose to live apart from family within a certain time for a living or work outside the city even outside the island. This condition occurs because in the village or in the city where they live can not provide jobs with wages that they want. Regency that partially rural areas which is located in the east and southwest of West Java province has reduces due to migration out of the region. [9]

Living in the big city would attract people from village to town with the result that urbanization and migration happened. Population migration has an economic vulnerability, social and work put them in the context of an increased risk of contracting HIV [10]. Urbanization and migration is characteristic of the high mobility of population. Mobility can make a person go into a high risk situations [11]. Population that have a high mobility or have a frequency to settle in a new place with the partner they have a higher risk on transmission Sexually Transmitted Diseases (STIs) than the residents who have their living conditions are stable or fixed [12]. Due to the people far from their families and communities. Where sexual norms and social applied and adhered to at different levels, now they must adapted to the new environment [7].

This condition as same as the result of a comprehensive research about population movements with HIV / AIDS in Kenya with hypotheses test which states when compared with those who are not immigrants, migrants men and women in urban and rural areas seem more tend to seen in the activities of sexual which can increase their risk of contracting HIV and eventually lead to AIDS [13]. AIDS who previously become a problem in major cities is now spreading to smaller towns [14]. Progression of HIV infection in Indonesia not only happen in big cities, but now HIV infection has entered the small towns [15].

Availability of roads in regency/cities in West Java not related to the incidence of HIV/AIDS. It is because of their regency/cities which has a national road only a small fraction is only 7 districts of the city. However, national roads in the district / city can be affecting the socio-cultural values of local communities. Workers in the transportation area are an active worker who use the highway. Group of truck driver who crossing the coast road north in West Java and Central Java is known more familiar with the place for layover which become their references. Many places layover along the north coast of West Java. Most of the group of truckers (19.1%) which crosses the northern coasts of West Java admitted layover in Indramayu. Other region which are mentioned as the place for layover is Cikampek (10.9%), Cirebon (5.5%) and Karawang (4.5%). In the northern coastal road in Central Java the place for layover which are mentioned by many of a group truckers is Semarang (11.8%), Rembang (11.1%) and Batang (8.3). In the northern coastal road in East Java, Compreng area becoming the reference as the place for layover the truck driver that crosses this line [8]. In the place for layover arise an illegal localization or a place to conduct sexual transactions. An illegal localization are lesehan stalls in side of the road, in cafes or discotheques, and in a hotel or inn.

The relationship between the characteristics of the tourism region and non-tourism related with the incidence of HIV / AIDS in West Java. This is in accordance with the Ramadhani research, Aminudin [4], characteristics of the tourism region related with HIV incidence in South Sulawesi with the p value of 0.019 ($p < 0.05$). This is because the large number of travelers who visiting and go out from tourism areas, and enjoy the natural beauty

In tourist attraction. with temporary residence (stay overnight) at the hotel around the tourist spots. So, the number of tourist arrivals as the cause of the spread of HIV / AIDS. This is caused by entertainment venues that have commercial sex workers [2]. The tourism sector contribute significantly on the economy of a country including local governments. Nevertheless, there is a phenomenon arising from the tourism activities in an area. That phenomenon is the impact of tourism activities on the environment, socio-cultural and economic communities who are around tourist destinations. As a result of this phenomenon, arose various kinds of negative activities one of them is prostitution activity. Prostitution viewed from any side are an illegal activity in Indonesia, both in terms of the law, social or religious. Prostitution then raised from tourism activities developing covertly and difficult to be removed although it has become a public secret.

The development of prostitution is a logical consequence from the development of the tourism industry. Sexual diseases who is currently happens also an effects of tourism development which includes a prostitution activity. This is because a wrong opinion who consider that sexual activity as a general rule, not only for gets descent but also considered as a procreation (gain a pleasure and an enjoyment) and entertainment for human biological needs [16]. To overcome them, we need an effective and efficient policies, however, the local government perspective on HIV / AIDS will largely determine the policy [17].

Prostitution which often occurs around tourist destinations which led the tourism sector related to the spread of HIV / AIDS. The number of tourists in the tourism area can also be regarded as the cause of the spread of HIV / AIDS. This is caused by entertainment venues that have commercial sex workers [18]. In addition, the number of travelers in contact

with locals accelerate the spread of AIDS. So, the number of cases of HIV / AIDS will increase steadily concurrently with the development of tourism industry if there is no prevention and optimal control. Advanced provinces in the tourism industry has a number of people living with HIV / AIDS which is also high [19].

CONCLUSION

The conclusion of this study is shows the spatial distribution the highest incidence of HIV occurred in the area with tourist destinations or have a characteristics of tourist attraction and areas that have national lines, that is the north coast (Pantura). There is a relationship between the classification of the town, the availability and characteristics of the region with the incidence of HIV / AIDS in West Java, there are currently no correlation between the availability of the road with the incidence of HIV / AIDS in West Java. The results of logistic regression test showing that the most dominant variable is classification of town with the incidence of HIV/AIDS in West Java. Recommendations to the government of West Java province, that prevention efforts of HIV/AIDS consider the spatial characteristics such as the characteristics of the region, classification of the town.

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