

# Risk Factors of HIV Infection in Young Ages in Clinic Voluntary Counseling Testing (VCT) Manokwari Regency Hospital West Papua Province

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## ABSTRACT

**Introduction:** Human immunodeficiency and AIDS (acquired immunodeficiency syndrome) are currently the biggest health problems in the world. Manokwari Regency is one of the regency in West Papua-Indonesia province which has the most HIV cases with a cumulative number until June 2011 is 1,217, while AIDS cases in Manokwari Regency are 18.87 per 100,000 populations, higher than the national figure (11.09 per 100,000).

**Target of research:** To find out the relationship between risk factors and HIV infection at a young age in the VCT clinic at Manokwari Hospital in West Papua Province.

**Research of results:** Observational analytic with cross sectional study design. The study was conducted on October 16 to December 10, 2018 on VCT Beringin at the Manokwari Hospital with a population of all VCT clients who visited and enrolled in a banyan VCT at the Manokwari Hospital who and a total sample of 89 people in total sampling. Data were obtained using a questionnaire and analyzed using the chi square test and binary logistic regression.

**Research results::** Risk factors obtained for HIV infection at a young age at the VCT clinic at Manokwari Hospital in West Papua Province are age p value 0.045; Rp = 1,750; CI95% = (1,096-2,793), gender p value 0,000; Rp = 0.108; CI95% = (0,036-0,326), education p value 0,000; Rp = 0.332; CI95% = (0,211-0,522), residence status p value 0,000; Rp = 2,595; CI95% = (1,532-4,395), parent relations p value 0,000; Rp = 2,702; CI95% = (1,701-4,290), family supervision p value 0,000; Rp = 2,859; CI95% = (1,783-4,584), peer influence 0.129; Rp = 0.623; CI95% = (0.354-1.094), media influence p value 0.021; RP = 2,012; CI95% = (1,113-3,635), use of materials (cigarettes, alcohol and syringes) p value 0.060; RP = 1,726; CI95% = (1,014-2,937), the effect of risk behavior 0.342; Rp = 1,342; CI95% = (0.814-2.214). The dominant factor associated with HIV infection at a young age in the VCT clinic at the Manokwari Hospital in West Papua Province is gender

**Keyword:** HIV, VCT clinic in Manokwari Hospital West Papua Province.

## 1. INTRODUCTION

Human immunodeficiency and AIDS (acquired immunodeficiency syndrome) are currently the biggest health problems in the world. Based on data published by the Joint United Nation On HIV / AIDS (UNAIDS) Program, at the end of 2010, there were an estimated 34 million

people living with HIV 1.8 million died of HIV infection and 2.7 new infections occurred in 2010 ( UNAIDS, 2011). In Indonesia, the Directorate General of Disease Control and Environmental Health (DG P2PL) report of the Ministry of Health of the Republic of Indonesia (RI) shows that cumulatively (data from 1987) to June

2011) the number of HIV cases was 66,693 cases with 26,483 of them experiencing AIDS and the number of deaths was 5,056 (Directorate General P2PL, 2011). When referring to the peak theory of Mount ES, it is estimated that cases revealed until 2010 have only reached 43% of all infected people (KPAN, 2010). Epidemically, in Indonesia the highest proportion of cumulative AIDS cases is reported in the age group 20- 29 years (46.4%). The proportion based on the latest data (April-June 2011) is still the highest at 36.4%. Manokwari Regency is one of the districts in West Papua-Indonesia province which has the most HIV cases with a cumulative number until June 2011 is 1,217, while AIDS cases in Manokwari Regency are 18.87 per 100,000 population, higher than the national figure (11.09 per 100,000 (Directorate General P2PL, 2011).

Based on data from the Manokwari District Health Office, it was found that the number of AIDS cases in Manokwari Regency increased every year, even the report of the month per October 2018 showed a significant increase in cases of 131 cases, bringing the total AIDS cases to 673 cases. Epidemic data from the results of the voluntary counseling testing (VCT) in Manokwari District during 2018 showed that 9.7 baru new patients were aged 15-24 years. AIDS, in addition to diseases caused by viruses, is also a behavioral disease, because most sufferers throughout the world get the disease through sexual intercourse (70-80%) and drug abuse (10%).

This is not much different from the incidence of HIV in Indonesia until June 2011, which was transmitted through Heterosexual relationships (54,8% and injecting narcotics (36,3%) (DG P2PL, 2011). Likewise, transmission of HIV / AIDS at a young age, some large through heterosexual pathways and the use of non-sterile syringes alternately (UNAIDS, 2003). AIDS incidence at a young age is the result of infection that occurs in adolescence (Boyer & Kegeles, 1991). Youth is a period of sexual exploration, according to freedom

and involvement in behaviors full of risks which, if they do not register accurate information about sexuality in general and specifically about HIV / AIDS, will put them at risk of pregnancy and also my risk of contracting sexually transmitted diseases (STDs) including HIV (Stoley And Glass, 2009).

Social or community factors also influence their closeness to behaviors at risk of contracting HIV or sexually transmitted diseases (Borek, Allison & Caceres, 2010). In addition, social, cultural, economic and political environmental factors in the form of poverty, migration, urbanization, war, civil disturbances make adolescents vulnerable to contracting HIV (Aggeloton & Rivers, 2002) and information and communication technologies make it easier for them to access things that encourage the desire to behave deviant (Whiteley et al., 2011).

Factors of behavior, environment and characteristics and HIV events in Manokwari found several factors that based on the survey by the Institute for Love and Humanity Studies, as well as the Business and Humanities Training Center (LSCKPUSBIH) during 1999-2002, there were 97% female students in the area losing virginity. This indicates that the lives of young people in Manokwari are quite vulnerable to risky sexual behavior. Environmental factors that can be an enabling factor are ease of access to middle class prostitution. Other supporting factors are fairly high migration, ease of internet access and increasing unemployment (Yulianingsih, 2010; Mallongi A, et.al., 2014; 2015; Birawida, et.al., 2018), if said by gender roles it results in an increasing number of female CSW workers (Sattenspiel, 2000).

Based on data from the Directorate General of P2PL, from October 2018 to June 2011, from the VCT clinic at the Manokwari Hospital, there were 592 people who visited, 495 of whom attended the post test and found 89 HIV positive people (8,7%) at the age of 15-29 year. The data

has not been analyzed as an effort to determine the determinant and risk factors for HIV incidence, especially among young people who are one of the vulnerable populations, both because of individual and family characteristics, media influence, peer influence, material use and risky behavior.

## 2. MATERIALS AND METHODS

### 2.1. Type of Research

This study is an observational analytic study. Observational analytic research is a study that aims to find relationships between variables by analyzing the data that has been collected. This study uses the Cross Sectional approach, namely by measuring the independent variables and dependent variables only once at the same time (Notoatmodjo, 2012).

### 2.2. Location and Time of Research

This research was conducted on Banyan VCT at Manokwari Hospital on 16 October to 10 December 2018.

### 2.3. Population and Samples

#### a. Research population

The populations in this study were all VCT clients who visited and were enrolled in the banyan VCT of Manokwari Hospital, which numbered 89 people.

#### b. Samples

The sample is part of the number and characteristics possessed by the population (Sugiyono, 2012). The sample size used a saturated sampling technique with a total of 89 people. The sampling technique uses purposive sampling, namely:

#### Inclusion criteria

This study which became the inclusion criteria was

- 1) Willing to be a respondent.
- 2) Being in the VCT room at the Manokwari Hospital at the time of the study.

#### b. Exclusion criteria

- 1) Not Willing to Be a Respondent
- 2) Respondents are unable to attend or not at the place when data collection is conducted.
- 3) Respondents cancel their willingness to become research samples.

## 3. RESULTS

### Bivariate Analysis

#### a. Relationship of risk factors characteristic of individuals with HIV infection at a young age.

Table 1 Relationship of age with HIV infection at a young age in the clinic VCT Hospital of Manokwari District of West Papua Province in 2018.

Age	HIV infection				Total	
	Positive		Negative			
	f	%	F	%	f	%
15-20 year	16	59,3	11	40,7	27	100
21-29 year	21	33,9	41	66,1	62	100
	37	41,6	52	58,4	89	100
<i>p</i> = 0,045; RP = 1,750; CI95%=(1,096-2,793)						

Table 1 above shows that 27 people aged 15-20 years were 16 people (59.3%) positive for HIV infection and 11 people (40.7%) were negative for not being infected with HIV. While of 62 people aged 21-29 years there were 21 people (33.9%) positive for HIV infection and 41 people (66.1) negative were not infected with HIV. The chi-square statistical test results at a significance value of 95% ((= 0.05) obtained *p* value = 0.045 <= 0.05. This means there is no age relationship with HIV infection at a young age in the VCT clinic at the Manokwari District Hospital in West Papua Province. The results of the value of RP = 1,750; CI95% = (1,096-2,793), indicating that respondents aged 15-20 years had a tendency to be infected with HIV 2,713 times higher than respondents aged 21-29 years.

#### b. Sex relations with HIV infection at a young age.

Table 2 Sex relations with HIV infection at a young age at VCT clinic in Manokwari District Hospital West Papua Province in 2018.

Sex	HIV infection				Total	
	Positive		Negative			
	F	%	f	%	f	%
Male	3	7,5	37	92,5	40	100
Female	34	69,4	15	30,6	49	100
Total	37	41,6	52	58,4	89	100
<i>p</i> = 0,000; RP = 0,108; CI95%=(0,036-0,326)						

Table 2 above shows that out of 40 men of 3 people (7.5%) were positive for HIV infection and 37 people (92.5%) were negative for HIV infection. Whereas from 49 people with female sex there were 34 people (69.4%) positive for HIV infection

and 15 people (30.6%) negatively not infected with HIV. The results of the chi-square statistical test at a significance value of 95% ( $\alpha = 0.05$ ) obtained a p value =  $0,000 < \alpha = 0.05$ . This means there is a sex relationship with HIV infection at a young age in the VCT clinic at the Manokwari District Hospital in West Papua Province. The results of the value of  $RP = 0.108$ ;  $CI95\% = (0.036-0,326)$ , indicating that respondents who were female had a tendency to be infected with HIV 0.108 times lower than respondents who were male.

**c. Educational relationship with HIV infection at a young age.**

Table 3 Educational relationships with HIV infection at a young age at VCT clinic in Manokwari District Hospital West Papua Province in 2018.

Education	HIV infection				Total	
	Positive		Negative		F	%
	f	%	f	%		
Low	17	26,2	47	73,4	64	100
High	20	80,0	5	20,0	25	100
Total	37	41,6	52	58,4	89	100
$p = 0,000$ ; $RP = 0,332$ ; $CI95\%=(0,211-0,522)$						

Table 3 above shows that out of 64 people with low education there are 17 people (26.6%) positive for HIV infection and 47 people (73.4%) negative for not being infected with HIV. Whereas from 25 highly educated people there were 20 people (80.0%) positive for HIV infection and 5 people (20.0%) negatively not infected with HIV. The results of the chi-square statistical test at a significance value of 95% ( $\alpha = 0.05$ ) obtained a p value =  $0,000 < \alpha = 0.05$ . This means that there is an educational relationship with HIV infection at a young age in the VCT clinic at the Manokwari District Hospital in West Papua Province. The results of the value of  $RP = 0.332$ ;  $CI95\% = (0,211-0,522)$ , indicating that respondents with low education had a tendency to be infected with HIV 0.332 times lower than respondents who were highly educated.

**d. Relationship between residence status and HIV infection at a young age.**

Table 4. Relationship between residence status and HIV infection at age young at the VCT clinic at the Manokwari District Hospital in West Papua Province in 2018.

Home status	HIV infection				Total	
	Positive		Negative		f	%
	f	%	f	%		
Family home and parent	24	64,9	13	35,1	37	100
Flat, contract	13	25,0	39	75,0	52	100
Total	37	41,6	52	58,4	89	100
$p = 0,000$ ; $RP = 2,595$ ; $CI95\%=(1,532-4,395)$						

Table 4 above shows that of the 37 people living in family homes and parents' homes there were 24 people (64.9%) positive for HIV infection and 13 people (25.0%) negatively not infected with HIV. While of the 52 people living in boarding houses, dormitories and rented houses there were 13 people (25.0%) positive for HIV infection and 39 people (75.0%) negative for not being infected with HIV. The results of the chi-square statistical test at a significance value of 95% ( $\alpha = 0.05$ ) obtained a p value =  $0,000 < \alpha = 0.05$ . This means that there is a relationship between residence status and HIV infection at a young age in the VCT clinic at the Manokwari District Hospital in West Papua Province. The results of the value of  $RP = 2.595$ ;  $CI95\% = (1,532-4,395)$ , indicating that respondents who live in boarding houses, dormitories and rented houses tend to be infected with HIV 2,595 times higher than respondents who live in family homes and parents' homes.

**e. Relationship between parents and HIV infection at a young age.**

Table 5 Relationships of parents with HIV infection at a young age at VCT clinic in Manokwari District Hospital West Papua Province in 2018

Parent relationship	HIV infection				Total	
	Positive		Negative		f	%
	F	%	f	%		
Less	20	74,1	7	25,9	27	100
Good	17	27,4	45	72,6	62	100
Total	37	41,6	52	58,4	89	100
$p = 0,000$ ; $RP = 2,702$ ; $CI95\%=(1,701-4,290)$						

Table 5 above shows that of the 27 people with parental relationships there were 20 people (74.1%) positive for HIV infection and 7 people (25.9%) negatively infected with HIV. Whereas from 62 people with good parent relations there were 17 people (27.4%) who were positively infected with HIV and 45 people (72.6%)

were negative not infected with HIV. The results of the chi-square statistical test at a significance value of 95% ( $\alpha = 0.05$ ) obtained a p value = 0,000  $< \alpha = 0.05$ . This means that there is a relationship between parents and HIV infection at a young age in the VCT clinic at the Manokwari District Hospital in West Papua Province. The result of the value of RP = 2,702; CI95% = (1,701-4,290), indicating that respondents who had a relationship with parents had less tendency to be infected with HIV 2,702 times higher than respondents who were good in relationships with parents.

**f. Relationship between family supervision and HIV infection at a young age.**

**Table 6 Relationship between family supervision and HIV infection at age young at the VCT clinic at the Manokwari District Hospital in West Papua Province in 2018.**

Family supervision	HIV infection				Total	
	Positive		Negative		f	%
	f	%	f	%		
Less	21	75,0	7	25,0	28	100
Good	16	26,2	45	73,8	61	100
Total	37	41,6	52	58,4	89	100

$p = 0,000$ ; RP = 2,859; CI95%=(1,783-4,584)

Table 6 above shows that out of 28 people with family supervision there are 21 people (82.1%) positive for HIV infection and 7 people (25.0%) negatively not infected with HIV. Whereas from 61 people with good family supervision there were 16 people (26.2%) positive for HIV infection and 45 people (73.8%) negatively not infected with HIV. The results of the chi-square statistical test at a significance value of 95% ( $\alpha = 0.05$ ) obtained a p value = 0,000  $< \alpha = 0.05$ . This means that there is a relationship between family supervision and HIV infection at a young age in the VCT clinic at the Manokwari District Hospital in West Papua Province. The results of the value of RP = 2,859; CI95% = (1,783-4,584) shows that respondents with supervision of families who lack the tendency to be infected with HIV 2,859 times higher than respondents with good family supervision.

**5. CONCLUSION**

The results of this study can be concluded that the significant factors and dominant

factors associated with HIV infection at a young age are as follows:

1. There is a relationship between age and HIV infection at a young age as a result of the prevalence ratio test of RP = 1,750; CI95% = (1,096-2,793).
2. There is a sex relationship with HIV infection at a young age as a result of the prevalence ratio test of RP = 0.108; CI95% = (0,036-0,326).
3. There is an educational relationship with HIV infection at a young age as a result of the prevalence ratio test of RP = 0.332; CI95% = (0,211-0,522).
4. There is a relationship between residence status and HIV infection at a young age as a result of the prevalence ratio test of RP = 2,595; CI95% = (1,532-4,395).
5. There is a relationship between parents and HIV infection at a young age as a result of the prevalence ratio test of RP = 2,702; CI95% = (1,701-4,290).
6. There is a relationship between family supervision and HIV infection at a young age as a result of the prevalence ratio test of RP = 2,859; CI95% = (1,783-4,584).

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