

## Original Research Article

# The influence of knowledge and attitudes about HIV/AIDS on adolescent sexual behaviour during the COVID-19 pandemic in Jayapura, Papua

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### ABSTRACT

**Background:** The prevalence of HIV/AIDS in Indonesia reached more than 500,000 cases. Cases of 36,997 in Papua province, is in the top three. This condition is especially in teenagers, it has an impact on the quality of future human resources. Free sex behavior causes extramarital relationships in teenagers so the transmission of this is faster. The purpose of the study was to determine the effect of teenagers knowledge and attitudes about HIV/AIDS on teenagers sexual behavior.

**Methods:** The design that used cross sectional. The population is all students of SMAN 4 Jayapura-Papua. The sampling method is purposive sampling. Inclusion criteria: Students of SMAN 4 Jayapura-Papua, Willing to be respondents by filling in and agreeing and signing the informed consent. Exclusion criteria: not willing to be respondents. Data collection was conducted for 2 months (June - July). Early research was conducted at SMAN 4 Jayapura, and before the research was conducted, validity and reliability tests were conducted on 20 respondents. Statistical tool (software) used to analyse the data with SPSS. Multivariate and logistic regression analyzed, statistical tests using ANOVA with a significance level of  $p < 0.05$ .

**Results:** From 539, 58.6% of female respondents, 50.1% protestant, 43% father's job is self-employed, 54.2% mother is unemployed, father and mother's education are above high school, good communication in family, 78.7% less than 3 siblings, 64.6% source of information from the media, knowledge about HIV/AIDS is deficient (59.9%), attitude is deficient (58.6%) and sexual behavior of teenagers is 97% deficient. Relationship between knowledge and behavior  $p=0.964$ , Odds Ratio (OR)=1.169. Multivariate modeling of the influence of knowledge and attitude on sexual behavior OR=0.773 and 0.518.

**Conclusions:** The influence of knowledge and attitude about HIV/AIDS on teenagers sexual behavior during the Covid-19 pandemic, was not significant and knowledge dominantly influence on sexual behavior.

**Keywords:** Human immunodeficiency virus-acquired immune deficiency syndrome, Teenagers, Knowledge, Attitudes, Sexual behavior

### INTRODUCTION

Human immunodeficiency virus-acquired immune deficiency syndrome (HIV/AIDS) in Indonesia has increased from year to year. At the end of September

2014, there were 150,285 cases of HIV/AIDS and 55,799 AIDS cases spread across Indonesia. The five provinces with the highest HIV/AIDS prevalence in order are DKI Jakarta 232,782 cases of HIV/AIDS and 7477 cases of AIDS, East Java 19,249 cases of HIV/AIDS and 8,976

cases of AIDS, Papua 16,051 cases of HIV/AIDS and 10,184 cases of AIDS, West Java 13,507 cases of HIV/AIDS and 4,191 cases of AIDS. Papua is one of the provinces in Indonesia with 36,997 HIV/AIDS cases, ranking third after East Java and DKI Jakarta.<sup>1</sup>

There has been an increase in cases from In June 2019, the number of HIV/AIDS sufferers was 349,883 and the number of HIV/AIDS cases during the Covid-19 pandemic increased in the second quarter of 2020 to 543,100.<sup>1</sup> HIV/AIDS is a virus that attacks the immune system which then weakens the body's ability to fight infections and diseases, if not treated properly causes AIDS. In this condition the sufferer is unable to fight various infections. AIDS is a collection of symptoms of the disease due to the body's immune system not working. And treatment for HIV/AIDS has not been found.<sup>2</sup>

During teenagers, there are physical, behavioral, psychological, social, biological and emotional changes. Physical changes are faster than psychological maturity, so that emotional confusion arises. Biological changes and changes in sexual hormones encourage teenagers to engage in sexual behavior and begin to be attracted to the opposite sex. Lack of knowledge and sexual behavior of teenagers about the impact, causes of HIV/AIDS, reproductive health, free sex can cause teenagers to be easily infected.<sup>1,3,4</sup> The purpose of the study was to determine the effect of teenager's knowledge and attitudes about HIV/AIDS on teenager sexual behavior.

**METHODS**

This research is research analytic to determine the influence of Knowledge and Attitudes about HIV/AIDS on Teenagers Sexual Behavior during the COVID-19 Pandemic at SMAN 4 Jayapura, Papua. The design that used cross sectional. The population is all students of SMAN 4 Jayapura- Papua. The sampling method is purposive sampling.

**Inclusion criteria**

Students of SMAN 4 Jayapura-Papua, Willing to be respondents by filling in and agreeing and signing the informed consent.

**Exclusion criteria**

Not willing to be respondents. Data collection was conducted for 2 months (June-July). Early research was conducted at SMAN 4 Jayapura, and before the research was conducted, validity and reliability tests were conducted on 20 respondents.

**RESULTS**

**Univariate analysis**

From the Table 1, it can be seen that the gender of female respondents is 58.6% and male 41.4%, while based on religion, Hindu respondents are 1.1%, Islam 41.2%, Catholic 7.6%, Protestant 50.1%. Based on the father's occupation, most of the respondents are self-employed at 43%, then PNS/TNI/Polri/BUMN 39.5%, unemployed 10.8%, laborers/drivers/housewives 5.8% while private employees 0.9%. The father's education referred to for elementary school, junior high school, and high school is graduated and not graduated.

Elementary school 8.2%, junior high school 3.7%, high school 40.1%, Diploma 6.7%, S1 28.9%, S2 10.9% and S3 1.5%. Respondents' mothers' jobs were mostly unemployed 54.2%, then PNS/TNI/Polri/BUMN 25.2%, self-employed 18.7% while laborers/drivers/housewives and private employees were each 0.9%. Respondents' mothers' education for elementary school 9.3%, junior high school 5.6%, high school 43.4% Diploma 9.3%, S1 23.6%, S2 9.1% and S3 0.9%.

The relationship between father and mother in daily life is harmonious at 90.9% and not harmonious at 9.1%, while communication between father and mother is deficient at 9.5% and good at 90.5%.

Meanwhile, the number of people in one house in the form of the number of siblings from respondents who are ≤ 3 people is 78.7% and above 3 people is 21.3%. The sources of information obtained by respondents through the media were 64.6%, followed by teachers 25%, parents 8.2%, others 1.5%, and religious leaders 0.7%.

**Table 1: Distribution of respondent characteristics of students of SMAN Jayapura, Papua (n=539).**

Socio demography	N	%
<b>Sex</b>		
Male	223	41.4
Female	316	58.6
<b>Religion</b>		
Hindus	6	1.1
Moslem	222	41.2
Catholic	41	7.6
Protestant	270	50.1
<b>Father job</b>		

Continued.

<b>Socio demography</b>	<b>N</b>	<b>%</b>
Labor	31	5.8
Private employees	5	0.9
State official	213	39.5
Self-employed	232	43.0
Other	58	10.8
<b>Education</b>		
Elementary	44	8.2
Junior high school	20	3.7
Senior high school	216	40.1
Diploma	36	6.7
S1	156	28.9
S2 (magister)	59	10.9
S3 (doctor)	8	1.5
<b>Mother job</b>		
Labor	5	0.9
Private employees	5	0.9
State official	136	25.2
Self-employed	101	18.7
Other	292	54.2
<b>Education</b>		
Elementary	50	9.3
Junior high school	30	5.6
Senior high school	234	43.4
Diploma	50	9.3
S1	127	23.6
S2 (magister)	49	9.1
S3 (doctor)	5	0.9
<b>Father and mother relationship</b>		
Good relationship	490	90.9
Bad relationship	49	9.1
<b>Father and mother communication</b>		
Bad communication	51	9.5
Good communication	488	90.5
<b>Number of relations</b>		
≤ 3	424	78.7
> 3	115	21.3
<b>Resources of HIV/AIDS</b>		
Teacher	135	25.0
Parents	44	8.2
Religious leader	4	0.7
Media	348	64.6

**Table 2: Distribution of respondent characteristics of students of SMAN 4 Jayapura, Papua (n=539).**

	<b>N</b>	<b>%</b>
<b>Knowledge HIV/AIDS</b>		
Deficient	323	59.9
Sufficient	216	40.1
<b>Attitude to HIV/AIDS</b>		
Deficient	316	58.6
Sufficient	223	41.1
<b>Behavior to sexual for teenage</b>		
Deficient	523	97.0
Sufficient	16	3.0

**Table 3: Distribution of the influence of knowledge on behaviour respondents were students of SMAN 4 Jayapura. Papua (n=539).**

Knowledge	Teenager's sexual behavior				P value	R (95% CI)
	Good		Not enough			
	N	%	N	%		
<b>Good</b>	7	3.2	209	96.8	0.964	1.169 (0.429-3.186)
<b>Not enough</b>	9	2.8	314	97.2		

**Table 4: Distribution of multivariate modeling results of the influence of knowledge attitudes towards sexual behavior of respondents of students of SMAN 4 Jayapura. Papua (n=539).**

	B	Wald	Sig.	OR	95.0% CI	
					Lower	Upper
<b>Knowledge</b>	-0.258	0.247	0.619	0.773	0.279	2.137
<b>Attitude</b>	-0.658	1.612	0.204	0.518	0.188	1.43

Meanwhile, knowledge about HIV/AIDS that is deficient is 59.9% and sufficient is 40.1%. And attitudes about HIV/AIDS that are deficient are 58.6% and sufficient are 41.4%. Behavior about teenagers sexuality that is deficient is 97% and sufficient is 3%.

**Bivariate analysis**

Based on table 2, the results of the analysis of the relationship between knowledge status and behavior showed that 209 (96.8%) were seen to have good knowledge but 314 (97.2%) had poor behavior. Meanwhile, among the 314 respondents (97.2%) they had poor knowledge and poor behavior.

The results of the statistical test with chi-square obtained a p value=0.964, where p value>0.05 then it can be concluded that there is no difference in the proportion of occurrence of poor behavior between respondents with good knowledge and those with poor knowledge (there is no significant relationship between knowledge and behavior).

From the analysis results, the value was also obtained odds ratio (OR)=1.169 means that respondents with good knowledge have a 1.2 times greater chance of behaving less well. students of SMAN IV Jayapura.

**Multivariate analysis**

The results of the multivariate analysis to see the joint influence of independent variables on the dependent variable, -2 log likelihood 142.348, there is a decrease in log likelihood from the interaction history table 144.068, meaning the logistic regression model is good, so the analysis can be continued for modeling.

From Table 3 above, it can be seen that knowledge has a p value=0.619, OR=0.773 with 95% CI (0.279-2.137), meaning that knowledge does not have a significant effect on sexual behavior.

Attitude has a p value=0.204, OR=0.518 with 95% CI (0.188-1.430) meaning that attitude does not have a significant effect on sexual behavior. The results of the statistical test indicate that knowledge has a more dominant effect on sexual behavior (OR=0.773).

**DISCUSSION**

**Socio-demographics**

From the research results, it was found that most of the parents' education was well educated (high school and above), namely fathers (88.1%) and mothers (85.1%), as well as good harmony (90.9%) and communication (90.5%) between fathers and mothers. This does not reflect good knowledge and attitudes about HIV/AIDS and teenagers sexual behavior.

Based on research conducted in Papua, respondents who behaved less sexually, were mostly found in the group of respondents exposed to social media with sexual content as many as 348 (64.6%). Most of the teenage students of SMAN IV Jayapura, Papua behaved less sexually as many as 523 (97%) students. The assumption found that there is a possibility of a link between sexual behavior influenced by social media with sexual content, so further research is needed. According to research by in Bali, it shows that there is a significant relationship between the frequency of exposure to pornographic media and teenagers sexual behavior.<sup>27</sup>

**Knowledge**

Based on the frequency distribution of knowledge about sexuality at risk of HIV AIDS, the percentage of respondents with good knowledge was 216 (40.1%) and the percentage of respondents with poor knowledge was 323 (59.9%). From the results analysis of this research show that respondents who have good sexual knowledge are found in the respondent group with sexual behavior good namely 7 (3.2 %) but many also found respondent

with level knowledge sexual less than 314 (97.2 %). However, behave sexual good 9 (2.8 %), so that no relationship pattern is formed between knowledge and students' sexual behavior. And this proven by the results of the bivariate statistical test, the results of the relationship between the two variables were not significant ( $p > 0.05$ ). Thus, it can be concluded that there is no significant relationship between knowledge about HIV/AIDS and sexual behavior, at risk of HIV/AIDS in students of Senior High School IV in Jayapura/Papua. Different from the results study on premarital sexual behavior of teenagers, with amount sample of 79 students where there was a relationship between knowledge and risky sexual behavior regarding HIV/AIDS.

The theory of knowledge or cognitive is a very important domain in shaping a person's behavior (overt behavior). A person behaves because of the knowledge and attitudes he has. Knowledge sexual give positive aspects and negative to attitude someone. The more lots aspect positive and the object it knows, will cause an increasingly attitude positive. According to Secord et al and Backman et al states that " attitude is a certain regularity in terms of feelings (affection), thoughts (cognition), and predisposition to action (conation) of a person towards an aspect of their surrounding environment."<sup>28,28</sup>

Like known that teenager's sexual behavior is influenced by biological, social, psychological and cultural dimensions, besides knowledge and attitude. However objective study This analyze connection knowledge and attitude about HIV/AIDS against behavior sexual teenagers at risk of HIV/AIDS.

### **Attitude**

Based on the frequency distribution of sexual attitudes at risk of HIV/AIDS, percentage attitude good sexual 223 and attitude percentage less sexual as much as 316 students. Results analysis attitude to behavior, shows that respondents have good sexual attitudes and behave Good namely 9 (1.7%).

While those who have an attitude good and behave not enough 214 (39.7%). Respondents with attitude not enough to sexual and behave sexual good 7 (1.3%), while those who had a negative attitude not enough and behave not enough only 309 (57.3%). From the data analysis there is no pattern of relationship between attitudes and students' sexual behavior. And this proven by the results of bivariate statistical tests the results obtained showed that the relationship between the two variables was not significant ( $p > 0.05$ ) students of senior high school IV in Jayapura/Papua.

Different from the research by that there is significant relation between attitude and behavior. However, the result of, that there is a significant relation between knowledge and attitude of HIV/AIDS among the teenagers at Boyolali regency.<sup>30,31</sup> Research result from

show that there is correlation between adolescent knowledge about premarital sex and the attitude of preventing HIV/AIDS transmission at SMK N 1 Pringapus.<sup>32</sup>

### **Knowledge and attitudes towards behavior**

In this study, knowledge give aspect positive to attitude sexuality. This is seen of the total number of respondents, the majority have good knowledge about HIV/AIDS namely 216 (40.1%) students and also the majority of 223 (41.4%) students have a good attitude towards sexual, but no relate with behavior sexual at risk of HIV/AIDS.

The attitude carried out by individuals influences a person's behavior, the influence lies in a person's self towards the response captured, the tendency of individuals to take action is influenced by innate factors and the environment that causes behavior. However, in this study, there was no significant relationship between attitudes and behavior, this is possible because the method of data collection using forms via the internet (Google-form) and less effective communication due to distance and the conditions of the COVID-19 pandemic.

Result study from, there is a significant relationship between the level of knowledge and attitudes towards preventing HIV/AIDS among teenagers at SMA Negeri I Cirebon.<sup>33</sup> Using the same method as the result show different outcome, showed that the attitude and behavior is in the good category, so there is a significant relation between good knowledge and attitude-behavior. Result indicates that the preventing HIV/AIDS can be done through the change of behavior is by increasing the knowledge and attitude continuously.<sup>34</sup>

## **CONCLUSION**

Teenagers are the future of the nation, if infected with HIV/AIDS it can disrupt and even ruin their future and life. While knowledge and attitudes can influence adolescent behavior. The reality of this study, there is no relationship between knowledge and attitudes about HIV/AIDS and adolescent behavior. It is known that adolescent sexual behavior is influenced by biological, psychological, cultural and social dimensions, especially social media, in addition to knowledge and attitudes

### **Recommendations**

Based on the results above, further research is needed on the determinant factors and how the stigma of adolescents, parents and teachers about HIV/AIDS in Papua through quantitative and qualitative studies.

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