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DETERMINANTS OF HIV/AIDS AWARENESS AND KNOWLEDGE IN TANAH PAPUA, INDONESIA

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INTRODUCTION

Human Immunodeficiency Virus (HIV) infection has been a major global health issue. HIV infection not only affects the health of a population, but also significantly impacts the economic and social environment as well[6]. In Indonesia, the prevalence of HIV infection among 15-49 year olds was estimated around 0.4% in 2013[8]. However, across two provinces in Tanah Papua, namely West Papua and Papua, the epidemic was extremely high with HIV prevalence at 2.3% among general population which categorized as a generalized population epidemic level, based on WHO classification[8]. The high HIV prevalence in Tanah Papua suggests the need for prevention strategies that consider the local context. One of strategies for HIV prevention programs is to assess HIV/AIDS knowledge of populations[14].

Knowledge on HIV and AIDS is an important prerequisite for the adoption of behavioural changes to prevent the risk of HIV transmission[4]. Assessing factors that contribute to the perceived knowledge of HIV/AIDS is essential to prioritize and deliver effective HIV prevention programs in Tanah Papua. HIV knowledge has been shown to be determined by wider societal aspects such as, socioeconomic status, social networks and community characteristics[9,13]. Understanding the association of these factors are important aspects to consider when designing HIV prevention programs in communities. Such studies can be useful for HIV/AIDS service providers better understand the mechanism through which HIV/AIDS messages are transmitted and received by individuals in the community[9].

However, the literature on HIV/AIDS knowledge and its determinants in Tanah Papua, Indonesia is limited despite the relatively high prevalence of HIV in Tanah Papua. Previous studies on socioeconomic factors and HIV/AIDS knowledge in Indonesia are not comprehensive and only focus on the association between HIV/AIDS knowledge and individual socioeconomic characteristics in risky populations. Additionally, no studies have investigated the link between community socioeconomic characteristics, social capital and HIV/AIDS knowledge in these provinces.

Therefore, the aim of this study is to assess HIV/AIDS awareness and knowledge and to examine an association between individual characteristics, community participation, community characteristics and HIV/AIDS awareness and knowledge among 15 years older in Tanah Papua Indonesia.

STUDY DESIGN

This study analyzed data from a cross sectional household survey of the Indonesia Family Life Survey (IFLS) East 2012 for adults 15 years and older[12]. IFLS East 2012 provided data on broader socioeconomic aspect of the population and freely downloaded in the internet. This survey was run by the RAND Corporation in collaboration with Survey METER fielded on May-July 2012 from seven provinces in eastern part of Indonesia, including Papua and West Papua. A sample was selected using a four stage stratified clustered sampling method. In total, there were 1.515 adult who lived in 29 villages in Tanah Papua who took a part in the survey.

In IFLS East 2012, HIV/AIDS awareness and knowledge questions were a combination of close-ended and open-ended questions. HIV/AIDS awareness was measured using a question 'Have you ever heard of HIV/AIDS?'. Then, the respondents were asked about their general knowledge of HIV/AIDS. The respondents who answered "don't know" to this question were not asked further comprehensive knowledge. This study constructed an index to measure comprehensive knowledge among respondents who claimed to know something about HIV/AIDS.

Individual characteristics investigating the determinants of HIV/AIDS awareness and knowledge were sex, age, education, and household monthly per-capita expenditure. Community participation was measured on whether respondents participated in any community/government programs during the past 12 months. The determinants of HIV/AIDS awareness and knowledge were also examined using community characteristics. Community education was measured by a percentage of people in the community with primary education or lower. Community economy status was based on the percentage of people living in the second lowest quintile of per capita expenditure or lower. Residence was categorized into rural and urban area. The National AIDS case rate in 2012 (18.1/100,000) was a cut off to categorize communities as low and high district AIDS case rate.

Data was analyzed using the statistical software SPSS 20 and 1478 were eligible to be included in the analyses. A logistic regression was performed to identify factors associated with HIV/AIDS awareness and the likelihood of having some knowledge about HIV/AIDS. Among the 762 participants who had some knowledge about HIV/AIDS, a multiple regression was performed to examine the determinants of comprehensive HIV/AIDS knowledge. The results were considered significant when $p < 0.05$.

RESULT

Description of Study Population

From the IFLS East 2012 data set, there were 1, 478 participants 15 years and older in Tanah Papua who completed variables of interest in this study. As presented in Table 1, 52% of the sample was female and dominated by productive age groups. The data shows 13.3 % of the adults in this study had never attended school and they participated in average of 3 community activities. People in this study lived in a community where on average 43% of people had primary education or lower. Respondents in this study mostly lived in rural areas with only 28.3% of them living in urban area. More than half of the people in this study lived in districts where AIDS prevalence was high and 48.7% of them lived in districts with low AIDS case rates.

Table 4.1 Descriptive statistic of the population (N=1478)

Individual characteristics	%	Mean
Sex		
Female	52.0	
Male	48.0	
Age		
15-24	19.0	
25-44	52.2	
45-64	24.4	
65 +	4.4	
Education		
No education	13.3	
Primary	29.7	
Secondary-Junior	17.7	
Secondary-Senior	28.7	
Tertiary	10.6	
Monthly household per capita expenditure (Indonesia Rupiah (IDR))		
Q1: 142,047 – 539,005	20.0	
Q2: 539,006 - 800,763	20.2	
Q3: 800,763 - 1,195,966	20.0	
Q4: 1,195,966 - 1,808,638	20.0	
Q5: 1,808,638 - 8,458,666	19.9	
Community Participation		3
Community Characteristics		
Community education (≤ primary school)		43%
Community economy (≤ Q2)		39%
Area	71.7	
Rural	28.3	
Urban		
Districts AIDS case rate/100, 000	48.7	
Low (≤ 18.1)	51.3	
High (> 18.1)		

Description of HIV/AIDS Awareness and Knowledge

From the total 1478 participants, this study found that majority of them had heard about HIV/AIDS with only 22.7% having never heard about the disease as presented in Table 2. Almost half of the participants responded that they did not know anything about HIV/AIDS, even when they heard about this disease. The majority of people who knew about HIV/AIDS mentioned correctly about the disease and only few people showed misconception.

Table.2 Descriptive statistic of respondents' HIV/AIDS awareness and knowledge

No		%
1	Have you ever heard of HIV/AIDS? (N = 1478)	
	Yes	77.3
	No	22.7
	Total	**100**
2	What do you know about HIV/AIDS? (N = 1478)	
	Correct answers	
	Disease transmitted through contact with blood/needles/sexual	22.8
	Disease that cannot be cured	17.3
	Venereal disease	16.8
	Incorrect answers	
	Hereditary disease	1.6
	The curse of disease	1.4
	Other	10.5
	Don't know (no further questions)	48.4
3	Is it possible for a healthy looking person to have HIV/AIDS?(N=762)	
	Yes	79.9
	No	20.1
	Total	**100**
4	HIV infection can be transmitted through(N = 762)	
	Correct answers	84.8
	Sexual intercourse with multiple partners	39.2
	Through blood transfusion	24.8
	Needle, shaving equipment, nail cutters	6.3
	HIV transmission from mother to baby	
	Incorrect answers	13.5
	Using clothes/ utensils togethers	3.0
	By mosquitoes or other insects	13.5
	Other	4.7
	Don't know	
5	HIV infection can be prevented by….. (N = 762)	
	Correct answers	
	Sexual intercourse only with one partner	55.9
	Not use the same syringe interchangeably	35.0
	Abstaining	25.5
	Using a condom during intercourse	20.9
	Incorrect answers	
	Taking antibiotic/traditional herbs before sexual intercourse	2.6
	Eat nutritious foods	1.8
	Other	9.6
	Don't know	10.9

Most of people who claimed they knew about HIV/AIDS understood that people having HIV/AIDS

might look like healthy people. Majority of these respondents also mentioned correctly about the knowledge of HIV transmission and prevention. In this survey, the most common knowledge on HIV transmission and prevention method was related to sexual behavior. Interestingly, knowledge on HIV transmission from mother to baby was mentioned only by 6.3% of people who claimed to know about this disease. This percentage is even lower than the misconception that HIV can be transmitted through using clothes or utensils together with other uncategorized responses (13.5%).

Determinants of HIV/AIDS Awareness and *Having Some Knowledge about HIV/AIDS*

HIV/AIDS awareness was based on whether the respondents had heard about HIV/AIDS. As presented in Table 3, most of individual variables were associated with awareness except the individual economic status. In this study, all respondenta with a tertiary education background had heard about HIV/AIDS. Males, more educated, younger age group and more participated in community activities were more likely to have heard about HIV/AIDS.

Table 3. Binary logistic regression of determinants of HIV/AIDS awareness and having some knowledge about HIV/AIDS (N=1478)

Individual characteristics	Heard		Know something	
	OR	**Sig**	**OR**	**Sig**
Sex				
Female(Ref)				
Male	2.41	<0.001	1.24	0.147
Age				
15-24 (Ref)		0.004		0.015
25-44	1.07	0.790	0.92	0.659
45-64	0.60	0.050	0.63	0.045
65 +	0.39	0.019	0.34	0.009
Education				
No education(Ref)		<0.001		<0.001
Primary	1.42	0.133	2.70	0.010
Secondary-Junior	4.82	<0.001	8.30	<0.001
Secondary-Senior	19.88*	<0.001	17.78	<0.001
Tertiary			131.59	<0.001
Monthly household per capita expenditure		0.970		0.193
Q1 (Ref)	1.06	0.805	1.07	0.764
Q2	1.15	0.576	1.46	0.109
Q3	1.19	0.535	1.66	0.038
Q4	1.06	0.850	1.27	0.346
Q5				
Community Participation	1.17	<0.001	1.05	0.197
Community Characteristics				
Community education	0.97	<0.001	0.97	<0.001
Community economy	0.995	0.297	0.99	0.205
Area	2.21	0.034	0.999	0.996
Rural (Ref)				
Urban				
Districts AIDS case rate	0.995	0.980	0.72	0.027
Low (Ref)				
High				

Notes : Ref : Reference category, Sig p<0.05

*value of secondary-senior and tertiary education was combined during the analysis

Individuals living in the community with more educated people and in urban areaa was also significantly associated with more awareness of HIV/AIDS. Similar with HIV/AIDS awareness, age and education had a significant correlation with having some knowledge about HIV/AIDS although sex and the number community participations had no significant association with having some knowledge about HIV/AIDS. Unlike the awareness, individual per-capita expenditure had a significant association with having some knowledge of HIV/AIDS. The analysis shows that living in a more educated community and in districts with low AIDS case rate was significantly associated with that likelihood that participants reported having some knowledge about HIV/AIDS.

Determinants of Comprehensive Knowledge of HIV/AIDS

Among 762 people who have some knowledge about HIV/AIDS, the mean of HIV/AIDS knowledge index was 10.6 (SD=2.0)

Table 4. Descriptive statistic of population and multiple linear regression of determinants of comprehensive HIV/AIDS knowledge index (N=762)

Individual characteristics		Multiple regression	
	%	**B**	**Sig**
Sex			
Female(Ref)	47.6		
Male	52.4	0.13	0.375
Age			
15-24 (Ref)	3.7		
25-44	22.3	-0.003	0.988
45-64	57.5	-0.23	0.328
65 +	16.5	-0.30	0.562
Education			
No education(Ref)	1.2		
Primary	13.9	1.18	0.081
Secondary-Junior	20.3	1.70	0.011
Secondary-Senior	44.6	2.16	0.001
Tertiary	19.9	2.86	<0.001
Monthly household per capita expenditure			
Q1 (Ref)	13.1		
Q2	18.4	-0.30	0.254
Q3	20.7	-0.27	0.307
Q4	24.0	-0.25	0.343
Q5	23.8	-0.10	0.704
Community Participation	3	-0.07	0.056

Community Characteristics			
Community education	29.6	-0.002	0.777
Community economy	34.7	0.000	0.997
Area			
Rural (Ref)	55.4		
Urban	44.6	0.13	0.558
Districts AIDS case rate			
Low (Ref)	45.7		
High	54.3	0.35	0.016

As shown in Table 4.5, this study found that two independent variables were related to comprehensive knowledge of HIV/AIDS. These two variables were individual education level and district AIDS case.

DISCUSSION

In this study, individual education level is the only predictor that was statistically significant for all three HIV/AIDS awareness and knowledge outcomes. Across all the statistical models, an increase in education level is associated with an increase in HIV/AIDS awareness and knowledge. This may due to the fact that in 2009, HIV/AIDS program was a part of the school curriculum in Tanah Papua[10]. It seems that access to school provides not only exposure to more general information, but also more comprehensive information on HIV. Formal education in this region is also where people learn formal Indonesian language. West Papua and Papua have more than 260 different local languages[5,7]. The language barrier was also described as a potential problem for the HIV education program in Tanah Papua[7] and illustrates the link between education, literacy in Indonesian language and equitable access to information related to HIV/AIDS. However, providing information through the formal educational sector, while important, may misses many target population as almost half of the participants in the survey had no education or only a primary level.

Individuals with higher participation in community activities were more likely to have heard about HIV/AIDS, highlighting the potential importance of social networks. Social learning has been identified having an important role in many HIV prevention strategies[11]. Nonetheless, this study found no association between the number of community activities participated and HIV/AIDS knowledge. Similar findings have been reported in previous studies of women in Bangladesh where NGO membership was not related to HIV knowledge[9]. This finding may be due to the concept that these community activities were not providing information related to HIV/AIDS. Therefore, people may not receive further knowledge about HIV/AIDS and only give sense of awareness of the disease.

The links between neighbourhood or community characteristics and individual HIV/AIDS awareness and knowledge were found in this study. Living in the community where most of the members of the community are educated gives greater advantage to the individual to acquire more HIV knowledge. Individuals in more educated neighbourhoods gain more access to HIV/AIDS related information because of the association of the community network[9,13]. Living in urban areas was significantly associated with more awareness of HIV/AIDS, although it was not related with reported higher level of knowledge. This is possibly due to the lack access to information and health services in rural areas in Tanah Papua, Indonesia. The campaigns provide awareness but people may not have enough concern about this disease to further seekout HIV/AIDS information including HIV prevention or transmission methods.

CONCLUSION

This study found that although people have heard about the HIV/AIDS, almost half of the participants reported having no knowledge about this disease. Formal schooling played an important role in the level of HIV/AIDS knowledge. Given the low level of education in these provinces, it poses a particular challenge for policy makers and public health campaigns in Tanah Papua to find ways to effectively reach those people who have limited access to formal education. Broader approaches to address socioeconomic inequities especially in terms of access to formal education should also be targeted for the long term HIV/AIDS prevention strategies.

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