Knowledge and Attitude of Senior High School Students toward Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

Arnova Reswari,[1] Kuswandewi Mutyara,[2] Lynna Lidyana[3]
[1]Faculty of Medicine Universitas Padjadjaran, [2]Department of Public Health Faculty of Medicine, Universitas Padjadjaran, [3]Department of Psychiatry Faculty of Medicine Universitas Padjadjaran/ Dr. Hasan Sadikin General Hospital Bandung

Abstract

Background: Indonesia has experienced more than 25% rise of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) incidence. One of the provinces mostly affected is West Java. Proper knowledge of HIV/AIDS can develop attitude and practice to prevent the spread of HIV/AIDS, and in effect, its incidence. This study was conducted to describe the knowledge and attitude of Senior High School (Sekolah Menengah Atas, SMA) students toward HIV/AIDS.
Methods: This descriptive study was conducted using a cross-sectional method and used secondary data with total sampling technique, from Jatinangor Cohort Research Team of the Faculty of Medicine, Universitas Padjadjaran. The samples were obtained by stratified cluster random sampling. Two hundred and seventy seven students' knowledge and attitude were assessed in Senior High School in Jatinangor, on May 2013
Results: Senior High School students in Jatinangor mostly (50.2%) had a poor level of knowledge, yet 51.3% positive attitude toward HIV/AIDS. There were still misconception regarding transmission media of HIV/AIDS and mode of transmission HIV/AIDS. Information source on HIV/AIDS were teachers (96.4%), followed by television (93.5%), internet (86.6%), friends (84.8%), health workers (69.7%), newspapers (62.1%), parents (61%), magazines (55.2%), and radio (33.2%).
Conclusions: Although most of the Senior High School students in Jatinangor have a poor level of knowledge, they have a positive attitude toward HIV/AIDS. The main information source on HIV/AIDS is teacher. **[AMJ.2016;3(1):73–8]**

Keywords: Attitude, HIV/AIDS, Jatinangor, knowledge

Introduction

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) is a disease related to the decrease of immunological functions, and it has been a major problem in many countries.[1,2] According to the Joint United Nations Program on HIV/AIDS (UNAIDS) report in 2012, Indonesia was included into the group of nations that have experienced HIV incidence more than 25% on adults (15–49 years of age) from 2001 to 2011.[1] West Java is the province with the highest prevalence of AIDS in Indonesia after Papua, Jakarta Region, and East Java.[3] One of the methods to prevent HIV/AIDS is by improving knowledge and attitude which can help to decrease the incidence of HIV/AIDS.[4]

The spread of HIV/AIDS in society can be determined by individual knowledge and attitude towards HIV/AIDS. As such, before implementing a public health policy to prevent HIV/AIDS, much information is needed on the knowledge and attitude towards HIV/AIDS.[4] A study conducted in 2005 regarding the knowledge and attitude of society and students towards HIV/AIDS in Turkey, found a good level of knowledge to contribute a positive attitude towards HIV/AIDS.[5,6] In accordance to that fact, this study aimed to describe the knowledge and attitude of Senior High School (*Sekolah Menengah Atas,* SMA) students towards HIV/AIDS in Jatinangor, in 2013.

Methods

This descriptive study was conducted using

Correspondence: Arnova Reswari, Faculty of Medicine, Universitas Padjadjaran, Jalan Raya Bandung-Sumedang Km.21, Jatinangor, Sumedang, Indonesia, Phone: +62 89698281661 Email: arnovareswari.fkunpad@gmail.com

a cross-sectional method conducted in two Senior High School in Jatinangor, on May 2013. Total sampling was taken from Jatinangor Cohort Research Team of the Faculty of Medicine, Universitas Padjadjaran. Total respondents were the same as the total data appropriated by Jatinangor Cohort Research Team of the Faculty of Medicine, Universitas Padjadjaran, which were 277 respondents.

Samples were obtained by stratified cluster random sampling conducted at Jatinangor Cohort Research Team of the Faculty of Medicine, Universitas Padjadjaran. The first stage was to choose two schools from 10 Senior High Schools (Sekolah Menengah Atas, SMA) in Jatinangor subdistrict. The SMA Negeri Jatinangor and SMA PGRI Jatinangor were chosen. In each school, a randomized method was employed to pick the classes that were the samples for the study.

The study instrument was a questionnaire on knowledge and attitude prepared by the researcher. From the validation of the questionnaire, an alpha-cronbach value of 0.891 was retrieved. After signing an informed consent form, respondents would answer forty four questions in questionnaire, consisted of twenty seven questions on knowledge of HIV/AIDS, nine questions on information source on HIV/AIDS, and eight statements on attitude towards HIV/AIDS. For each question on knowledge, a correct answer was graded with value ten, while an incorrect answer or 'do not know' was graded zero; maximal grade in the knowledge questionnaire was 270, while the minimal was zero. The choices of information source on HIV/AIDS asked on the questionnaire were teachers, parents, health workers, friends, newspapers, magazines, television, radio, and internet. There were four positive attitude statements that were graded at thirty on strongly agree, twenty on agree, ten on disagree, and zero on strongly disagree. On the other hand, there were four negative attitude statements that were graded at zero on strongly agree, ten on agree, twenty on disagree, and thirty on strongly disagree. The maximal grade for the attitude questionnaire was 240, while the minimal was zero.

After a scoring process, the data distribution of knowledge and attitude using the Kolmogorov-Smirnov method was reviewed. The level of knowledge was divided into two groups, which were good knowledge and poor knowledge. The grouping of the respondent's knowledge level was based on the mean because the data distribution was normal (p-value was 0.116). The attitudes of the respondents were also grouped into positive attitude and negative attitude. The basis for this grouping was the median because the data distribution was not normal (p-value was 0.001).

Before conducting this study, ethical clearance was fulfilled to Health Research Ethics Committee by researcher and by Jatinangor Cohort Research Team of the Faculty of Medicine, Universitas Padjadjaran.

Results

Most students had a good knowledge on definition and causes of HIV/AIDS. As many as 219 respondents (79.1%) knew that HIV/AIDS attacked the immunological functions of a human body. As many as 253 respondents (91.3%) knew that HIV/AIDS was categorized as a sexually transmitted infection. More than 70% of respondents knew that HIV/AIDS was caused by a virus (Table 1).

Most respondents did not know the transmission media of HIV/AIDS. More than 65% of respondents knew that sperm, vaginal discharge, and blood were a transmission media of HIV/AIDS, but only 119 respondents answered that breast-milk was also a transmission media of HIV/AIDS. There were a few misconceptions on the transmission media of HIV/AIDS; some answered that tears, sweat, urine, saliva, and feces were transmission media of HIV/AIDS (Table 2).

The knowledge of respondents on mode transmission of HIV/AIDS was good, more than 80% of respondents knew that sexual

Table 1 Characteristics of Respondents

Variable	n (%)
Gender	
Male	115 (41.5)
Female	162 (58.5)
Senior High School	
SMA Negeri Jatinangor	199 (71.8)
SMA PGRI Jatinangor	78 (28.2)
Age	
15 years old	1 (0.4)
16 years old	41 (14.8)
17 years old	172 (62.1)
18 years old	61 (22.0)
19 years old	2 (0.7)

Table 2 Knowledge of Respondents on the Transmission Media of HIV/AIDS

The Transmission Media of HIV/AIDS	True	False	Do Not Know
	%	%	%
Tears	44	0.7	55.2
Sperm	81.2	0.7	18.1
Vaginal Discharge	68.6	1.1	30.3
Blood	66.4	5.4	28.2
Sweat	35.4	13	50.9
Urine	16.6	38.6	44.8
Breast-milk	43	12.6	44.4
Saliva	25.3	35	39.7
Feces	32.5	5.4	62.1

intercourse with HIV afflicted individuals, usage of intravenous needle shared with HIV afflicted individuals, and blood transfusion contaminated with HIV were modes transmission of HIV/AIDS. There were 162 respondents recognized that tattooing needle and piercing are were a mode transmission of HIV/AIDS. However, some had misconceptions on the mode transmission of HIV/AIDS, such as mosquito bite, hand shaking, hugging, mouth-to-mouth kissing, swimming in the same pool, and coughing/sneezing (Table 3).

The respondents' knowledge level on prevention of HIV/AIDS was also good. More than 80% of respondents knew that avoiding multi-partnered sexual relationship, be faithful with one partner, and avoiding intravenous drug abuse were methods to prevent HIV/AIDS (Table 4).

More than 80% respondents answered disagree and strongly disagree with negative statement that HIV/AIDS was a deprecation disease. Most respondents (74.3%) had a positive attitude on statement that using condom when sexual intercourse could prevent transmission of HIV/AIDS. More than 80% respondents also had positive attitude on statement that having sexual partner more than one and using injecting drug abuse could improve risk of transmission of HIV/AIDS. However, more than 50% respondents stated negative attitude toward statement that the

Table 3 Knowledge of Respondents on Mode Transmission of HIV/AIDS

Mode Transmission of HIV/AIDS	True	False	Do Not Know
	%	%	%
Sexual intercourse with HIV afflicted individuals	86.6	5.1	8.3
Mother infected HIV to baby	67.9	4.7	27.4
Usage of intravenous needle shared with HIV afflicted individuals	86.3	1.8	11.9
Tattooing needle and piercing	58.5	9.4	32.1
Mosquito bite	53.4	9.0	37.5
Blood transfusion contaminated with HIV	80.9	3.2	15.9
Hand shaking with HIV afflicted individuals	59.6	8.7	31.8
Hugging with HIV afflicted individuals	55.6	10.1	34.3
Mouth-to-mouth Kissing	16.6	55.2	27.8
Swimming in the same pool	41.2	9.0	49.8
Coughing/Sneezing	30.0	30.0	40.1

Table 4 Knowledge of Respondents on Prevention of HIV/AIDS

Prevention of HIV/AIDS	True	False	Do Not Know
	%	%	%
Avoiding multi-partnered sexual relationship	93.5	1.4	4.7
Be faithful with one partner	92.4	2.9	4.0
Use condom when doing high risk sexual intercourse	37.9	15.5	46.6
Avoiding intravenous drug abuse	81.2	3.2	15.5

only one of route transmission of HIV/AIDS was sexual intercourse. Most students (more than 75%) had positive attitude and stated that students afflicted with HIV/AIDS could continue schooling and were not to be isolated. However, most respondents presented a negative attitude (71.1%) to the statement that men and women with HIV/AIDS had done an immoral deed (Table 5).

According to analysis using Kolmogorov-Smirnov method, total score of knowledge from respondents in this study had a normal distribution (p-value = 0.116). Therefore, a grouping of knowledge of respondents on HIV/AIDS was based on the mean. However, total score of attitude from respondents in this study did not have normal distribution (p-value = 0.001). As such, the grouping of respondents' attitude towards HIV/AIDS was determined using the median. The respondents' knowledge and attitude toward HIV/AIDS were in the following (Table 6).

Teachers (96.4%) were the most cited information source on HIV/AIDS, followed by television (93.5%), internet (86.6%), friends (84.8%), health workers (69.7%), newspapers (62.1%), parents (61.0%), magazines (55.2%), and radio (33.2%).

Table 5 Attitude of Respondents on Definition of HIV/AIDS, Prevention of HIV/AIDS, Transmission of HIV/AIDS, and HIV/AIDS afflicted individuals

Attitude of Respondents	Strongly Agree	Agree	Disagree	Strongly Disagree
	%	%	%	%
Positive Attitude				
In my opinion, using condom when sexual intercourse can prevent transmission of HIV/AIDS	9.0	65.3	22.7	2.2
In my opinion, having sexual partner more than one person can improve risk of transmission of HIV/AIDS	51.3	47.7	0	1.1
In my opinion, using injecting drug abuse can do transmission of HIV/AIDS	41.9	49.5	7.9	0.7
In my opinion, HIV/AIDS is deprecation disease	3.2	13	52.7	30.3
Negative Attitude				
In my opinion, the only one way of transmission of HIV/AIDS is sexual intercourse	25.3	32.1	36.5	6.1
In my opinion, HIV/AIDS afflicted student cannot continue schooling	6.5	18.4	57.4	17.7
In my opinion, HIV/AIDS afflicted friend shall be isolated	5.1	9.0	57.4	28.5
In my opinion, HIV/AIDS afflicted women/men have done an immoral deed	20.9	50.2	21.7	6.1

Table 6 Knowledge and Attitude of Respondents toward HIV/AIDS

Knowledge			Attitude		
Mean	Category	Frequency (%)	Median	Category	Frequency (%)
<160.43	Poor	139 (50.2)	<150	Negative	135 (48.7)
≥160.43	Good	138 (49.8)	≥150	Positive	142 (51.3)

Discussions

This study found that respondents mostly had poor knowledge (below the mean) on HIV/AIDS (50.2%). There were still misconceptions on the media of transmission for HIV/AIDS. Some of these misconceptions were found in previous studies in North West Ethiophia, Turkey, Lao Democratic Republic, Isfahan City, Iran, Sudan, Sana'a City, and Merkelle City.[4,6-14]

In this study, a poor knowledge on respondents was not necessarily accompanied by a negative attitude, because more than 50% of respondents had positive attitude towards HIV/AIDS. Previous study on knowledge, attitude and risk behavior toward HIV/AIDS and other sexual transmitted infection among preparatory students in Gondar Town, North West Ethiopia[4] showed different results that poor knowledge are accompanied by negative attitude. Poor knowledge are followed by negative attitude because in determine the whole of attitude, knowledge, mind, belief, and emotion hold the important role.[15] On the other hand, previous studies in Lao Democratic Republic[7], Isfahan City[8], Iran[10], Province of Mazandaran, Iran11, and Ethiopia[16] showed that a negative attitude can follow even an individual had a good knowledge.

Although the most of respondents had a positive attitude toward HIV/AIDS, a stigma remains that the HIV afflicted individual has conducted immoral deeds. This stigma was also presented in a previous study (North West Ethiophia, 2011) which stated that students' attitude towards HIV/AIDS was combined with their concept of sexual morality, which caused them to see HIV/AIDS as a consequence to moral deviation.[4] A study in Merakou[10] on knowledge, attitude, and behavior after 15 years of prevention of HIV/AIDS in school showed different result, that only few students (5%) refuse to socialize with those afflicted with HIV/AIDS.

Teacher was the most frequently information main source on HIV/AIDS, which differed from the previous studies that found television or radio is the most information main source on HIV/AIDS.[4-6,8,10-14,17] Teachers were the best source of information on HIV/AIDS since television and radio were not the most trustable source due to their manipulation with cultural values and presumption on the situation of living with people with HIV/AIDS, and the information given were frequently shallow and misleading.[10]

This study concluded that the level of HIV/AIDS related to knowledge is relatively poor, yet, most respondents show positive attitude. Misconception regarding transmission media of HIV/AIDS and mode of transmission HIV/AIDS still exist. Although the most respondents received their information from teachers in school, the introduction to HIV/AIDS through a curriculum in school can give a better and a comprehensive knowledge. Previous study have shown that educational intervention by schools have resulted higher knowledge and a more positive attitude towards HIV/AIDS.[4]

This study has confronted several limitations. First, because this study used secondary data from Jatinangor Cohort Research Team of the Faculty of Medicine, Universitas Padjadjaran, the researcher was not directly involved when data collected. Second, the researcher was not directly involved in questionnaire validation. Third, limitation in this study as the result of this study may only generalize to similar population of student. This study may not be applicable to students in another area because of demography factor, and also may not be applicable to adolescent who are not attending school. Fourth, the other limitation is because this study used a self-report of questionnaire, the honesty of students' responses may be questioned. The future study hopefully can answer relationship between knowledge and attitude toward HIV/AIDS that cannot be answered in this study.

References

1. UNAIDS. Global Report: UNAIDS report on the global AIDS epidemic. Geneva, Switzerland: The Joint United Nation Programme on HIV/AIDS; 2012. [cited

2012 December 22]. Available from: http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2012/gr/2012/20121120_unaids_global_report_2012_with_annexes_en.pdf.
2. Pusat Data dan Informasi Departemen Kesehatan Republik Indonesia. Situasi HIV/AIDS di Indonesia Tahun 1987–2006. Pusat Data dan Informasi Departemen Kesehatan Republik Indonesia; 2006. [cited 2012 December 22]. Available from : www.depkes.go.id/downloads/publikasi/Situasi%20HIV-AIDS%202006.pdf.
3. Direktorat Jendral Pengendalian Penyakit dan Penyehatan Lingkungan. Laporan Kementrian Kesehatan Triwulan Ketiga 2012. Kementrian Kesehatan Republik Indonesia; 2012. [cited 2012December 22]. Available from: www.aidsindonesia.or.id/ck_uploads/files/Fixed_LAPORAN%20HIV-AIDS,TRIWULAN%203,%202012(1).pdf.
4. Shiferaw Y, Alemu A, Girma A, Getahun A, Kassa A, Gashaw A, et al. Assessment of knowledge, attitude and risk behaviours towards HIV/AIDS and other sexual transmitted infection among preparatory students of Gondar Town, north west Ethiopia. BMC Res Notes. 2011;4:505.
5. Ayranci U. AIDS knowledge and attitude in Turkish population : an epidemiological study. BMC Public Health. 2005;5:95.
6. Koksal S, Namal N, Vehid S, Yurtsever E. Knowledge and Attitude Toward HIV/AIDS among Turkish Students. Infect Dis J Pakistan. 2005;14:118–23.
7. Thanavanh B, Harun-Or-Rashid M, Kasuya H, Sakamoto J. Knowledge, attitude and practices regarding HIV/AIDS among male high school students in Lao People's Democratic Republic. J Int AIDS Soc. 2013;16:17387
8. Ghojavand G, Einali B, Ghaeliniya M. HIV/AIDS Knowledge and Attitude of Adolescent to Prevent AIDS in Isfahan City. IJEEFUS. 2013;3(1):63–70.
9. Nur N. Turkish school teacher's knowledge and attitude toward HIV/AIDS. Croat Med J. 2012;7:271–7.
10. Tavoosi A, Zaferani A, Enzevaei A, Tajik P, Ahmadinezhad Z. Knowledge and attitude toward HIV/AIDS among Iranian student. BMC Public Health. 2004;4:17.
11. Majdi MR, Khani H, Azadmarzabadi E, Montazeri A, Babamahmodi F, Kariminasab MH, et al. Knowledge, attitude and practice toward HIV/AIDS among Iranian prisoner in Mazandaran province in the south-coast area of the Caspian Sea. East Mediterr Health J. 2011;17(12):904–10.
12. Khamis AH. HIV and AIDS related knowledge, beliefs and attitudes among rural communities hard to reach in Sudan. Health. 2013;5(9):1494–1501. [cited 2013 October 30]. Available from: http://dx.doi.org/10.4236/health.2013.59203.
13. Al-Rabeei NA, Dallak AM, Al-Awadi FG. Knowledge, attitude and belief toward HIV/AIDS among students of health institutes in Sana'a city. East Mediterr Health J. 2012;18(3):221–6.
14. Swati A, Sushma B. Knowledge, attitude, and sources of information for increasing awareness about HIV/AIDS among college student. Healthline. 2013;4(1):50–7. [cited 24 October 2013]. Available from: http://www.iapsmgc.org/index_pdf/114.pdf.
15. Notoatmodjo S. Ilmu perilaku kesehatan. 1st Ed. Jakarta: Rineka Cipta; 2010. p. 29–30.
16. Tadese A, Menasbo B. Knowledge, attitude, and practice regarding HIV/AIDS among secondary school students in Mekelle City, Ethiopia. Afr J AIDS HIV Res. 2013;1(1):001–7.
17. Nasir EF, Astrom AN, David J, Ali RW. HIV and AIDS related knowledge, sources of information, and reported need for futher education among dental students in Sudan-a cross sectional study. BMC Public Health. 2008;8:286.