

Knowledge, Attitude and Behavioural Tendency about AIDS in Lower Secondary Schools in the District of Petaling, Selangor

A R Lokman, MComH*, A Osman, PhD*, K Kasmini**, PhD, *Department of Community Health, **Department of Psychiatry, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 53000 Kuala Lumpur

Summary

A study was conducted on the knowledge, attitude and behavioural tendency about AIDS among lower secondary school students in the district of Petaling Jaya, Selangor in December 1994. A total of 300 students along with their parents from three schools were chosen using stratified random sampling based on the ethnic proportion. The data was collected using 2 forms of self-administered questionnaires. Form A consisted of questions on knowledge and attitude whereas Form B consisted of questions on behavioural tendency. The level of knowledge was categorised according to the 50th percentile median score on knowledge about AIDS from the best 30 students in Selangor Science Secondary School. Results showed that the level of knowledge about AIDS among lower secondary students was not satisfactory. Only 43 (14.4%) of the respondents had adequate knowledge. There was no significant difference on the level of knowledge between the 3 ethnic groups. However, there was a weak ($r=0.23$) but significant correlation between mean score for knowledge and attitude about AIDS ($p<0.05$). Indian students had more negative attitudes towards AIDS compared to others ($p<0.01$). Nineteen students (7.8%) were detected to have conduct disorders. The main source of information regarding AIDS was through the mass media while the most suitable person for the discussion about AIDS was the health staff besides parents. Puberty and father education were the main determining factors for the knowledge about AIDS. In conclusion, the above findings may be useful in developing more effective AIDS education strategy among lower secondary school students in the district of Petaling.

Key Words: AIDS, Behavioural tendency, Health Education

Introduction

Young people are an important target group for the prevention of HIV infections and STD because about 30% of the world's population lie between 10 to 24 years of age. In many countries over two-thirds of adolescents aged 15 to 19 years, male and female, have had sexual intercourse¹. From the Malaysian perspective, a study done on 1,200 adolescents aged 15 to 21 years in Kuala Lumpur in 1986 showed that 20% of 1,181 unmarried respondents have experienced sexual intercourse². In addition, at least one-fifth of

all people with AIDS are in their twenties, and most likely to become infected with HIV as adolescents¹.

Because at present there is no cure for AIDS, primary prevention through health education is the main focus³. In the global strategies for the prevention of AIDS, WHO stated that, the preadolescents and adolescents should be given special emphasis on the knowledge about AIDS⁴. In the Plan of action of the Health Education Unit, Ministry of Health, 1994, it was stated that one of the target groups are secondary school students. In the best of our knowledge, there

is no KAP study on AIDS documented so far in Malaysia for lower secondary school. The purpose of the study, therefore, was to determine the knowledge, attitude and behavioural tendency about AIDS in lower secondary school students in the district of Petaling and to identify areas of confusion that might serve as important targets for educational intervention.

Methods

This cross-sectional study was conducted on 300 students from Form 1 to Form 3 in three schools in the district of Petaling. Stratified random sampling according to ethnicity was employed. The data was collected using 2 forms of self-administered questionnaires. Form A consisted of questions on knowledge and attitude and was given to students in the studied sample, whereas, Form B which consisted of questions on behavioural tendency, was given to the parents of these students. Data were analysed using Statistical Analysis System (SAS) version 6.4. Significant levels of *p* value of 0.05 were used and all means are given ± 1 standard deviation.

The level of knowledge was categorised according to the 50th percentile of the median score on AIDS knowledge from the best 30 students of Form 1 to Form 3 in Selangor Science School as reference population. It was found that the 50th percentile median score for knowledge on AIDS was 19. Therefore, 19 was chosen as a cut-off point to indicate high or low knowledge about AIDS. Furthermore, attitudes about AIDS was based on Plan of Action on AIDS by Ministry of Health 1994 and School Health Education, World Health Organisation. Likert scale was used to measure the attitude. Scores for AIDS attitudes were based on mean score of the Likert scale multiply by number of question i.e. $3 \times 6 = 18$. Eighteen was used as cut-off point to categorise positive and negative attitude. Behavioural tendency was based on Manual Child Behavioural Checklist (CBCL) 4 - 18 and 1991 Profile by Achenbach. Attainment of puberty was defined as students who fulfilled at least one of the criteria mentioned below. For male students, the criteria was enlargement of the penis, growth of pubic hair, first seminal emission or voice changes, whereas, for the female students the criteria was appearance of breast buds, growth of pubic

hair and attained menarche.

The schools chosen were a government coeducational school. Special schools, such as school for the deaf, were excluded from the study. Remove classes and uncooperative students or students who did not return the questionnaire were also excluded from the study. The parents of the selected students were automatically included in the study whereas parents who did not give their co-operation, did not return the questionnaire or returned the questionnaire on stipulated time were excluded from the study.

Results

Sociodemographic status

There were 300 respondents who participated in this study, in which 109 (36.3%) were Malays, 138 (46%) were Chinese and 53 (17.7%) were Indians. One hundred and forty eight (49%) of the respondents were males and the rest were females. Total mean age was 13.7 ± 1.1 years with the Malays 13.4 ± 1.0 years, Chinese 13.9 ± 1.0 years and Indians 13.7 ± 1.1 years. A total of 96 (88.7%) Malays, 116 (85.9%) Chinese and 45 (86.4%) Indian students had attained puberty. The majority of Malay parents were working either with the government or in private sectors, whereas the Chinese and Indian parents were working either in private sector or not working at all. In term of educational status, the majority of parents in all the ethnic groups (68.5% Malays, 87.2% Chinese, 82.1% Indian) at least had finished primary school.

Knowledge on AIDS according to ethnicity

The overall results showed that most of the respondents knew that AIDS is caused by a virus (Table I) i.e. Malay students scored 94.4%, Chinese (80.4%) and Indian (94.3%). The majority of the respondents also knew that the virus caused reduction in immunity system i.e. 92.6%, 80.4% and 67.9% in Malay, Chinese and Indian students respectively. However, they did not seem to know the difference between AIDS patients and HIV carriers. In all the ethnic groups, the percentage shown was only between 20 - 30%. In term of HIV transmission, most of the respondents (more than 70%) had good knowledge, however, there was still a misunderstanding that HIV

Table I
Knowledge on AIDS according to ethnicity

	Malay n=108		Chinese n=138		Indian n=53		p value
	No. ^a	%	No. ^a	%	No. ^a	%	
1. AIDS is caused by a virus (T)	102	94.4	111	80.4	50	94.3	+0.01
2. AIDS causes reduction in immunity system (T)	100	92.6	111	80.4	36	67.9	*0.00
3. AIDS patients are different from HIV carriers (T)	26	24.3	41	29.7	15	29.4	0.62
4. AIDS carrier may look healthy and does not show any symptoms (T)	42	38.9	51	37.2	19	36.5	0.95
5. Majority of AIDS patients in this country at the moment are prostitutes (F)	20	18.7	10	7.2	8	15.3	+0.02
6. AIDS can be transmitted through:							
a. having sex with prostitute (T)	102	94.4	115	83.3	44	84.6	+0.02
b. shaking hands with AIDS patients (F)	102	94.4	91	65.9	38	73.1	*0.00
c. homosexual (T)	77	71.3	80	57.9	35	66.0	0.09
d. AIDS infected mother to her child during birth (T)	101	93.5	125	90.6	45	84.9	+0.01
e. sharing needles (T)	106	98.2	106	89.9	43	81.3	*0.00
f. donating blood (F)	45	41.7	48	34.9	15	28.9	0.26
g. mosquito bite (F)	89	82.4	81	58.7	34	64.2	*0.00
7. AIDS can be presented as;							
a. prolonged fever (T)	89	82.4	81	58.7	34	64.2	*0.00
b. gaining weight drastically (F)	82	75.9	66	47.8	34	64.2	*0.00
c. rare symptoms that does not usually happened in normal people such as 'candidiasis' (T)	83	76.8	79	57.2	32	60.1	*0.00
d. palpable lymphnodes (T)	85	78.7	65	47.1	25	47.2	*0.00
e. prolonged diarrhoea (T)	67	62.0	56	40.6	28	52.8	*0.00
8. AIDS can be avoided through;							
a. exercise every morning (F)	32	29.6	53	38.4	18	34.0	0.36
b. avoid unhealthy behaviour such as drug addiction (T)	105	97.2	122	88.4	46	86.8	+0.02
c. avoid sexual intercourse with prostitute (T)	104	96.3	115	83.3	42	79.2	*0.00
d. taking vaccine at nearby clinic (F)	23	21.3	35	25.5	13	24.5	0.75
e. avoid sharing personal items such as razor blade that belong to AIDS patients (T)	60	55.3	79	57.6	30	56.6	0.95
9. Western blot test is a confirmatory test for HIV infection (T)	43	39.8	58	42.3	19	35.8	0.71
10. AIDS can be cured if treated early (T)	58	53.7	68	49.6	22	41.5	0.35

^a No. of respondents with true answer.

T = True F = False *p < 0.05 *p < 0.01

Table II
Attitude about AIDS according to ethnicity

Question statement	Malay score			Chinese score			Indian score		
	1 + 2	3	4 + 5	1 + 2	3	4 + 5	1 + 2	3	4 + 5
1. To me, AIDS is not an important health problem to be worried about.	97 (89.9)	5 (4.6)	7 (6.5)	112 (81.6)	10 (7.3)	15 (11.1)	34 (64.2)	9 (17.0)	10 (18.9)
2. I feel worried of getting AIDS even though I am not having sexual intercourse with prostitutes or mixing with drug addicts.	28 (26.2)	33 (30.8)	46 (50.0)	44 (32.6)	39 (28.9)	52 (38.5)	25 (47.2)	14 (26.4)	14 (26.4)
3. Students who had been infected by HIV should be allowed to go to school.	31 (28.7)	15 (13.9)	62 (57.4)	43 (31.6)	28 (20.6)	65 (47.8)	22 (41.5)	12 (22.6)	19 (35.8)
4. I do not feel sympathy for AIDS patients.	68 (63.0)	15 (13.9)	25 (23.2)	66 (48.5)	34 (25.0)	36 (26.5)	25 (48.1)	10 (19.2)	8 (15.4)
5. I am not afraid to visit my friend who has AIDS.	27 (24.8)	19 (17.4)	63 (57.8)	32 (23.2)	39 (28.3)	67 (48.6)	21 (40.4)	13 (25.0)	18 (34.6)
6. AIDS patients should be known publicly.	51 (47.2)	28 (25.2)	29 (26.8)	62 (45.9)	43 (31.8)	30 (22.2)	24 (49.0)	14 (28.6)	11 (22.4)

1 = strongly disagree; 2 = disagree; 3 = not sure; 4 = agree;
5 = strongly agree. () Percentage

could be transmitted through blood donation and mosquito bites. Furthermore, fairly good responses (50% - 85%) were seen for the question statements on AIDS presentations except for enlargement of lymph nodes in which Chinese students had 47.1% and Indian students had 47.2% and also in the presentation of prolonged diarrhoea where Chinese students had 40.6%. Questions related to the preventive aspect such as avoiding prostitutes and not

practising unhealthy behaviour such as drug addiction were also well answered (79 - 98%). However, they seem to be misinformed that AIDS can be prevented by doing exercise every morning and taking vaccination at nearby clinics. In addition, low percentages (30 - 40%) were seen in all 3 ethnic groups regarding question statements on Western Blot as a confirmatory test for AIDS patients and AIDS can be cured if treated early (40-55%). Results also showed that for

Table III
Behavioural problems according to ethnicity

Behavioural problems	Malay		Chinese		Indian		Total	
	n	%	n	%	n	%	n	%
Withdrawal	4	1.7	1	0.4	1	0.4	6	2.5
Social/intention	5	2.1	3	1.2	1	0.4	9	3.7
Delinquency/aggressive	1	0.4	2	0.8	1	0.4	4	1.6
Total	10	4.2	6	2.4	3	1.2	19	7.8

Table IV
Source of information according to ethnicity

Source of information	Malay (n=105)		Chinese (n=105)		Indian (n=50)	
	No.	%	No.	%	No.	%
1. TV/Radio	77	73.3	65	60.2	33	66.0
2. Friends	13	12.4	16	14.9	6	12.0
3. Newspapers	7	6.7	13	12.0	5	10.0
4. Pamphlets	4	3.8	4	3.7	1	2.0
5. Health staff	3	2.9	4	3.7	0	0.0
6. School teacher	0	0.0	1	0.9	3	6.0
7. Counsellor	0	0.0	1	0.9	0	0.0
8. Parents/guardian	0	0.0	4	3.7	0	0.0
9. Others	1	0.9	0	0.0	2	4.0

most of the question statements, Malay students scored higher percentage compared to Chinese and Indian students and the difference was statistically significant (at least $p < 0.05$).

Attitude about AIDS according to ethnic group

The results showed that the majority of respondents in all the ethnic group felt that AIDS are an important health problem to be worried about. Also, they felt sympathy to AIDS patients (Table II). Hence, AIDS patients should not be known publicly. Furthermore, the majority of Malay and Chinese students were worried that they might be getting AIDS even though they were not seeing prostitutes or mixing with drug addicts. Also, they felt that AIDS students should be

allowed to go to school. In addition, they were not afraid of visiting their friend with AIDS. On the other hand, the majority of Indian students had opposite attitudes on the statements mentioned above.

Behavioural tendency according to ethnicity

A total of 248 (82.6%) Form B were received. Results showed that 19 (7.8%) students had behavioural problems with 10 (4.2%), 6 (2.4%) and 3 (1.2%) in Malay, Chinese and Indian students, respectively (Table III).

Results also showed that the main source of information about AIDS for all the 3 ethnic group was the mass media (Table IV). In addition, for Malay

Table V
Most suitable person to discuss about AIDS according to ethnicity

Source of information	Malay (n=105)		Chinese (n=105)		Indian (n=50)	
	No.	%	No.	%	No.	%
1. Health staff	52	50.0	36	31.6	16	34.0
2. Parents/guardian	28	26.9	42	36.8	14	29.8
3. Friends	9	8.6	29	25.4	12	25.5
4. Counsellor	14	13.5	5	4.4	4	8.5
5. Religious teacher	1	1.0	0	0.0	1	2.1
6. Others	0	0.0	2	1.8	0	0.0

and Indian students, the most suitable person to discuss about AIDS was the health staff followed by parents whereas for Chinese students, parents were the first priority followed by health staff (Table V).

Further analysis showed that by using 50th percentile of the median score on knowledge about AIDS from the best 30 students in Selangor Science School (reference population) as the cut-off point, the level of knowledge about AIDS among students from Form One to Form Three in district of Petaling was not satisfactory. Only 43 (14.4%) of the sample population can be considered as having adequate knowledge. There was no significant difference between the level of knowledge among the 3 ethnic group ($X^2 = 0.903$, $df=2$, $p > 0.05$). Furthermore, Indian students had more negative attitude compared to the other groups and the difference was statistically significant ($X^2 = 13.1$, $df = 2$, $p < 0.01$). There was also a significant ($p < 0.05$) but a weak correlation ($r = 0.23$) between knowledge score about AIDS and attitude. However there was no significant difference between knowledge and attitude in this study ($X^2 = 0.414$, $df=2$, $p > 0.05$)

Multivariate analysis using Multiple Logistic Regression showed that puberty and father education were the main determining factors for the knowledge about AIDS after controlling for other factors (Table VI).

Discussion

The results of the study showed that most of the student in the district of Petaling knew that AIDS is

Table VI
Determinants on knowledge about AIDS

Variable	β value	z value	p value
Intercept	-2.15	1.32	0.10
Attitude	0.32	0.40	0.43
Behaviour tendency	-1.04	0.62	0.09
Pubertal status	1.83	0.80	0.02*
Mother working status	-0.15	0.24	0.53
Father working status	0.30	0.20	0.14
Mother education	-0.37	0.32	0.25
Father education	1.14	0.37	0.00*

* $p < 0.05$

caused by a virus and the virus caused reduction in immunity system but they did not seem to know the difference between AIDS patients and HIV carriers. In addition, more than 80% of students were not aware about the main occupational group that affected most by AIDS. Although, good percentages (57 - 99%) were correctly answered question statements about HIV transmission but there was still misunderstanding that AIDS could be transmitted through blood donation and mosquito bites. The majority of samples also knew that AIDS can be avoided by not having relationship with prostitutes or drug addicts. However, they were misinformed about the effect of exercise and vaccination on AIDS. In

addition, low percentages (30-40%) of the respondents knew that Western Blot is a confirmatory test for AIDS. Low percentages was also noted, in the question statement that AIDS could be cured if treated early (40-55%).

By using 50th percentile median score on the knowledge about AIDS among students in Selangor Science School (reference population) as cut-off point, the level of knowledge about AIDS in lower secondary schools in District of Petaling was not satisfactory. As a whole, only 14.4% of the respondents had adequate knowledge. The findings were consistent with the KAP study done on AIDS in 1992 at National level in which the knowledge about AIDS was found to be not satisfactory, although the target population is not specific to lower secondary school students⁵. The earlier study done in US indicated that there was considerable misinformation concerning AIDS among adolescents⁶. In this study, misconception about the relationship between AIDS and exercise and vaccination has to be rectified by proper education. In more recent studies in the United States of America, it appear that most of the adolescents in high school are well informed about AIDS through formal education^{7,8}.

It was shown that there was a significant ($p < 0.05$) but weak correlation ($r = 0.23$) between knowledge score about AIDS and attitude. However, there was no significant difference between knowledge and attitude about AIDS in this study. There was no doubt about the importance of knowledge in changing behaviour⁹. However, the presence of knowledge does not necessarily follow by an appropriate change in attitude or practice. As an example, it is shown that the knowledge about contraceptive was widespread but the use of the contraceptive among the sexually active persons were very low¹. Also, study done by Strunin and Hingson, found that among 70% of the adolescents who were sexually active, only 15% changed their behaviour because of AIDS¹⁰.

Furthermore, it was shown that the Indian students had significantly more negative attitude as compared to the Malays or Chinese students ($p < 0.05$). Further study is needed to explore more on the attitude of Indian students pertaining to AIDS.

Certain behavioural pattern may expose students to certain unhealthy practices. In this study, it was shown that the prevalence of the respondents with behavioural problems i.e. conduct disorders was 7.8%. Study done in Child and Family consultation services Clinic at the Department of Psychiatry, Medical Faculty, UKM, showed that the prevalence of conduct disorders among children with age range of 7 to 17 years old within 5 year was 16% whereas the prevalence in London city, the prevalence was 12%¹¹. Although, the prevalence in this study was relatively low, it should not be taken lightly because those students would be exposed to unhealthy practice such as drug addiction. Case control study done by Juita and Osman (1994) showed that students with behavioural problems in school had greater risk to be infected by HIV¹². Study by Xioming-Li and Feigelman (1992) found that there was a strong correlation between drug addiction and high risk behaviour such as violent activities, truancy and sexual activities¹³. Brooner (1993) found that antisocial behaviour as a risk factor for getting AIDS¹⁴.

Health staff was the most suitable person to discuss about AIDS. Therefore, the school health team should be well-equipped with adequate knowledge about AIDS and they could become as an effective resource for information dissemination.

Also, it was found that mass media was the most important source of information about AIDS. Studies have shown that school adolescents spent a lot of their time on listening to radio and watching television. This finding may be useful in future strategies to broadcast more AIDS intervention programme.

Finally, results showed that, pubertal status and fathers' education were the main determining factors for AIDS knowledge in the study population after controlling for other factors. During puberty, hormonal changes in the body take place resulting in marked changes in physical, mental and social developments. There are also growing desire among adolescents to actively obtain information and to understand about what is happening to their own self and about family structure¹⁵. Fathers' roles in Asia Societies are important in determining the future of

their children in aspects of sexual, academic and moral developments¹⁶. With higher level of education, the chances of their children being expose to a wide range of knowledge are better.

In conclusion, more effective strategies are needed to increase knowledge about AIDS among lower secondary school students in this study population. The above findings, hopefully, may be useful for future strengthening of the AIDS education strategies in the

district of Petaling. Follow-ups of proper counselling session might be beneficial among students with behavioural problems.

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