

Sound HIV Knowledge and Common Misconceptions About HIV Among University Students

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ABSTRACT

The objective of the study was to determine the proportion of sound HIV knowledge and common misconceptions about HIV among university students. A set of pre tested and validated questionnaire assessing sound HIV knowledge and common misconceptions about HIV was used in this cross sectional study. HIV knowledge was defined as sound when one was able to identify correctly two ways of preventing the sexual transmission of HIV and reject three major misconceptions about HIV. Out of 300 respondents, 298 completed the questionnaire giving a response rate of 99.3%. A total of 40.9% of university students have sound HIV knowledge. The majority of those who lacked sound HIV knowledge were young (60.2%) and female (60.4%). A significant proportion still believed that HIV can be transmitted via social contact (13.8%), by sneezing or coughing (11.4%) and mosquito bites (10.1%). About 6.7% were believed wrongly that HIV can be treated by vaccine and healthy-looking people cannot have HIV.

Keywords: Sound HIV knowledge, misconceptions, university students

INTRODUCTION

Human immunodeficiency virus (HIV) infection in Malaysia has become a significant health problem after it was first identified in 1986. Young people aged between 13 to 29 years old account for 34.7% of the reported infections^[1]. The prevalence of HIV among people aged between 15 to 24 years old is estimated at about 0.45% in Malaysia^[2]. Malaysian HIV data from 1986 to 2010 based on sectors or occupations has shown that 0.34% of students made up the total number of people living with HIV (PLWH) with half of them having progressed into AIDS^[3]. Although it was low, percentage college or university students may not be excluded from being a risk of contracting HIV. The reasons being campus living environment provides opportunity for students' independence and self determination, and peer influence may trap them into risky situations such as early drugs and sexual experimentation.

Students in colleges and universities who are at their prime and are aged between 18 to 25 years old are vulnerable to HIV infection due to many factors. One of the risk factors is that they lack knowledge of HIV^[4]. Knowledge about HIV/AIDS is defined as sound when one is able to identify correctly, two ways of preventing the sexual transmission of HIV and reject three major misconceptions about HIV^[5]. A study in a Malaysian public university has reported that the level of HIV knowledge among the students was not satisfactory. More than 60% had major misconceptions about HIV transmission despite correctly identifying that the use of a condom may lower the risk of HIV spread through sexual transmission^[6].

A nationwide survey on young people aged between 15 and 24 years old in Malaysia reported that almost 20% of the respondents did not know that condom use during sexual intercourse can prevent HIV transmission^[7]. Misconceptions were still a major problem as up to 50% of them either believed that HIV infected people could be recognized or had no idea about it at all. More than half of the respondents believed that mosquitoes could transmit HIV and about 30% answered that HIV could be transmitted through sharing plates with HIV infected people. The ministry of Health (MOH) Malaysia has reported that only 22.6% of 6000 young people who were national service conscripts had sound knowledge about HIV/AIDS^[8]. It was still far from the 95% target for sound HIV knowledge among young people as set out in United Nations General Assembly Special Session (UNGASS) Declaration of Commitment for 2010^[9]. The findings reflect that accurate information about HIV/AIDS is not reaching the youth and there is an urgent need to address this problem.

Many previous studies in Malaysia used different set of assessment of HIV knowledge on mainly general youth population or school children. This study aims to examine sound HIV knowledge among university students using

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the questionnaire that is recommended by the Joint United Nations Programme on HIV/AIDS (UNAIDS) which reflects the sufficient level of basic knowledge on HIV that youth must acquire in order to reduce their susceptibility to HIV infection. As such, it would help to determine the necessity to integrate HIV/AIDS prevention program into the curriculum of the university.

METHODOLOGY

A cross sectional study was carried out to determine the proportion of university students with sound HIV knowledge and who would be able to dispel common misconceptions about HIV. The study was conducted at a selected faculty of a Malaysian public university. The list of all names of first and second year students in six undergraduate programs in the faculty served as the sampling frame. The respondents were selected from the sampling frame using a simple random sampling method. The inclusion criterion comprised all first and second year students studying at faculty because of their availability to be in campus on a full time basis during the study period. Therefore all of them could be available during the sampling procedure. The exclusion criteria for the study were respondents who did not give their consent. In addition, international students were also excluded from the study due to differences between them and local students with regards to demographic, social and cultural backgrounds. The ethical committee of the university granted permission to conduct the study.

Data were collected using a set of validated and pretested English version questionnaire. It was self administered and consisted of two sections. Section A collected information on the demographic profile of the respondents which included age, gender, ethnicity and bachelor program enrolled. Section B consisted of seven questions on HIV knowledge. There were five core indicator questions for assessing sound HIV knowledge and two additional questions on common misconceptions about HIV. The five core indicator questions were adopted and modified from Guidelines on Construction of Core indicators: 2010 reporting by UNAIDS^[10] consisted of two questions on knowledge of sexual HIV transmission and three questions on major misconceptions about HIV. In total, there were two questions on sexual HIV transmission and five common misconceptions about HIV. The core indicator questions were as follow:

1. Can people protect themselves from HIV by having one uninfected faithful sex partner?
2. Can people protect themselves from HIV, the virus that causes AIDS by using a condom correctly every time they have sex?
3. Do you think that a healthy-looking person can be infected with HIV, the virus that causes AIDS?
4. Can a person get the HIV virus from mosquito bites?
5. Can a person get HIV by sharing a meal with someone who is infected?

The two additional questions were as follow:

1. Can coughing or sneezing spread HIV, the virus that causes AIDS?
2. Can a vaccine treat HIV infection?

All questions were answered by Yes or No. A correct answer scored one mark while no mark was given for an incorrect answer. The respondents were identified to have sound HIV knowledge if they correctly answered all five core indicator questions.

Data were collected and entered manually into statistical computer software of SPSS version 18^[11]. Percentage was used to describe the proportion of respondents with or without sound HIV knowledge. Chi square test was used to determine the association between respondents' socio-demographic variables and sound HIV knowledge. All significant levels were set at a standard p value of less than 0.05 ($p < 0.05$).

RESULTS

Out of 300 respondents, 298 completed the questionnaire giving a response rate of 99.3%. Table 1 shows the demographic profile of the respondents. The mean age of the respondents was 20.5 years old ($SD=3.29$, 95% CI = 20.1- 20.8). The age ranged from 18 to 40 years old. The majority in the age group of 18 to 20 years old (84.2%). Females made up the majority of the respondents (78.9%). Almost three quarters of the respondents (72.9%) were of Malay ethnicity. Medical students represented one third (31.2%) of the respondents while students from Dietetics program formed the smallest group (6.0%) in the study.

Table 2 shows the distribution of respondents' sound HIV knowledge by their age group, gender, ethnicity and programs enrolled at the university. The percentage of respondents with sound HIV knowledge was 40.9% while those who did not have sound HIV knowledge was 59.1%. Up to 60% of those in the younger age group did not have sound HIV knowledge as compared to those whose age were 21 and above (53.2%). However, there was no significant difference shown in sound HIV knowledge by their age group ($\chi^2= 0.795$, $p = 0.373$). There were more male respondents (46.0%) who had sound HIV knowledge as compared to their female counterparts (39.6%). However, the difference was not statistically significant ($\chi^2= 0.857$, $p = 0.355$). Although, the Malays formed the majority of those

without sound HIV knowledge (61.8%) as compared to the non Malays (51.9%), there is no significant difference shown between the two groups ($\chi^2= 2.391$, $p = 0.122$). With regards to the program enrolled, those who were in other health sciences programs (41.8%) has more sound HIV knowledge than those who enrolled into medical and nursing programs (39.7%). However, it was not significantly different ($\chi^2= 0.130$, $p = 0.719$).

Table 1. Demographic profile of the respondents (n=298)

Profile of respondents	n	%
Age (years)		
18-20	251	84.2
21 and above	47	15.8
Total	298	100.0
Gender		
Male	63	21.1
Female	235	78.9
Total	298	100.0
Ethnicity		
Malay	217	72.8
Chinese	60	20.1
Indian	12	4.1
Others	9	3.0
Total	298	100.0
Program enrolled		
Biomedical Science	55	18.5
Dietetics	18	6.0
Environmental Health	34	11.4
Medicine	93	31.2
Nursing	23	7.7
Nutritional Health	75	25.2
Total	298	100.0

Table 2. Sound HIV knowledge by age group, gender, ethnicity and program enrolled of the respondents (n=298)

Variables	Frequency, n and percentage, %		
	Sound HIV knowledge	No sound HIV knowledge	Total
Age group (years)			
18-20	100(39.8)	151(60.2)	251(84.2)
21 and above	22(46.8)	25(53.2)	47(15.8)
Total	122(40.9)	176(59.1)	298(100.0)
Gender			
Male	29(46.0)	34(54.0)	63(21.1)
Female	93(39.6)	142(60.4)	235(78.9)
Total	122(40.9)	176(59.1)	298(100.0)
Ethnicity			
Malays	83(38.2)	134(61.8)	217(72.8)
Non Malays	39(48.1)	42(51.9)	81(27.2)
Total	122(40.9)	176(59.1)	298(100.0)
Program enrolled			
Medicine-Nursing	46(39.7)	70(60.3)	116(38.9)
Others	76(41.8)	106(58.2)	182(61.1)
Total	122(40.9)	176(59.1)	298(100.0)

Table 3. Common misconceptions about HIV among respondents (n=298)

Variables	n	%
Do you think that a healthy-looking person can be infected with HIV, the virus that causes AIDS?		
Correct response	278	93.3
Incorrect response	20	6.7
Total	298	100.0
Can a person get the HIV virus from mosquito bites?		
Correct response	268	89.9
Incorrect response	30	10.1
Total	298	100.0
Can a person get HIV by sharing a meal with someone who is infected?		
Correct response	257	86.2
Incorrect response	41	13.8
Total	298	100.0
Can coughing or sneezing spread HIV, the virus that causes AIDS?		
Correct response	264	88.6
Incorrect response	34	11.4
Total	298	100.0
Can a vaccine treat HIV infection?		
Correct response	278	93.3
Incorrect response	20	6.7
Total	298	100.0

Table 3 shows the distribution of responses to common misconceptions about HIV among the respondents. The majority of the respondents gave correct responses (86.2% to 93.3%) to all five common misconceptions about HIV. However, up to 10% of the respondents believed that mosquito bites can transmit HIV. Almost 14% of them agreed that HIV can be spread by sharing a meal with someone who is infected while 11% believed that sneezing or coughing can transmit HIV. A small percentage (6.7%) of the respondents believed that a healthy looking person cannot have HIV and HIV can be treated with a vaccine.

DISCUSSION

The study was able to determine the percentage of respondents who had sound HIV knowledge using a structured questionnaire with five core indicator questions on the knowledge scale. The results of the study showed that only 40.9% of the respondents had sound knowledge of HIV. The percentage was higher than that reported from a worldwide survey from 1999 to 2003. It was reported that only 29% of young people aged 15 to 24 years old had sound knowledge using the same measured outcome^[12]. However, with advances in HIV prevention effort, a recent report from UNAIDS has demonstrated that the proportion has increased to 40%^[13] which supports the result of the present study.

The present study showed higher percentage of respondents (40.9%) with sound knowledge of HIV as compared to that reported from the Ministry Health of Malaysia^[8] (22.6%). The lower reported figure was obtained from a group of young people who came from diverse socioeconomic and educational backgrounds. In the present study, university students were a more selected group of youth with much better educational attainment and higher socioeconomic status than the general youth population which explains the difference. Another local study had used similar questions to assess sound knowledge of HIV on 2259 adolescents aged 14 to 17 years old^[14]. The cross sectional study revealed that only 3.81% of the total respondents had sound knowledge of HIV. The figure (3.8%) was very much lower than that of the present study (40.9%). The marked difference also concurs with the finding of the previous study that age had a significant association with the presence of sound knowledge of HIV among the respondents. Although the difference was not significant in the present study, it was shown (46.8%) that those in the older age group have more sound

knowledge of HIV than the younger aged (39.8%) respondents. The respondents of the present study were university students who were 18 years old and above.

Gender based difference with regards to sound HIV knowledge was also evident in the study. Male university students (46.0%) were reported to have more sound knowledge about HIV as compared to their female counterparts (39.6%). Although the difference was not statistically significant, the results echoed the finding of the previous study. It was reported that in developing countries, only 19% of young women aged 15 to 24 years old have sound HIV knowledge in comparison to their male counterparts whereby 30% of them were reported to have equivalent HIV knowledge^[15]. Female were also reported to have little control to protect themselves from HIV/AIDS such as lack of skills and self confidence to delay sexual activity or practice safe sex. The explanation for it was that women are generally seen to be submissive towards men and perceived as promiscuous if they are knowledgeable in sexual matters. This is reflected by the existence of stereotypical gender norms in certain cultures and races.

In the present study, the majority of the university students responded favourably to the five questions on common misconceptions about HIV. About 10 to 12% had common misconceptions about HIV spread via mosquito bites, coughing or sneezing. The results of the present study were slightly different compared to a previous local study. In the previous cross sectional national survey on young people, it was reported that about 50% of them believed that HIV infected people can be recognized^[7]. In contrast, almost 94% of the respondents in the present study did not have this misconception.

Wong, *et al.*, (2008) also reported that about 30% of the respondents in their study believed that HIV can be transmitted through sharing plates with HIV infected people^[7]. However, the present study showed only 14% of respondents had similar misconceptions which accounted to half the figure from the earlier study. The number of respondents who believed that mosquito bites can spread HIV was also very much lower in the present study (10.1%) as compared to the result of the previous study (53.0%). The findings from both studies differed because of the socioeconomic and educational background of respondents. The respondents from the previous study were younger than those in the present study. The mean age of the respondents in the previous study was 19.4 with half of them being in the age range of 15 to 19 years. Three quarters of them only had formal education up to secondary level and a significant proportion came from low to middle socioeconomic status. In the present study, respondents were university students in health sciences program which indicated better educational attainment than the respondents from the previous study.

Another previous local study on university students has shown that more respondents believed that a healthy looking person cannot have HIV (33.9%), mosquito bites can transmit HIV (38.7%) and the possibility of HIV being transmitted by sharing plates with HIV infected person (19.6%)^[6]. However, the present study showed a lower percentage of university students with the above three common misconceptions about HIV compared to the previous study. Although the numbers were low, these misconceptions could trigger off prejudices against those who have HIV/AIDS. It can contribute to discriminative attitudes from the respondents towards HIV/AIDS and thus has an impact on behaviour change. In addition, stigmatizing at risk or affected groups would create a false sense of security that majority of the population are safe from HIV/AIDS and therefore they do not need to take safety precaution^[16].

Acquiring sound HIV knowledge and dispelling common misconceptions about HIV in general does not necessarily translate individual's low risk behaviour pertaining to HIV infection. Rozina, *et al.*, (2009) reported that even with correct knowledge on HIV sexual transmission and condom use, it was not translated into practice as two thirds of university students engaged in unprotected sexual encounters^[6]. Some other reasons may contribute to this finding but one of the reasons could be the students believed wrong that HIV would not happen to them. Co existence of high risk behaviours, particularly unsafe sexual behaviour, together with inadequate knowledge and major misconceptions regarding HIV/AIDS contribute to increased vulnerability of university students to HIV infection^[4].

The results of the present study should be viewed in the light of the study's strengths and limitations. One of the strengths of the study was the use of five core indicator questions in measuring sound HIV knowledge among the respondents. The questions are accepted internationally and are particularly useful in countries whose populations have poor knowledge of HIV/AIDS. It allows for a serial incremental improvement on HIV knowledge to be measured easily. While in countries where HIV knowledge is high, the core indicator questions are used to ensure that the pre existing knowledge is constantly maintained.

However, a few limitations of the study require the findings to be interpreted with caution. The cross sectional study design did not help in determining the causal relationship between demographic factors and sound HIV knowledge among the respondents. In addition, the design also did not permit the use of more complex statistical analysis in order to examine the relationship of the variables. Although the sample size was adequate to differentiate between those who were with or without sound knowledge, a larger sample size would be recommended to determine the associated factors of sound HIV knowledge among the respondents. The findings of the study were only generalizable to a specific group of university students.

CONCLUSION

The majority of the university students still lack sound knowledge of HIV and a significant proportion of them have common misconceptions about HIV particularly with regards to HIV spread via social contact and other modes of transmission. Although many efforts for HIV prevention have been implemented, they are still insufficient and it was reflected in the findings of the study. University students were not well informed about HIV and even if they did, the information that reached them was not accurate. Therefore, it is high time to integrate HIV education program into the university curriculum so as to improve their knowledge about HIV and subsequently reduce their susceptibility to HIV infection.

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