The Myanmar Health Sciences Research Journal, Vol. 26, No. 1, 2014

Knowledge of First-year MBBS Students of University of Medicine (Magway) Regarding Human Immunodeficiency Virus Infection

Win Win Maw, Than Than Aye, Swe Swe Hnin, Soemoe Thu, Khin Swe Oo, Nyan Win Tun , San San Myint, Than Than Nu & Thet Nwe Oo

University of Medicine (Magway)

Knowledge about HIV, how it is transmitted, and preventive measures help modify the life style. It is important to assess the knowledge of the medical students on risks of HIV/AIDS. To assess knowledge, self-administered questionnaires were administered to 375 (male-277, female-98) first-year MBBS students of University of Medicine (Magway). Most students (>90%) could indicate the true modes of transmission: sexual contact, contact with contaminated blood, blood transfusion, and mother to child transmission. However, 31(11.2%) of males and 6(6.1%) of females had wrong concept that HIV can be transmitted by insects. Twenty-six (9.4%) and 10(3.6%) of males and 2(2%) and 3(3.1%) of females thought people can get infection through causal contact such as hand shaking and sharing eating utensils, toilet and bathroom, respectively. Only small portion (19, 6.9% and 9, 3.2%); answered it is a curable but not a preventable disease. Both male and female students had very good attitude regarding the known patient of HIV/AIDS.

INTRODUCTION

Health educators indicate that education is one of the most effective ways to avoid the continued spread of HIV. Today facts about HIV, its modes of transmission and means to prevent transmission are well understood. These findings can be used to provide knowledge about HIV transmission and behaviours that lower the risk of infection, to correct misperceptions about the risk of transmission. Attention is being paid to educate students as WHO urge school-based education including education on sex, sexually transmitted diseases and HIV as one of the main intervention strategies.

Students may have knowledge about HIV transmission and behaviours that lower the risk of infection or they may have mis-perception about the risk of transmission from causal contact and the significance of safer sexual practices. It is important to assess the knowledge, perception on risk of infection, and awareness of seriousness of the HIV/AIDS of the students, what they have already known, what they still don't know, and to which level they know. Results obtained from these assessments will provide information on students needs and describe the areas of HIV knowledge related to HIV risk that need to be updated in education programs. There is no study conducted to assess knowledge of HIV/ AIDS in the students attending medical universities in Myanmar. Therefore, this study was to investigate attitude towards HIV-infected person, the HIV/AIDS-related knowledge on transmission and prevention and control of first-year MBBS students, University of Medicine (Magway). The result of this study will be used to develop and or promote appropriate health education program.

MATERIALS AND METHODS

Subject

The subjects for this study were 375 first-year MBBS students of University of Medicine (Magway): 277(73.86%) males and 98(26.11%) females.

Instrument

The survey questionnaire constructed for this study consisted of knowledge about transmission of HIV/AIDS.

RESULTS

Most male and female students (265, 95.7%) indicated that sexual intercourse is one of the transmission modes. Other common modes chosen by the students include contact with contaminated blood (267, 96.4% male; 98, 100% female) blood transfusion (259, 93.5% male; 97, 99% female), and mother to child transmission (241, 87% male; 95, 96.9% female). One seventy-five male students (63.2%) and 67(68.4%) female students accepted that sharing tooth brush and razor is one of the modes of transmission.

Table 1. Knowledge on HIV transmission

Total (n=375)	Male (n=277)		Female (n=98)	
	Yes (%)	No (%)	Yes (%)	No (%)
By inhalation	13(4.7)	264(95.3)	2(1.1)	95(96.9)
By ingestion	17(6.1)	260(93.9)	0(0)	98(100)
Sexual means	265(95.7)	12(4.3)	98(100)	0(0)
Contact with contaminated blood	267(96.4)	10(3.6)	98(100)	0(0)
Blood transfusion	259(93.5)	18(6.5)	97(99)	1(1)
Mother to child	241(87.0)	36(13)	95(96.9)	2(3.1)
Casual contact such as hand shaking	26(9.4)	245(88.4)	2(2)	95(96.9)
By sharing eating utensils, toilet & bathroom	10(3.6)	263(94.9)	3(3.1)	95(96.9)
By virtue of insect such as fly, mosquitoes	31(11.2)	243(87.7)	6(6.1)	90(91.8)

Two hundred and sixty-four (95.3%), 260(93.9%), 263(94.9%), 245(88.4%), 243 (87.7%) male students and 95(96.9%), 98(100%), 95(96.9%), 95(96.9%), 90(91.8%) female students disagreed inhalation, ingestion, sharing eating utensils, toilet and bathroom, casual contact such as hand shaking, by virtue of insect such as fly, mosquitoes are not ways in which HIV/AIDS can be spread, respectively.

Twenty-six (9.4%) and 10(3.6%) of males and 2(2%) and 3(3.1%) of females thought people can get infection through casual contact such as hand shaking and sharing eating utensils, toilet and bathroom, respectively (Table 1).

Table 2. Knowledge on HIV prevention

Total (n=375)	Male (n=277)		Female (n=98)	
	Yes (%)	No (%)	Yes (%)	No (%)
AIDS can be cured	19 (6.9)	241 (87)	8 (8.2)	90 (91.8)
AIDS is an preventable disease	266 (96)	9 (3.2)	91 (92.9)	7 (7.1)
There is an effective vaccine	16 (5.77)	261 (94.2)	08 (8.2)	90 (91.8)
Can contract disease only by a single sexual exposure	266 (96)	11 (4)	94 (95.9)	4 (4.08)
Correct use of condom protect against HIV infection	261 (94.2)	16 (5.77)	92 (93.9)	6 (6.1)
HIV-positive person cannot donate blood, sperm and organ	224 (80.9)	35 (12.6)	95 (96.9)	2 (2.04)
Screening of blood for HIV is necessary for blood donors	265 (95.7)	12 (4.3)	94 (95.9)	4 (4.08)
No need to change job of HIV-infected persons unless nature of the job expose their blood to others	270 (97.5)	7 (2.5)	96 (98)	2 (2)
HIV-infected children can be allowed to attend school	175 (63.2)	102 (36.82)	94 (95.9)	4 (4.08)

When the respondents were asked whether AIDS can be cured and is a preventable disease, 87%, 96% of male students and 90%, 92.9% of female students said AIDS is incurable but preventable disease, respectively. Only small portion (19, 6.9% and 9, 3.2%) of males and 8(8.2%) and 7(7.1%) of females answered that it is a curable but not a preventable disease.

Sixteen (5.77%) of males and 8(8.2%) of females thought that there is an effective vaccine for prevention of AIDS. However, 261(94.2%) and 90(91.8%) of male and female students, respectively, disagreed vaccine for AIDS.

Most respondents noticed that screening of blood for HIV is necessary for blood donors (95.7% for males, 95.9% for females) and HIV-positive person cannot donate blood, sperm and organ (80.9% for males and 96.9% for females). Eighteen students did not answer this question on organ donation

and 35(12.6%) of male students did not agree on it.

Ninety-six percent of males and 95.9% of females are aware that they can contract HIV infection even by a single exposure. And 94.2% of male and 93.9% of female respondents answered that the correct use of condom can protect against HIV infection. Ninety-eight percent of both male and female students agreed on no need to change job of HIV-infected persons unless nature of the job expose their blood to others. Ninety-five percent of female students said HIV-infected children can be allowed to attend school, in contrast, only 175 (63.2%) of male students agreed on it (Table 2).

DISCUSSION

This study showed an overall good knowledge level of medical students regarding the transmission of HIV and HIV prevention. On average, around 90% of the medical students had knowledge about HIV transmission modes and prevention. This is comparable to other studies.[1, 2] In contrast to the present study where all the participants were first-year students, the study done in Kazakhstan included year 1-7 medical student respondents from the Semipalatinsk State Medical Academy.[2]

However, students participated in this study were more knowledgeable than preclinical dental students of Benin City, Nigeria.[3]

More than 95% students were aware of the possibility of acquisition of HIV from sexual means, contact with contaminated blood, and blood transfusion. Most of the respondents (88-95%) were aware that HIV cannot be transmitted by inhalation, by ingestion and causal contact such as hand shaking (9.4% for males; 2% for females) and by sharing eating utensils, toilet and bathroom (3.6% for males; 3.1% for females). Students participated in this study were more knowledgeable than those of other studies. In a study from India, Fifteen percent (15.8%) of 300 dental and nursing students believed casual kissing as a route of transmission and 2.5% answered that food sharing can be a mode of HIV transmission.[1]

In a study done on 1081 Chinese college students from 8 colleges in 2000, about half of the sample thought that (or were not sure whether) a person could contract HIV by sharing plates, fork or glass (46%), using a public toilet (49%), being coughed or sneezed on (41%), receiving medical care from someone who has the AIDS virus (51%) or using a public swimming pool (52%). Only about two-thirds of the sample did not think they would be likely to contract the AIDS virus from mosquitoes or other biting insects.[4]

They also mentioned that HIV transmission is not by virtue of insect such as fly, mosquitoes (243, 87.7% for males; 90, 91.8% for females). However, some answered that HIV can be transmitted by casual contact, inhalation, ingestion, sharing utensils, or through mosquitoes. Daily domestic contact was less commonly thought to transmit the disease. Thirty-six (13%) males thought that HIV cannot be transferred from mother to foetus. Two hundred and forty-one (87%) of males and 95(96.5%) of females agreed on the fact that HIV can be transmitted from infected mother to foetus. This was consistent with the findings of a study from China in which 89.9% (n=232) of the participants answered HIV can be transmitted from mother to child.[5]

This confirms the existence of some misconception among the respondents and a pointer that true understanding of the disease is lacking in small percentage of the students. This observation is similar to the finding of surveys among college students in India.[6]

Similarly, a Latin America study[7] revealed that a substantial numbers of dental students had incomplete knowledge of HIV and often lacked confidence on infection control and procedures. When awareness and sources of information about HIV vaccine was

conducted among community population in the Bojanala area, Rustenburg, North West Province, South Africa, less than half (42.7%) (n=150) indicated an awareness of HIV vaccines.[8]

Compared to that study, most of the respondents possessed correct idea on HIV disease process, prevention and vaccine. Only small portion (8.2-13%) had a wrong idea of AIDS as a curable but not a preventable disease; 16(5.77%) of males and 8(8.2%) of females thought that there is an effective vaccine for prevention of AIDS: 35(12.6%) of male students had an idea of HIV-infected person can donate organs and sperm. Percentage distribution of wrong concepts on cure of AIDS was found to be lower than other study. In a study on nursing students in India, 50% of nursing students thought that both treatment and cure were present for AIDS. Forty percent of nursing students thought that treatment was present for AIDS and 5% of nursing students thought that cure was present for AIDS. Interestingly, 5% gave the answer that neither treatment nor cure was present for HIV.[1]

Attitudes toward HIV infected persons

Attitude towards HIV-infected persons was assumed to be good; most students agreed on HIV-infected persons could continue the job if the nature of the job did not expose their blood to other (98%); HIV-infected children could be allowed to attend school (62% males, 94% females) although 102 (36.8%) of male students did not agree on it.

Awareness and appropriate knowledge may play an important role in preventing the further spread of HIV/AIDS among the general population.

Medical, dental and nursing students are an integral part of the healthcare provider team, responsible for decision making and implementation of many healthcare related practices. In their course of learning and training during the undergraduate course, they are taught the theory and practice of delivering healthcare. Serious and potentially fatal blood-borne infections like HIV and hepatitis B are the front-runners in their occupational diseases profile. Hepatitis B is a highly infectious disease but preventable by its vaccination. Infection with hepatitis B virus (HBV) is a major cause of morbidity and mortality in the South-East Asia region (SEAR).

School-based HIV/AIDS education should focus on the specific student population of each school, while maintaining close links with their parents and the community at large. These links allow for the strengthening of protective influences on young people from both the school and the home; they also help teachers gain support for introducing and sustaining education for HIV/AIDS prevention in school.

Community-based organizations (non-governmental organizations, hospitals, teachers' unions, religious groups, youth groups, sports clubs, etc.) could provide support, up-to-date information and practical assistance to school-based initiatives on education for HIV/AIDS prevention.[8]

HIV/AIDS is crucial for health care professionals because of the increasing prevalence of these infections. Occupational risk of these infections is well known in medical and dental workers especially during the professional training period. This accounts for one of the major reasons for delivering knowledge about preventive measures and universal precautions.

REFERENCES

1. Aggarwal A, Sheikh S, Pallagatti S, Bansal N & Goyal G. Comparison of knowledge, attitudes and behaviour of dental and nursing students towards HIV/AIDS. *Journal of Medicine and Medical Sciences* 2012; 3(8): 537-545, Available from: URL: http://www.interesjournals.org/ JMMS.
2. Hansson M**,** Stockfelt L**,** Urazalin M**,** Ahlm C & Andersson R**.** HIV/AIDS awareness and risk behavior among students in Semey, Kazakhstan: A cross-sectional survey, *BMC International Health and Human Rights* 2008; 8(14), Available from: URL: http://www. Biomedcentral.com.

3. Oboro HO, Azodo CC & Sede MA. Perception of HIV/AIDS among preclinical dental students. *Journal of Preventive Medicine and Hygiene* 2010; 51: 164-169
4. Li X, Lin C, Gao Z, Stanton B, Fang X, Yin Q & Wu Y. HIV/AIDS knowledge and the implications for health promotion programs among Chinese college students: Geographic, gender and age differences. *Health Promotion International* 2004; 19(3): 345-356.
5. Ta X, Pan J, Zhou D, Wang C & Xie C. HIV/AIDS knowledge, attitudes and behaviours assessment of Chinese students: A questionnaire study. *International Journal* of *Environmental Research and Public Health* 2007; 4(3): 248-253.
6. Singh UD, Porterfield S, Thilakivathi M, *et al.* Knowledge of HIV transmission and sexual behaviour of college students in India Pune. *Journal of Acquired Immune Deficiency Syndromes* 1997; II: 1519-20.
7. Acosta-Gio AE, Borges-Yáñez SA, Flores M, *et al.* Infection control attitudes and perceptions among dental students in Latin America: Implications for dental education. *International Dental Journal* 2008; 58: 187-193.
8. Taiwo Olayemi Adebowale. A community-based study of the relationship between HIV knowledge, perceived risk and perceptions about HIV vaccines. *Thesis*, M.Sc, School of Psychology, Faculty of Humanities, Development and Social Sciences, University of kwazulu-Natal 2010.