ORIGINAL ARTICLE

Factors related to preventive behavior regarding HIV/AIDS among university students in Magway Township, Myanmar

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Abstract

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This cross-sectional descriptive study was carried out to identify preventive behavior and to examine factors related to preventive behavior among university students regarding HIV/AIDS. Structured questionnaires were distributed to 296 university students in Magway Township, Myanmar. Descriptive statistics were used to describe preventive behavior and independent variables: socio-demographic characteristics, knowledge, perception, influence of the media, personal influences and personal experience. The chi-square test and multiple logistic regression were used to identify factors related to preventive behavior.

The results show that 89.5% of the students had good preventive behavior regarding HIV/AIDS. More than 90% of the students had only one sexual partner, used a condom when they had sexual activity and carried condoms when they went out for sexual activity. Over half of the students had a moderate level of knowledge about HIV/AIDS and 51.4% of the students had negative perceptions toward preventive behavior. Most of the students got HIV/AIDS-related knowledge from television/videos, journals, magazine, cartoon booklets and pamphlets. Most students were influenced by health personnel, followed by NGO/INGO personnel, friends and teachers. Multiple logistic regression revealed that only personal allowances and personal experience showed a significant association with preventive behavior, when adjusted with other factors.

Even though the preventive behavior of the students was good, some of them still did not understand HIV/AIDS issues or had misconceptions about such issues. Therefore, health education for the youth about HIV/AIDS and methods for preventing HIV/AIDS should be routinely conducted to improve the students' knowledge and to provide students with a correct understanding of HIV/AIDS and preventive methods.

Keywords: preventive behavior, university students, HIV/AIDS

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ปัจจัยที่ส่งผลต่อพฤติกรรมการป้องกันเอชไอวี/เอดส์ของนักศึกษามหาวิทยาลัยในเมืองแมกเวย์ ประเทศพม่า

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บทคัดย่อ

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การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการป้องกันเอชไอวี/เอดส์และปัจจัยที่ส่งผลต่อการป้องกันเอชไอวี/เอดส์ของนักศึกษามหาวิทยาลัยในเมืองแมกเวย์ โดยเก็บข้อมูลจากนักศึกษามหาวิทยาลัยจำนวน 296 คน โดยใช้แบบสอบถามที่สร้างขึ้น วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา ไคว์สแควร์ และการถดถอยลอจิสติกพหุคูณ ผลการศึกษาพบว่า ร้อยละ 89.5 ของนักศึกษามีพฤติกรรมการป้องกันเอชไอวี/เอดส์ในระดับดี มากกว่าร้อยละ 90 ของนักศึกษามีคู่นอนคนเดียว พกถุงยางอนามัยและใช้ถุงยางอนามัยทุกครั้งเมื่อมีเพศสัมพันธ์ มากกว่าครึ่งหนึ่งของนักศึกษามีระดับความรู้ในระดับปานกลาง และประมาณร้อยละ 51.4 มีการรับรู้เกี่ยวกับการป้องกันเอชไอวี/เอดส์เชิงลบ นักศึกษาส่วนใหญ่ได้รับความรู้เกี่ยวกับเอชไอวี/เอดส์ ผ่านทางโทรทัศน์ วิดีโอ และสื่อสิ่งพิมพ์ต่าง ๆ ได้แก่ วารสาร นิตยสาร การ์ตูน และแผ่นพับ สำหรับกลุ่มคนที่มีอิทธิพลต่อพฤติกรรมการป้องกันเอชไอวี/เอดส์ของนักศึกษามากที่สุด ได้แก่ เจ้าหน้าที่สาธารณสุข รองลงมาได้แก่ เจ้าหน้าที่องค์กรเอกชน เพื่อนและครู ผลการวิเคราะห์ถดถอยลอจิสติก พบว่า ค่าใช้จ่ายส่วนตัวที่ได้รับ และประสบการณ์ในการเห็นผู้ป่วยเอชไอวี/เอดส์มีความสัมพันธ์อย่างมีนัยสำคัญกับพฤติกรรมการป้องกันเอชไอวี/เอดส์

ผลการศึกษาชี้ให้เห็นว่าถึงแม้ว่าพฤติกรรมการป้องกันเอชไอวี/เอดส์ของนักศึกษาจะอยู่ในระดับที่ดี แต่นักศึกษาบางส่วนยังมีความเข้าใจในเรื่องเอชไอวี/เอดส์ไม่ถูกต้อง ดังนั้นการให้สุขศึกษาเกี่ยวกับเรื่องเอชไอวี/เอดส์ และวิธีการป้องกันเอชไอวี/เอดส์ในกลุ่มเยาวชนควรดำเนินการอย่างต่อเนื่องเพื่อส่งเสริมให้นักศึกษามีความรู้ และมีความเข้าใจอย่างถูกต้อง

คำสำคัญ: พฤติกรรมการป้องกัน นักศึกษามหาวิทยาลัย เอชไอวี/เอดส์

Introduction

At the end of 2010, an estimated 34 million people were living with HIV, up 17% from 2001. However, the number of new infections was 15% less than in 2001. There were 2.7 million new HIV infections including an estimated 390,000 among children worldwide.[1] UNAIDS estimated that nearly 4.8 million adults were living with HIV in Asia.[2-3] This region was reported as the second largest grouping of people living with HIV, although new infections fell by 40%.[1]

HIV/AIDS is still a major social and health issue in Myanmar, although the programs for the prevention of HIV transmission have been carried out for more than 20 years. Myanmar's authoritarian military regime proposed the first National AIDS Programs since 1989. It started to develop a short-term plan for the prevention of HIV transmission in 1989, a national medium-term plan for the prevention and control of HIV/AIDS in 1991, and several collaborative projects supported by the UN and JICA beginning in 1990. In 2005, the concepts of multi-sectoral and multi-partner strategic planning were implemented in Myanmar. The sexually transmitted diseases & AIDS teams in each division/township have been set in partnership with the government. Implementation of preventive projects for youth have been carried out in both out-of-school and in-school contexts. The School-Based Healthy Living and HIV/AIDS Prevention Education (SHAPE) program for in-school youth has been conducted by the government and UNICEF since 1998 and SHAPE-plus for out-of-school youth was created by NGOs in 2004.[4] However, the prevalence of HIV/AIDS has only declined slightly. According to HIV/AIDS Statistics in Myanmar and Epidemiologic data sources, the number of people living with HIV/AIDS and newly infected with HIV in Myanmar have continuously decreased since 2006. HIV/AIDS Statistics in Myanmar and Epidemiologic data sources show that the number of people living with HIV/AIDS in Myanmar decreased from 250,000 people in 2006 to 240,000 people at the end of 2009.[5-6] However, data from the National AIDS Programmes of Myanmar show that the number of people living with HIV/AIDS has tended to increase in the early teenage group (15 to 19 years) and has tended to decline in the group aged between 35 and 39.[7] In 2009, HIV prevalence among the youth (15 to 24 years of age) was 0.3 percent. This was half of the HIV/AIDS prevalence among adults.[5]

Magway Region is in the central region of Myanmar; this region has an intermediate rate of infection with HIV.[5] Statistical data on health in Myanmar in 2010 showed that most people living with HIV/AIDS in the Magway Region were aged 13-29 years. The highest infection rate for HIV/AIDS in this region was found in Pakhukku, followed by Magway township.[8] In this region, a preventive program had been implemented to target population under the National AIDS program. There were two STD/AIDS teams in the Magway Region to provide health education and treatment aspects of STD/AIDS and to combat STD/AIDS diseases. Moreover, preventive programs for youth-SHAPE and SHAPE plus- were being implemented in this region. However, the coverage of the preventive programs among youth in Magway region was only 19% in 2005 and 16.5% in 2010.[9]

Although the education program for youth had been launched in Myanmar about 10 years previously, the results of the Behavioral Surveillance

Survey in 2008 indicated that 97.5% of population had heard about HIV/AIDS, but only 36.6% knew about preventive methods.[10] This means that most of them did not know about HIV/AIDS prevention methods. Because young people are the key to the future course of the HIV epidemic, preventive behavior among youth regarding HIV/AIDS and related factors should be studied. This study may be expected to make education programs more suitable for this age group. Therefore, the main purposes of this study were to find the preventive behavior regarding HIV/AIDS among university students in Magway township as well as to identify the factors related to preventive behavior.

Methods

A cross-sectional study was conducted at the University of Community Health, Magway township, Myanmar after obtaining approval from the Mahidol University Institutional Review Board (COA. NO. MU-SSIRB:2012/066.1602(B1)). Questionnaires were distributed to 303 first- to fourth-year students selected by proportional random sampling in each year. However, only 296 questionnaires were eligible to be analyzed. The questionnaire used for data collection consisted of 43 questions in five parts, namely: socio-demographic characteristics, preventive behavior, knowledge towards preventive behavior regarding HIV/AIDS, perceptions towards preventive behavior regarding HIV/AIDS, and cues to action. The questionnaire was submitted to experts in this research field in order to check validity and confirm the content, and the questionnaire was pre-tested for reliability with 30 students from the University of Traditional Medicine, Mandalay, Myanmar. Kruder Richardson formula 20 (KR-20) for knowledge and Cronbach's alpha for perceptions were 0.5 and 0.6 respectively.

Preventive behavior was categorized into two categories: good behavior and poor behavior. Knowledge was classified into three categories: high, moderate, low, based on Bloom's criteria. Perceptions were categorized as positive and negative by the mean score for this section.

Data were analyzed using MINITAB. Descriptive statistics were used to calculate frequency, percentage, mean, minimum, maximum and standard deviation for preventive behavior and the independent variables: socio-demographic characteristics, knowledge towards preventive behavior regarding HIV/AIDS, perceptions towards preventive behavior regarding HIV/AIDS, and cues to action. The associations between various independent variables and preventive behavior were determined by the chi-square test and multiple logistic regression. The strength of association between dependent and independent variables was also calculated.

Results

The study found that the age of the students ranged from 15 to 24 years. Most of the students (80.4%) were 18 to 24 years old. Three-fourth of them (73.3%) were males and most (81.8%) were Buddhism. Nearly half of the students (47.0%) were in the third year or the final academic year. Their average allowance was 67,159 kyats; over half of the students (61.3%) received an allowance of over 67,159 kyats per month.

Table 1 Numbers and percentages of the students by socio-demographic characteristics

Socio-demographic characteristics	Number	Percent
Age (Years)		
15-17	58	19.6
18-24	238	80.4
Mean= 19.21 SD=1.95 Min=15 Max=24		
Gender		
Male	217	73.3
Female	79	26.7
Religion		
Buddhist	242	81.8
Non-Buddhist	54	18.2
Education		
First Group (1^{st} – 2^{nd} year)	157	53.0
Second Group (3^{rd} – 4^{th} year)	139	47.0
Allowance per month (n=279)		
≤ 67,159	108	38.7
> 67,159	171	61.3
Mean=67,159 SD=51,437 Min=10,000 Max=500,000		

The results reveal that the majority of the students (89.5%) had good preventive behavior. About 10% of them had poor behavior. More than 95% of the students had sex with only one partner and used a condom when having sexual activity. Most of them carried condom all the time when going out for sexual activity (92.5%) and did not have sexual intercourse with unknown partners (97.0%).

Most of the respondents (42.2%) had a moderate level of knowledge, and 30.4% of them had a good level of knowledge. Only 27.4% had a poor knowledge level. More than 40% of the students had moderate levels of general knowledge about HIV/AIDS, knowledge about risk groups, knowledge about transmission and knowledge about prevention. Nearly half (48.6%) of the students had positive perceptions. The mean perception score was 42.12 and the range of perception scores was 26 to 49.

Table 2 Numbers and percentages of the students by level of preventive behavior

Variables	Number	Percent
Preventive Behavior		
Good (≥Mean)	265	89.5
Poor (<Mean)	31	10.5
Mean=3.81 S.D.=0.60 Min=0.00 Max=4.00		
Knowledge		
Good (> 80%)	90	30.4
Moderate (60%-80%)	125	42.2
Poor (<60%)	81	27.4
Mean=8.28 S.D.= 1.79 Min=3.00 Max=12.00		
Perceptions		
Positive (≥ Mean)	144	48.6
Negative (<Mean)	152	51.4
Mean=42.12 S.D.= 4.11 Min=26.00 Max=49.00		

Table 3 Numbers and percentages of students according to media information, personal influences and personal experience

Source of information	Number	Percent
Media Information		
Radio	174	58.7
Television/Video	267	90.2
Pamphlets	243	82.0
Journals/magazines/cartoon booklets	250	84.4
Personal influences		
Parents	108	36.5
Relatives	122	41.2
Teachers	157	53.0
Peers/Friends	175	59.1
Health personnel	270	91.2
NGOs/INGOs	191	64.5
Personal experience	141	47.6

The results in Table 3 show that nearly half of the students (47.6%) had had the personal experience of having seen a person suffering from AIDS. In this study, most of the students were influenced by health personnel, NGO/INGO personnel, their friends, and their teachers, respectively. Most of the students got HIV-related information from TV/Videos (90.2%), the print media: journals/magazines/cartoon booklets (84.4%) and pamphlets (82.0%).

Table 4 Association between preventive behavior regarding HIV/AIDS with socio-demographic characteristics, knowledge, perceptions and cues to action

Variables	n	Preventive Behavior		Crude OR	95% CI		Chi-square p-value
		Good %	Poor %		Lower	Upper	
Age group							
15-17	58	98.3	1.7	1			
18-24	238	87.4	12.6	8.22	1.10	61.59	0.015*
Gender							
Female	79	91.1	8.9	1			
Male	217	88.9	11.1	1.28	0.53	3.10	0.585
Religion							
Buddhist	242	89.7	10.3	1			
Non-Buddhist	54	88.9	11.1	1.09	0.42	2.79	0.866
Education							
First group	157	94.9	5.1	1			
Second group	139	83.4	16.6	3.69	1.59	8.56	0.001**
Allowance per month							
≤ 67,159	108	84.3	15.7	4.38			
> 67,159	171	95.9	4.1	1	1.75	10.95	0.001**
Knowledge							
Poor	81	84.0	16.0	5.54	1.52	20.24	0.019*
Moderate	125	88.0	12.0	3.95	1.11	14.10	
Good	90	96.7	3.3	1			
Perceptions							
Positive	144	93.1	6.9	1			
Negative	152	86.2	13.9	2.15	0.97	4.74	0.054
Personal influence							
Parents							
Yes	108	98.2	1.8	1			
No	188	84.6	15.4	9.67	2.26	41.37	<0.001***
Relatives							
Yes	122	96.7	3.3	1			
No	174	84.5	15.5	5.42	1.84	15.92	0.001**
Teachers							
Yes	157	96.2	3.8	1			
No	139	82.0	18.0	5.52	2.19	13.90	<0.001***
Peers/Friends							
Yes	175	93.1	6.9	1			
No	121	84.3	15.7	2.53	1.18	5.43	0.015*
Health Personnel							
Yes	270	89.3	10.7	1.44	0.32	6.43	0.628
No	26	92.3	7.7	1			
NGOs/INGOs							
Yes	191	86.9	13.1	2.48	0.99	6.27	0.047*
No	105	94.3	5.7	1			
Personal experience							
Yes	141	95.0	5.0	3.51	1.46	8.42	0.003*
No	155	84.5	15.5	1			

** p-value <0.05, ** p-value < 0.01, *** p-value < 0.001*

Results of the chi-square test in Table 4 show that preventive behavior toward HIV/AIDS was associated with ten variables: age ($p<0.001$), education ($p<0.01$), allowance per month ($p<0.01$), knowledge ($p<0.05$), personal influence from parents ($p<0.001$), from relatives ($p<0.01$), from teachers ($p<0.001$), from peers/friends ($p<0.05$), from NGO/INGO personnel ($p<0.05$) and personal experience ($p<0.01$). However, multiple logistic regression showed that only two variables--personal experience and allowance per month—were significant predicting factors. Students having low allowances were eight times more likely to have poor preventive behavior (Adj OR=8.40, 95%CI=2.55-27.67) and students having no experience of seeing HIV/AIDS patients were four times more likely to have poor preventive behavior (Adj OR=3.85; 95%CI=1.09-13.67) when adjusting for other factors.

Table 5 Multiple Logistic Regression for predictors of preventive behavior

Variables	Adjusted OR	95% CI of OR		P-value
		Lower	Upper	
Age group				
15-17	1			
18-24	3.64	0.37	35.73	0.268
Education level				
First Group	1			
Second Group	1.39	0.45	4.27	0.570
Allowance per month				
≤ 67,159	8.40	2.55	27.67	<0.001***
> 67,159	1			
Knowledge on preventive behavior				
Good	1			
Moderate	2.45	0.44	13.54	0.305
Poor	2.53	0.44	14.43	0.295
Parents				
Yes	1			
No	4.08	0.65	25.46	0.132
Relatives				
Yes	1			
No	1.35	0.33	5.48	0.674
Teachers				
Yes	1			
No	3.35	0.90	12.46	0.071
Peers/Friends				
Yes	1			
No	1.94	0.64	5.89	0.239
NGOs/INGOs				
Yes	3.14	0.91	10.91	0.071
No	1			
Personal experience				
Yes	1			
No	3.85	1.09	13.67	0.037*

** p-value <0.05, *** p-value < 0.001*

Discussion

This study found that 89.53% of the students had good preventive behavior. The results also show that 95.61% of the students have only one sexual partner and more than 95% of the students did not have sexual intercourse with unknown partners. Most of the students (96.28%) used condoms when they had sexual activity and more than 92% of the students carried condoms all the time when they went outside for sex. These high percentages for good preventive behavior were found due to the preventive program under the concept of a multi-sectoral and multi-partner strategic plan implemented in Myanmar in 2005. STD/AIDS teams were set up in every region to provide for the health education and treatment aspects of STD/AIDS and to combat STD/AIDS diseases.[10] Moreover, life skills training and social development programs for youth were also conducted by major national NGOs, such as the Myanmar Maternal and Child Welfare Association, the Myanmar Red Cross Society, and the Myanmar National Federation for Women.[11-12] The results of this study also support the finding that the most influential people regarding HIV/AIDS were health personnel and NGO/INGO personnel. Compared to previous studies, the rate of good preventive behavior among students in this study was higher than the results of Thit MS (54%)[13] and Gopalis (69%).[14]

Three socio-demographic variables--age, education and allowance per month—were found to be significantly associated with preventive behavior regarding HIV/AIDS. These findings are consistent with those of previous studies (Gopalis[14] and Durongritichai[15]). However, only allowance per month was found to be significantly associated with preventive behavior in multiple logistic regression. The students who received high allowances had a higher proportion of good preventive behavior toward HIV/AIDS than did those who received low allowances. This might be because students who had high allowances had more money to buy condoms to protect themselves from HIV/AIDS than did those who had low allowances.

The chi-square test revealed that knowledge was in a statistically significant association with preventive behavior regarding HIV/AIDS. The proportion of students who had good levels of knowledge was higher had better preventive behavior than did those who had moderate and low levels of knowledge. This might be because a preventive and education campaign under the National AIDS programs has been carried out in Myanmar since 2005. This campaign intends to reduce the spread of HIV, to find ways to prevent HIV in the community and to increase awareness and perceptions about HIV and AIDS in the community.[4] The results of this study indicate that students obtained information about HIV/AIDS from many media sources: TV/Videos (90.2%), and print media (84.4%). Moreover, the students obtained knowledge from influential persons--health personnel (91.2%), NGO/INGO personnel (64.5%), peers/friends and teachers (53.0%). The results show that 72.6 percent of students had a knowledge score higher than 60% (moderate and high levels), but nearly 30% of the students had a poor level of knowledge. This shows that although students obtained information from the media and influential persons, they might not understand some of the content of that information. This might affect their perceptions regarding HIV/AIDS; more than half of the students had negative perceptions. This finding is consistent with the results of

previous studies.[15-16] Moreover, the results reveal that more students who had negative perceptions had poor preventive behavior than did those who had positive perceptions. This coincides with behavioral science theory which maintains that people will take action to avoid threats depending on their perceptions.[17-18]

The results reveal that the people who most influenced the students were health personnel, followed by NGO/INGO personnel, peers/friends and teachers. However, less than 50% of the students were influenced by parents and relatives. This may be because of Myanmar's strict culture. Myanmar parents are not open about sexuality and sexual information with their children. Whenever students want advice about their problems, they ask their friends or others for suggestions. This in the chi-square test also showed that preventive behavior was associated with parents, relatives, teachers, peers/friends and NGO/INGO personnel. However, multiple logistic regression revealed that there were no association between preventive behavior and the different personal influences. The same results were also found in Gopalis's[14]and Zolaihas' studies.[19]

Moreover, an association between preventive behavior and the experience of seeing a person suffering from HIV/AIDS was found in both analyses: the chi-square test and multiple logistic regression. The students who had never seen a person suffering from HIV/AIDS were more likely to have poor preventive behavior than were those who had seen a person suffering from HIV/AIDS. This might be because students who had the experience of seeing persons suffering from HIV/AIDS would perceive the severity of HIV/AIDS and would be aware of barriers to HIV/AIDS. Such students are more likely to be afraid of getting HIV/AIDS.[20] The results of this research confirm that the students decided to change their behavior after seeing persons suffering from HIV/AIDS.

Recommendations

Even though the preventive behavior of the students was good, some of them still did not understand HIV/AIDS issues and had misconceptions about HIV/AIDS. Therefore, health education about HIV/AIDS and preventive methods regarding HIV/AIDS for youth should be routinely conducted to improve the students' knowledge and to provide students with a correct understanding of HIV/AIDS and preventive methods. Moreover, not only basic health education but also deeply information about preventive behavior regarding HIV/AIDS should be provided for students.

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