An Investigation of HIV-Preventive Behavior of Female Prostitutes in the City of Ubon Ratchathani

Anun Chaikoolvatana, Ph.D.*, Jaruwan Wongbutdee, M.Sc., Pattha Boonlue, M.Sc.*****

**Faculty of Pharmaceutical Sciences, **College of Medicine and Public Health, ***Master degree student in Health Care Management, Ubon Ratchathani University, Ubon Ratchathani 34000, Thailand.*

ABSTRACT

Objective: This study aimed to investigate the HIV-preventive behavior of a group of female prostitutes in the city of Ubon Ratchathani in Northeast Thailand.

Methods: Basic knowledge and perceptions regarding HIV/AIDS were also assessed. The relationship between knowledge, perception, educational levels and HIV-preventive behavior were identified. A questionnaire was trialed before the survey proper, and content validation and reliability were established prior to the launch of the study (average α= 0.75).

Results: Information was collected by the completion of a descriptive survey by 293 female prostitutes from 35 entertainment centres from February to April 2005. Data collected was subjected to statistical analysis. Results showed the participants had a good basic knowledge of HIV/AIDS and reasonable perceptions of the condition. Approximately one-third (37.5%) had sound behavior related to HIV infection, but an equivalent proportion (39%) needed to review their behavior. There was a statistically significant relationship between knowledge, perceptions, marital status and educational levels and HIV-preventive behavior ($p<0.05$).

Conclusion: Conclusively, the prostitutes had an overall average HIV/AIDS knowledge, except some issues such as HIV/AIDS in pregnancy. Additionally, the HIV/AIDS perception was mainly good, whereas the HIV-preventive behavior was needed to be adjusted including a regular condom use.

Keywords: Entertainment centres; HIV-preventive behavior; prostitutes

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When a person was infected with HIV, he would have a positive HIV antibody, CD4 > 200 without any opportunistic infections. However, when the patient was symptomatic with the opportunistic infections and had all previous conditions, it was called Acquired Immune Deficiency Syndrome (AIDS). AIDS has been recognized as a global health problem since 1984. The condition was initially most commonly located in male homosexual communities, but now the condition is found in a much wider range of groups. It has been estimated that the total number of males in the world who are infected with the Human Immunodeficiency Virus (HIV) is approximately forty-two million, of whom, according to the World Health Organization (WHO), one-fifth are in the Asia-Pacific Region[1]. In Thailand, there are 1,009,000 patients infected with HIV/AIDS. Interestingly, approximately 350,000 deaths have been reported[1]. This situation is probably caused by misinformation and misunderstanding of HIV, carelessness of protection against HIV, ineffective patient care management, social stigma associated with the disease, and limitations in human resources. Since 1984, HIV/AIDS has become a national health problem in Thailand. Although the death incidence has declined, the prevalence of the disease has either increased or decreased dependent upon the number of new HIV cases and midyear population. Thus, the health policies were established in 1989 to monitor the development of the disease[2]. Male homosexuals were initially identified as the high-risk population, but now, as with global trends, the disease is found in other populations, such as intravenous drug abusers, heterosexuals, children, and prostitutes.

Correspondence to: Anun Chaikoolvatana
E-mail: kkjc5476@yahoo.com, phanunch@hotmail.com

Prostitutes are a high-risk population, their occupational practices making them susceptible to infection by clients and they are capable of transmitting it to other customers and/or family members[2,3,4]. The January report in Ubon Ratchathani 2004 showed the existence in the city of Ubon Ratchathani of 77 entertainment centres with 548 female prostitutes working night shifts[5]. The HIV Surveillance Report indicated that the number of HIV-infected cases in the previous group increased within 4 years from June 2001 to June 2004 (12.3%, 22.3%, 22.4%, and 36.1% respectively).[5,6,a]

Due to the developments in the disease generally in Thailand and the increase in HIV-infection rates in the female prostitute population in Ubon Ratchathani specifically, the authors aim to investigate the factors related to HIV-preventive behaviors of female prostitutes in the city of Ubon Ratchathani. It is intended to use the results of the study in the design and implementation of a HIV-prevention plan for female prostitutes.

MATERIALS AND METHODS

Objectives

1. Describe the basic characteristics of the female prostitute population in the city of Ubon Ratchathani
2. Evaluate the basic knowledge of HIV in this population
3. Evaluate the HIV perception in this population
4. Assess the relationship between basic knowledge of HIV, HIV perception, levels of education, and HIV-preventative behavior

Assumptions

1. There is the relation between basic knowledge of HIV and HIV-preventive behavior in the female prostitute population, Ubon Ratchathani
2. There is a relation between HIV perception and HIV-preventive behavior in the female prostitutes population, Ubon Ratchathani

Study design

It is a descriptive survey design. The study started from October 2005 to April 2006.

Participants

Volunteers were selected from the female prostitute population in the city of Ubon Ratchathani by the use of a purposive method from 35 out of 77 entertainment places, including night clubs, pubs, cafes, spas, massage clubs, and karaokes. All participated entertainment places (35) around Ubon Ratchathani city were voluntarily enrolled into the study. A total of 293 participants were included into the study. These volunteers were registered with a local governmental health department for medical check ups.

Research tools

Thirty female prostitutes completed a questionnaire as a pilot study. The mean Alpha-Cronbach was 0.75 ($p<0.05$), an acceptable result. Following this pilot, a final questionnaire was designed to collect a range of data. It was divided into 4 sections:

Section 1 (5 items)[7]: **Basic characteristics of the volunteers**; place of birth, age, marital status, length of stay in Ubon Ratchathani, levels of education

Section 2 (10 items)[7]: **Basic knowledge of HIV**; causes, risk factors, clinical symptoms, ways of disease transmission, HIV-prevention. The items were responded to by using true/ false answers:

Knowledge	Score
If the answer is true	1
If the answer is false	0

Scores were totaled (10), calculated as percentages, and the participants were assigned to the following knowledge levels[7]:

Score	Knowledge level
80% and over	Good
60-79%	Acceptable
59% and under	Need to improve

Section 3 (10 items)[7]: HIV/AIDS perception; human communication, sexual intercourse, a couple's life. The participants responded to the items by selecting *agree*, *not sure*, and *disagree*. These selections were rated according to the following scale:

HIV/AIDS perception	Score
If the question items were positive meaning	
If answered "agree"	2
If answered "not sure"	1
If answered "disagree"	0
If the question items were negative meaning	
If answered "agree"	0
If answered "not sure"	1
If answered "disagree"	2

Scores were totaled (20), calculated as percentages, and the participants were assigned to the following perception levels[7]:

Score	HIV/AIDS perception
80% and over	Good
60-79%	Acceptable
59% and under	Need to improve

TABLE 1. Frequency and percentage of participants regarding individual items of HIV/AIDS basic knowledge (n = 293).

Items	True (answer)	
	Frequency	Percentage
AIDS means the immune deficiency syndrome	280	95.6
Asymptomatic HIV/AIDS patients do not transmit the disease to other people	236	80.5
HIV/AIDS is transmitted via sexual intercourse with an infected person	289	98.6
The HIV pathogen is transmitted by sharing an IV syringe with a HIV-infected person	291	99.3
Every single HIV-infected pregnant woman will give birth to HIV-infected children	90	30.7
Body contact, such as hugging and hand shaking with HIV-infected persons is contagious	277	94.5
Patients with sexual transmitted disease will be mostly risky for HIV infection	228	77.8
Using a condom properly can effectively protect against HIV infection	281	95.5
Blood testing is a simple diagnosis for HIV infection	290	99
Currently, there is a medication that can cure HIV infection	277	94.9

TABLE 2. Frequency and percentage of participants regarding individual items of HIV perceptions (n = 293).

Items	Perceptions (%)		
	Agree	Not sure	Disagree
Anyone will be infected with HIV/AIDs, if they ignore correct use of self-protection	96.6	1.7	1.7
Healthy persons do not have a chance to be infected by HIV/AIDS	6.5	25.9	67.6
HIV/AIDS is not contagious on daily lives	70.3	18.4	11.3
Having sexual intercourse with a good looking person means you will not be infected with HIV/AIDS	3.1	8.5	88.4
It is not necessary to use a condom for protection against HIV/AIDS when having sexual intercourse with a regular partner	5.8	11.9	82.3
When infected with HIV/AIDS, a person should keep himself healthy to extend his life	78	15.4	6.5
HIV-infected persons live and work just like normal healthy people	84.3	9.9	5.8
If colleagues are infected with HIV, they should be separated from others	24.2	17.7	58.4
A couple deciding to get married, should go for HIV/AIDS screening test	99.7	0	0.3
A married couple should have an HIV/AIDS screening test before having a child	98.6	1.0	0.3

Section 4 (10 items)[7]: HIV-preventive behavior; participants responded to the items by selecting always, sometimes, and never.

Behavior	Score
Always	2
Sometimes	1
Never	0

Scores were totaled (20), calculated as percentages, and the participants were assigned to the following behavior levels[7]:

Score	Behavior
80% and over	Good
60-79%	Acceptable
59% and under	Need to improve

Methodology

The process included the:

1. Employment of three research assistants to implement the project

2. Completion of visits by the research assistants to a number of entertainment centres used by female prostitutes in the city of Ubon Ratchathani to explain the aims and the procedure of the study to potential participants

3. Selection of participants and the issue of questionnaires. Any problems with participants' reading and writing were addressed by the research assistants completing the questionnaires on the behalf of the participants

4. Collection of the questionnaires.

Statistical analysis

Descriptive analysis included; Mean, SD, and percentages. The Likert's scale was also implemented for descriptive data. Additionally, the McNemar test was included to analyze the relation between basic knowledge, HIV perception, and levels of education, marital status and HIV preventive behaviors.

RESULTS

Totally, there were two hundred and ninety three participants mostly from Ubon Ratchathani province followed by other northern provinces (47.4%, and 26.6%). They were mainly between 20 to 24 years of age and singles (31.7%, and 56.1%, respectively). The participants stated they had completed only a junior high school level, and mostly had stayed in Ubon Ratchathani for 9 years (39.9%, and 49.1%). Regarding basic knowledge of HIV/AIDS, the finding showed that most sexual transmitted disease is a risk for HIV infection (Table 1).

The overall perceptions regarding HIV/AIDS were generally good (93.9%). Noticeably, there still were some misperceptions regarding HIV/AIDS, for example, "*healthy persons do not have a chance to be infected by HIV/AIDS*", "*HIV/AIDS is not contagious on daily life*", and "*if colleagues are infected with HIV, they should be separated from others*" (Table 2).

Interestingly, the result showed the participants were generally well aware about their HIV preventive behaviors (37.5%). For example, they knew how to use a condom with clients, how to check the expiry date of a condom before using it, release pressure before using it and prepared an adequate amount of condoms at their work place (96%, 83.6%, 96%, 80%, respectively). However, there were some noticeable data which stated that they did not use condoms with their partners or husbands, and they sometimes had sexual intercourse with the clients while they were sick (61.4%, 40%, respectively). Additionally, the relationship between basic knowledge, HIV perceptions, levels of education, marital status, and HIV preventive behavior were evaluated. The finding showed the statistically significant relationship between those variables (Table 3).

DISCUSSION

Basic HIV/AIDS Knowledge

Even the overall results showed the volunteers had an adequate basic knowledge regarding HIV/AIDS. However, there was still a correction about the concept that the babies from HIV positive mothers were always infected with HIV pathogens (Table 3). Such a finding is similar to some previous Thai studies showing limited knowledge in some areas of HIV/AIDS in a female prostitute population[8,9]. It also implies that the Thai Ministry of Health must recognize this issue and intensively communicates with high-risk populations, especially prostitutes who might want to get pregnant in the future. Additionally, a concern about a HIV-infected child probably leads to a psychosocial problem.

HIV Perceptions

The study indicated that most of participants had a good level of HIV perception (93.9%). However, there were still some noticeable issues that need to be reinforced. For example, some volunteers were still not sure with the issue "Healthy persons do not have a chance to be infected by HIV/AIDS" (25.9%). Additionally, the rejection of

TABLE 3. Relationship between basic knowledge, HIV perception, levels of education, marital status, and HIV-preventive behavior of the participants (n = 293).

Variables	HIV-preventive behavior		
	Acceptable	Need to improve	P- value
Levels of basic knowledge of HIV/AIDS			
Good	163	99	0.001
Need to improve	19	12	
	182	111	
Levels of HIV/AIDS perception			
Good	171	104	0.001
Need to improve	11	7	
	182	111	
Levels of education			
Not educated	17	11	0.001
High school - bachelor	165	100	
	182	111	
Marital status			
Single	76	59	0.001
Married/ widowed/ divorced/ separated	106	52	
	182	111	

HIV positive persons from the community needs to be addressed, because some volunteers were still both "agree" and "not sure" for this issue (24.2%, and 17.7%, consecutively). This implied that community people fear that they might be infected with HIV/AIDS, if their neighbors are HIV-infected persons. It might lead to discrimination and crimes within the community. These finding are also supported by some previous studies showing a similar result[10,11]. Thus, the incorrect perceptions regarding HIV infection should be solved by educating community people to understand the proper concept of HIV infection, disease transmission, and self protection. As a result, they will understand the situation and be able to live together with those infected with HIV/AIDS peacefully.

HIV-preventive behavior

Over one-third (37.5%) of the participants showed a good level of HIV-preventive behavior. However, there were some responses that gave rise for concern, such as 14 percent indicating that their place of work *never* made condoms available (item 7), and 10.9 percent responding that friends *always* invited them to use drugs. Moreover, 38.9 percent responded that they had to service the clients while being sick. The possible causes included; an unsatisfactory use of condoms by the clients, and a lack of adequate condoms for the clients[12]. Such responses are a message to health authorities concerning the need to modify policies and initiate ways of limiting the transmission of HIV/AIDS and reduce the incidence of the condition in high-risk populations, including female prostitutes[13,14]. Possibly, it was suggested that the regulation should be more restricted and a strong punishment for the entertainment service places should be established, if the owners did not provide an adequate supply of condoms for the clients. Additionally, safe sex practice is "a must" and they must not allow the clients to have sexual intercourse without condom use. Furthermore, the media advertising should be implemented to emphasize the risk of unprotected sexual intercourse. The safe sex campaigns at educational institutes can also change the sexual behavior.

Relationship between basic knowledge, HIV perception, levels of education, marital status, and HIV-preventive behavior of the participants

The results showed that the basic knowledge of HIV/AIDS was statistically significantly related to HIV-preventive behavior ($p<0.05$). A previous study similarly showed a positive link between understanding the concepts of HIV/AIDS and HIV management and increased protection against the disease[3]. Also, HIV-perception was also statistically significantly related to HIV-protective behavior ($p<0.05$).

Some of these findings may result from policies introduced by the Mayor of Ubon Ratchathani to raise the awareness of HIV-prevention in female prostitutes in the city by such activities as home visits and HIV education courses. Health officers have communicated with this group of people about protection against HIV infection. However, there is still progress to be made.

The relationship between levels of education and HIV-preventive behavior was positive. Well educated volunteers were more likely to know how to protect themselves from HIV infection. It might be possible that when people were educated, they developed a thoughtful process to distinguish between what they should or should not do to protect themselves from harm. As a result, they lived their lives safely[15].

There was a more significant statistical relationship between participants who were married, widowed, divorced or separated and HIV-preventive behavior ($p<0.05$) than single persons. This may indicate a less responsible attitude in the latter group towards issues of disease protection, highlighting the existence of high-risk groups in an already high-risk population and the need for sharply focused programs and policies.

Moreover, the standard of living related to the national economy should be improved to prevent females from being prostitutes. Help from the government such as available jobs with adequate wages may help some females to raise themselves and protect themselves to avoid becoming a prostitute. A policy of the educational support for a less chance population also needs to be stated such as school loans, distance learning, etc. Hopefully, all solutions mentioned earlier will be achieved to prevent HIV infection in our nation.

Limitations

- The demographic data of enrolled volunteers of 35 entertainment places compared to those excluded from the study (44 places) should be classified to

decrease the bias of the study.

- Thai-English translation of questionnaire items might be a barrier for the readers.
- A further analysis should be stated to evaluate the magnitude of the relationship including an agreement index (95% CI).

Suggestions for future research

- Studies of pregnant persons who were prostitutes and former prostitutes.
- Studies of male prostitutes.
- Increased promotion of public activities related to HIV-prevention for high-risk and general populations.
- HIV/AIDS education of high-risk populations.
- Establishment of visits by health personnel to high-risk persons.
- Availability of consultation for high-risk persons about general and specific health matters.
- Provision of condoms at entertainment centres.

CONCLUSION

The study aimed to investigate HIV-preventive behavior of female prostitutes in the city of Ubon Ratchathani by the use of a descriptive survey. The overall results showed that most of participants had good levels of basic knowledge, HIV perception, and HIV-preventive behavior. However, there are some examples of incorrect knowledge and poor practices including; misconcepts of HIV, self protective behaviors, HIV in pregnancy, etc. This study indicates the importance of community education in health matters that are a serious threat to a wide range of people. It also serves as a poignant reminder to society in general and high-risk populations in particular about individual and community health issues.

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