AIDS-Related Perceptions and Condom Use of Prostitutes in Korea

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──── Abstract ───────────────────────────────────

The purpose of this study was to assess the impact of AIDS-related knowledge and attitudes of prostitutes on condom use from diverse 'sex markets' in Korea. The data were collected by interviewers at five different 'sex markets'. During March 1993, research assistants at the Institute of Health Services Research interviewed 371 prostitutes visiting sexually transmitted disease (STD) clinics. Multiple regression method was used in identifying the determinants of condom use. The level of condom use was regressed on personal characteristics of prostitutes, AIDS-related perceptions, and market type. Prostitutes' level of condom use turned out to be different across the markets featuring diverse types of services and fees. Neither perceived vulnerability nor perceived seriousness of AIDS had significant effects on condom use. Our findings suggested that the many AIDS-preventive educational efforts by STD clinics are ineffective. Hence, individual STD clinics need to develop AIDS-preventive education programs which are suitable for the unique circumstances of their respective 'sex markets'.

Key Words: Prostitutes, condom use, AIDS perceptions

INTRODUCTION

As of 1998, the number of officially confirmed HIV (human immunodeficiency virus) infected cases in Korea was around 811.[1] This relatively low prevalence of HIV might lead people to believe themselves safe from acquiring it. There have been very few concerted efforts by the general public to combat AIDS. However, among health care professionals, there is a growing concern about the potential for widespread transmission of HIV. In order to prepare for the rising number of patients with AIDS, an assessment of AIDS-related cognition and behavior of the recognized high-risk groups is necessary.[2]

Sexual contact is the leading source of infection, comprising 85.8% of the known HIV infection cases.[1] "Before 1992, sexual contact overseas was the major route of HIV transmission, but from 1992 on, it came to be outnumbered by in-country sexual contact".[3] In order to cope with this new trend, we need to understand and monitor high-risk groups like prostitutes. Considering that prostitutes have relationships with multiple partners, they are important carriers of the HIV virus.[4] Hence, it has become important to enumerate and describe their attitudes and sexual behaviors relating AIDS. Reflecting this notion, some survey studies on prostitutes have already been conducted in other countries.[5,6] This information should eventually guide the direction of change in public policies and education programs to meet the challenge of AIDS.

Prostitutes in Korea work and live in specially designated areas called "sex markets". They are registered and required by law to report to a sexually transmitted diseases (STD) clinic for medical examination on a regular basis. According to official estimates, there are 46 markets composed of approximately 6,000 prostitutes. These markets vary in size, client characteristics, and the manner in which prostitutes serve their clients.

The objectives of this study were to describe the level of condom use, AIDS-related knowledge and attitudes of prostitutes from diverse 'sex markets' and to investigate the determinants of condom use.

MATERIALS AND METHODS

Sample and data collection

The data were collected by interviewers at five different sites: Miari and Chunhodong in Seoul, Bu-

jundong and Wanwalldong in Pusan, and Inchon. Higher prices (US $200) are usually charged in the Wanwalldong and Inchon markets where clients could stay all night. These sites were selected because they were well-known places with a long history. Hence, the average number of sexual contacts by one prostitute per day was 1. In contrast, relatively lower prices (US $50) are charged in the Miari, Chunhodong, and Bujundong markets where clients usually stay only an hour. The average number of sexual contacts per day in these markets was around 5. During March 1993, research assistants at the Institute of Health Services Research interviewed 371 prostitutes visiting STD clinics located at the above sites. The STD clinics serve the functions to monitor the health of prostitutes and to publicize the dangers of STDs including AIDS.

Measurement of variables

The dependent variable was the level of condom use, specifically the level of requesting condom use. Hence, our measure does not indicate the actual level of condom use. Rather, it indicates the propensity to use condoms. We asked two questions: 1) whether or not prostitutes initially requested condom use; and 2) whether or not they requested condom use despite the client's reluctance to use are. The responses to the above questions were coded on a five-point scale (1 = strongly disagree, 2 = disagree, 3 = ambivalent, 4 = agree, 5 = strongly agree). The mean score of the above two questions was calculated to indicate the level of condom use. This index has high internal consistency reliability ($\alpha > .8$).

The independent variables of interest were the prostitute's socio-demographic characteristics, health characteristics, market-related characteristics, and AIDS-related perceptions. The education level considered as a socio-demographic characteristic was measured as the number of years of formal education completed by respondents.

Market-related characteristics included market type, years of residence, and number of clients. Market type was coded as a pair of dummy variables: Miari-Chunhodong market (1) versus non-Miari-Chunhodong market (0); Wanwalldong-Inchon market (1) versus non-Wanwalldong-Inchon market (0). In the case of Bujundong market, the personal characteristics of prostitutes (e.g., mean age 29) were different from those of Miari-Chunhodong markets (e.g., mean age 23 and 22 respectively) even though they share practices, like the way they service customers or charge. We decided to separate Bujundong market from

Miari-Chunhodong markets. Hence, we finally had three different types of markets: 1) Wanwalldong-Inchon markets which charge higher prices; 2) Miari-Chunhodong markets which charge lower prices and have younger prostitutes; and 3) Bujundong market which charges lower prices and has older prostitutes.

The years of residence was the number of years that prostitutes had engaged in prostitution in their current location. Age of prostitutes was excluded from the analysis, since it showed a high correlation with years of residence ($r = .72$). The number of clients was measured as the number of sex partners per day.

As the health indicator, the previous history of STD was considered. The previous history of sexually transmitted diseases was coded: 0 = none; 1 = experienced.

In addition to the above variables, AIDS-related perceptions were also included in the analysis and considered as having two dimensions, knowledge and health beliefs. AIDS-related knowledge was measured by using 8 questions concerning mode of transmission (7 items)and AIDS symptoms (1 item): 1) HIV is transmitted through having meals with a person with HIV; 2) HIV is transmitted through sexual intercourse with an infected person; 3) a woman with HIV can pass it on to her baby; 4) HIV is transmitted through using needles used by an infected person; 5) HIV is transmitted through using public toilets; 6) Using a condom reduces the risk of getting HIV infection; 7) HIV is transmitted through blood transfusion; 8) In most cases, HIV symptoms can be noticed immediately after infection. Agreeing with a true statement added one point to the score for the scale, as did disagreeing with a false one. Scores for the above questions were combined as a measure of knowledge.

As the health beliefs, perceptions of risk were assessed. In previous studies, perceptions of risk were considered as having two dimensions, one of vulnerability and one of seriousness.[7,8] We adopted their approach to our study. Prostitutes were asked whether they thought that they had a higher risk of getting AIDS compared to the average person and whether they thought seriously about AIDS when they had sex with a partner. Both measures were coded strongly disagree (1) to strongly agree (5).

RESULTS

Prostitute profiles

Prostitute profiles, like their age and education, are

Table 1. Prostitutes' Socio-Demographic Characteristics by Region Frequency (%)

Variable	Response category	Miari-Chunhodong (N=170)	Wanwalldong-Inchon (N=126)	Bujundong (N=75)
Age	10−19	10 (5.9)	0 (0.0)	0 (0.0)
	20−29	151 (88.8)	85 (67.5)	51 (68.0)
	30−39	5 (2.9)	40 (31.7)	17 (22.7)
	40 or more	0 (0.0)	1 (0.8)	7 (9.3)
	Missing	4 (2.4)	0 (0.0)	0 (0.0)
Education	No education	1 (0.6)	1 (0.8)	1 (1.3)
	Primary school	11 (6.5)	10 (7.9)	9 (12.0)
	Middle school	47 (27.6)	27 (21.4)	22 (29.3)
	High school	95 (55.9)	75 (59.6)	41 (54.7)
	Missing	16 (9.4)	13 (10.3)	2 (2.7)
STDs	0 (None)	101 (59.4)	38 (30.2)	20 (26.7)
	1 (Experienced)	69 (40.6)	87 (69.0)	55 (73.3)
	Missing	0 (0.0)	1 (0.8)	0 (0.0)
Years of residence	1 Year	123 (72.3)	56 (44.4)	24 (32.0)
	2 Years	26 (15.3)	33 (26.2)	20 (26.7)
	3 Years	10 (5.9)	14 (11.1)	16 (21.3)
	4 Years	4 (2.4)	4 (3.2)	3 (4.0)
	5 Years or more	6 (3.5)	17 (13.5)	12 (16.0)
	Missing	1 (0.6)	2 (1.6)	0 (0.0)
Number of clients	1	3 (1.8)	79 (62.6)	7 (9.3)
	2	7 (4.1)	37 (29.4)	13 (17.3)
	3	46 (27.0)	4 (3.2)	21 (28.0)
	4	36 (21.2)	0 (0.0)	14 (18.7)
	5	43 (25.3)	0 (0.0)	11 (14.7)
	6 or more	27 (15.9)	0 (0.0)	9 (12.0)
	Missing	8 (4.7)	6 (4.8)	0 (0.0)

listed in (Table 1). Forty-six percent of the cases were from Miari-Chunhodong market, 34% from Wanwalldong-Inchon market, and 20% from Bujundong market.

The age range of prostitutes was 16 to 51, with a mean of 26 years. Miari-Chunhodong market had younger prostitutes compared to the other markets. Nearly 89% of prostitutes in Miari-Chunhodong market were under the age of 30. Over 50% of prostitutes in three markets had at least a middle-school education.

While 41% of the respondents in Miari-Chunhodong market had prior experience of STDs, the other markets showed much higher rates, close to 70%. In the case of years of residence, over 70% of prostitutes in Miari-Chunhodong market reported less than 1 year of residence. Prostitutes in this market did not appear to stay in one place over several years. This indicates their mobility, which entails the possibility of spreading the STDs. By contrast, over 60% of prostitutes in other markets were found to have resided over 1 year.

Table 2. AIDS-Related Knowledge Score by Region

Number of correct answers	Miari-Chunhodong (N=170)	Wanwalldong-Inchon (N=126)	Bujundong (N=75)
0	0 (0.0)	0 (0.0)	1 (1.3)
1	0 (0.0)	0 (0.0)	0 (0.0)
2	1 (0.6)	0 (0.0)	1 (1.2)
3	5 (2.9)	2 (1.6)	1 (1.3)
4	16 (9.4)	5 (4.0)	6 (8.0)
5	22 (12.9)	11 (8.7)	17 (22.7)
6	37 (21.8)	25 (19.8)	13 (17.3)
7	52 (30.6)	36 (28.6)	16 (21.3)
8	37 (21.8)	47 (37.3)	20 (26.7)

Total : 371 Average : 6.46 S.D : 1.41

Over 60% of prostitutes in Miari-Chunhodong market or Bujundong market contacted 3−5 clients per day; Nearly 90% of prostitutes in Wanwalldong-Inchon market contacted 1−2 clients per day.

Table 3. Perceived Seriousness of AIDS by Region

Seriousness	Miari-Chunhodong (N=170)	Wanwalldong-Inchon (N=126)	Bujundong (N=75)
Strongly disagree	9 (5.3)	3 (2.4)	3 (4.0)
Disagree	21 (12.4)	18 (14.3)	4 (5.3)
Neutral	29 (17.1)	15 (11.9)	12 (16.0)
Agree	91 (53.5)	71 (56.3)	45 (60.0)
Strongly agree	20 (11.8)	18 (14.3)	10 (13.3)
Missing	0 (0.0)	1 (0.8)	1 (1.3)

Total : 371   Average : 3.62
                                     S.D : .99

Table 4. Perceived Vulnerability of AIDS by Region

Vulnerability	Miari-Chunhodong (N=170)	Wanwalldong-Inchon (N=126)	Bujundong (N=75)
Strongly disagree	37 (21.8)	11 (8.7)	11 (14.7)
Disagree	51 (30.0)	24 (19.0)	20 (26.7)
Neutral	47 (27.6)	49 (38.9)	25 (33.3)
Agree	28 (16.5)	35 (27.8)	17 (22.7)
Strongly agree	6 (3.5)	5 (4.0)	1 (1.3)
Missing	1 (0.6)	2 (1.6)	1 (1.3)

Total : 371   Average : 2.70
                                     S.D : 1.08

Table 5. Regression Analysis of Condom Use

Variable	b (S.E.)*	β
Education	.010 (.021)	.026
STDs (infected=1)	−.001 (.005)	−.005
AIDS knowledge	.038 (.035)	.059
Perceived seriousness	.077 (.048)	.087
Perceived vulnerability	−.071 (.045)	−.088
Miari-Chunhodong market	.338 (.130)	.190 †
Wanwalldong-Inchun markets	−.181 (.150)	−.096
Years of residence	−.072 (.029)	−.147 ‡
Number of clients	−.051 (.031)	−.116
Constant	2.914	
R^2	.108	

* Standard error.
† $p < 0.01$.
‡ $p < 0.05$, two-tailed test.

AIDS-related knowledge and risk perceptions

The score in AIDS-related knowledge across three markets was high, nearly 50% of respondents having 7 or 8 correct answers out of 8 questions (Table 2). They ranged in knowledge about AIDS between 0 and 8, with a mean score of 6.5. The rate of correct answers turned out to be higher in the Wanwalldong-Inchon market than the other markets.

Overall, around 80% of respondents correctly knew that HIV could be transmitted through sexual intercourse, mother to fetus, needles, or blood transfusion, or that HIV symptoms would not be noticed immediately after infection in most cases. However, around 30% of respondents wrongly believed that HIV could be transmitted through having meals with a person with HIV or using public toilets or that using a condom would not reduce the risk of getting HIV infection. These figures show the extent of misunderstanding about the specific modes of transmission.

Asked whether they thought seriously about AIDS when they had sex with a client, over 60% of respondents across the three markets answered that they did (Table 3). In constrast, very few of them thought that they did not. The mean on the perceived seriousness of AIDS, 3.62 on a scale of 5, indicated how seriously AIDS was viewed. Unlike the skewed distribution of seriousness, responses to the vulnerability item appeared to be normally distributed (Table 4). In spite of the high level of perceived seriousness, a relatively small number of prostitutes felt they were more vulnerable to AIDS than the average person. The comparison of these two attitudes suggests that AIDS prevention efforts need to be concentrated on heightening the level of perceived vulnerability.

Condom use and its determinants

Asked whether or not they initially requested condom use, 44% of prostitutes reported that they did ('agree' and 'strongly agree'). The percentage for the second question, however, dropped to 35%, indicating that prostitutes were less likely to insist when encountered with clients reluctant to use a condom.

To investigate the determinants of the level of

condom use, we included the following four sets of independent variables in the multiple regression equation: socio-demographic variable, health variable, AIDS-related perception variables, and market-related variables. As shown in Table 5, AIDS-related knowledge and risk perceptions were not found to be significantly associated with condom use. The results showed that prostitutes in the Miari-Chunhodong markets exhibited a higher level of requesting condom use than others. The other variable which turned out to be significant was years of residence. The prostitutes who stayed for a longer period were less likely to request condom use. That market type variable remained significant even with control variables indicating that some other market-related characteristics needed to be elucidated.

DISCUSSION

The evidence reported here indicates that prostitutes' level of condom use varies across the markets. Prostitutes in the Miari-Chunhodong markets, where a higher number of sexual contacts per prostitute occurred, exhibited a higher level of condom use. And prostitutes with longer years of residence showed a lower level of condom use. However, AIDS-related perceptions used mostly in social and behavioral research on preventive behaviors turned out to be insignificant factors of condom use. Neither perceived vulnerability nor perceived seriousness had significant effects on condom use.

In conclusion, the many AIDS-preventive educational efforts by STD clinics turned out to be ineffective. Hence, individual STD clinics need to develop AIDS-preventive education programs which are suitable for the unique circumstances of their respective 'sex markets'. Toward this end, it is recommended that local health care specialists should be encouraged and trained to develop a comprehensive understanding of socio-cultural rituals as well as clinical health conditions in each market.

That the survey was done at only five locations nationwide limits our ability to draw general conclusions from this study. The nature of the market in diverse geographic areas might influence the results of this type of survey. This study also focused on the sex markets in metropolitan areas, hence failing to delineate the pattern in rural areas.

We suggest that further research needs to be done on the following issues. First, the social and cultural circumstances of each 'sex market' should be studied. That is, the manner in which prostitutes serve their clients as well as the shared ideas and beliefs among them in each market need to be investigated in detail from a large sample. For this purpose, qualitative as well as quantitative approaches should be used. Second, more rigorous attention needs to be given to client characteristics in respective markets, such as socio-demographic characteristics, behavioral patterns, and perceptions. Third, future research on AIDS-related attitudes and behaviors of prostitutes living outside the markets, thus not under the control of STD clinics, as well as those in rural areas, is necessary to provide basic information for the development of comprehensive AIDS prevention programs.

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