

Condom Utilization Among Female Sex Workers in Thailand: Assessing the Value of the Health Belief Model

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Abstract

Objective: To perform a small-scale rapid assessment of condom utilization rates among female sex workers (FSW) in various communities in Thailand, to distinguish condom utilization among FSW patrons by country of origin, and to assess the relevancy of constructs from the Health Belief Model in predicting FSW requesting condom utilization by their patrons. **Methods:** A convenience sampling approached was used among FSW in four cities of Thailand. Survey interviews were conducted in person by native speaking Thai graduate students from Mahidol University of Bangkok. **Results:** Approximately 70% of the FSW approached participated in the study, resulting in a sample size of 150. FSW requested condom use 63% of the time, while the overall mean proportion of condom use was 51%. Condom use by patrons by country of origin was as follows: Foreign Asian averaged 52%, Western averaged 76%, and local Thai averaged 27%. High levels of perceived fear of infection transmission from a patron, significantly predicted requesting patrons use a condom (Odd Ratio= 11.57, CI95% 4.37 to 30.63). **Conclusion:** This study found overall condom utilization was 51% among FSW, which is far below the 100% Condom Use goal advocated by the Thailand Ministry of Public Health imitative. Educational efforts need to be focused on the local Thai FSW patron who exhibited the lowest level of condom use. Educational messages may consider including elements of perceived susceptibility to sex-based infections since these perceptions had significant predictive utility in increasing condom use requests by the FSW.

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Introduction

HIV/AIDS began in the 1980's and has manifested into a global pandemic of and estimated 40 million infected persons, with an annual mortality of some 5 million (Gayle, 2003). Once the etiology and natural history of HIV was determined governments and organizations around the world have directed financial and human resources to implement primary preventive strategies and programs. In the absence of effective vaccination against HIV behavioral interventions encouraging the use of barrier technology to limit exposure to bodily fluids have remained the salient means of abating the advance of this disease (Santo & Etheredge, 2002). In the developing world HIV/AIDS has been primarily spread by heterosexual contact, and accelerated by the prevalence of prostitution within each country.

In sub-Saharan Africa female sex workers (FSW) were identified as a core risk group at the beginning of the HIV epidemic, and function even today as a major component of HIV transmission network (Plummer, F.A., Nagelkerke, N.J., Moses, S., Ndinya-Achola, J.O., Bwayo, J., & Ngugi, E., 1991). Thailand has a long history of prostitution, albeit it is against the law and there are penalties for both the FSW and the patron (Jirapinyo, 1996; Viddhanaphuti, 1999).

In Thailand, estimates of the number of women involved in commercial sex trade range from 660,000 to 2.8 million (Lim, 1998). WHO estimates that 670,000 people, a prevalence of the 1% of the population, are infected with HIV in Thailand, with annual mortality rate of 1/1000 (WHO, 2002). Recognizing the severity of the

HIV/AIDS epidemic, the Thai government began in 1990 a nation-wide campaign to educate the public on HIV/AIDS and its prevention. It established the National AIDS Prevention and Control Committee that was chaired by the Prime Minister. The two key components of this campaign were: a) reducing the occurrence of male patronage of FSW, and b) improving the safety of the commercial sex trade workers by means of condom utilization. The latter effort was termed the 100% Condom Program. The program involved educating FSW on the use of condoms, increasing the availability of condoms by means of impersonal vending machines, and governmental subsidizing of the price of condoms to a cost of two condoms for five bahts (USA \$.11 cents) (Hananberg, Rojanapithayakorn, Kunasol, Sokal, 1994; Rojanapithayakorn, 1996). This concerted effort by the Thailand Ministry of Public Health and other organizations has reduced the proportion of adult males visiting FSW, and has increased condom use at brothels (WHO, 2000). The rate of HIV infections among FSW has also declined and is attributed to condom use by the sex workers (WHO, 2000).

Previous research investigated psychosocial factors that influence the consistency of condom use among FSW. The relevancy of attitudes, motivation, communications, along with self-esteem and future life-prospects were assessed among FSW (Koetswang & Ford, 1993, 1999). The present study was designed as a rapid assessment of the extent to which the 100% Condom Use goal is being achieved. In addition, we were interested in analyzing what demographic factors and attitudinal constructs from the Health Belief Model that would have explanatory value in predicting the request for condom utilization (Schuster, 1998).

Methods

Study Design and Setting

A cross-sectional nonrandomized convenience survey study was undertaken in the Thailand cities of Bangkok, Chiang Mai, and Mae Hong Son, and a few small villages classified as 'Other.' The questionnaire was a forced-choice design and administered in person by native

Thai-speaking public health graduate and medical students who were recruited from Mahidol University of Bangkok. A total of nine survey interviewers were recruited, and each was trained to ask the questions in a neutral and non-biased manner. Brothels were selected as being representative of the community, and no attempt was made to differentiate them based on the socioeconomic status of the patrons. Each potential respondent was given a short explanation as to the purpose of the study. Each respondent gave their verbal consent prior being asked any of the questions. All respondents were also informed that their answers to the questionnaire were completely anonymous. Finally, each respondent was told that the data collected were to be used solely for scientific research purposes. All of the respondents were from brothels and sex service clubs.

Questionnaire Design

The survey questions were constructed based on the expertise of the researchers, research hypotheses, review of scientific literature on the topic of inquiry, and consultation with public health officials in Thailand. The survey consisted of four specific subsections as follows: 1) FSW demographics, 2) Patron data, 3) Condom utilization, and 4) Attitudes regarding condom use. Each attitude question represented a construct from the Health Belief Model that was hypothesized to have explanatory value in determining whether the FSW would request a patron to use a condom (i.e., perceived susceptibility, perceived seriousness, social cues to action, benefits and barriers), and was scaled on a 7-point Likert scale (from Strongly Agree to Strongly Disagree) (Schuster, 1998).

Research Goals

The study had several key research objectives: a) Determining the proportion of condom utilization, b) Assessing the levels of condom utilization by origin status of the patrons, and c) Assessing the relevancy of the Health Belief Model constructs in predicting condom requesting by FSW. Data were collected over a ten-month period, and analyzed using SPSS, Inc. software.

Results

Demographic Analysis: Two hundred and fourteen FSWs were asked to participate in the study. One hundred and fifty FSW agreed to complete the survey, a participation rate of 70%. The mean age of respondents was 24.60, with a range of 20 to 32. The highest mean age was in Mae Hong Son, which borders Myanmar (Burma). The mean number of years as FSW was 3.83, with a range of 1 to 10 years. FSW has a mean of 5.41 patrons per day, with Bangkok having the highest number of patrons (Table 1).

Condom Utilization Analysis

Regarding source of condoms, 70% of the FSW indicated self-purchase, 30% indicated the condoms were provided by the place of business. Respondents reported an average of 3.52 condoms used per day, with a range from 1 to 8 (Table 2).

Correlation analysis indicated a positive correlation ($r = .28, p < .01$) between Worry About Getting HIV/AIDS and Western patrons, and a negative correlation with foreign Asian patron ($r = -.46, p < .001$) and local Thai patrons ($r = -.30, p < .001$).

FSW indicated that 63% of the time they requested that a patron use a condom, and all of the FSW had experienced events where the patron simply refused to use a condom. Overall mean condom use was 51%. The break down of condom use by patron's country of origin was as follows: Foreign Asian 52%, Western 76%, and local Thai men 27% ($F=390.0, p\text{-value} < .0001$). Post hoc analysis indicated Thai patrons were used condoms significantly less than Western and Asian patrons. There was no significant difference in mean condom use by location. The percentage of FSW asking for a higher monetary charge for not using a condom was 13%.

Table 1
Mean Age, Mean Years Worked as FSW, and Mean Patrons Per day by Location (N=150)

Locations	N	Age ^a	Years Worked ^b	Patrons Per Day ^c
Bangkok	75	24.00	3.33	6.00
Chiang Mai	34	23.56	3.41	5.59
Mae Hong Son	26	28.23 ¹	6.12 ²	4.23 ³
Other	15	23.67	3.33	4.13 ³

^aF=14.02, p=.001, ^bF=14.33, p<.0000, ^cF=13.05, p<.0000.
¹Tukey Test Significant, ²Tukey Test Significant, ³Tukey Test Significant.

Table 2
Mean Condoms Per Day by Location

Locations	N	Condoms Per Day ^a
Bangkok	75	3.85
Chiang Mai	34	3.62
Mae Hong Son	26	2.35 ¹
Other	15	3.67

^aF=5.64, p=.000, ¹Tukey Test Significant.

FSW Attitudes

Several condom attitude questions were asked of the FSW based on the Health Belief Model. All of the FSW admitted that they feared getting an

infection from their patrons, and likewise agreed that condoms can prevent these transmissions. They also recognized that their co-workers do not uniformly request that their patrons use

condoms. They did not perceive that condoms were expensive (a potential barrier to utilization). The FSW also tended to admit that HIV/AIDS is an occupational worry; they

perceived that patrons prefer not to use condoms. These attitudes expressed by the FSW did not differ significantly based on location (Table 3).

Table 3
Means of Condom Use Attitude Questions Representing the Health Belief Model (N=150)

Constructs Measured	Means
1. Fear STD Transmission from patron (Perceived Susceptibility)	6.62 ^a
2. Condoms Prevent Infections (Perceived Benefit)	6.89
3. Co-Workers Always Request Condom Use by their Patrons (Social Cue)	3.84
4. Condoms are expensive (Perceived Barrier)	2.92
5. HIV/Aids is a Big Personal Worry (Perceived Seriousness)	5.13
6. Patrons Prefer Not to use Condom (Perceived Barrier)	5.10

^a7=Strongly Agree, 1=Strongly Disagree.

All of the Health Belief Model attitude and perception measures were regressed on FSW Requested Condom Use by Patron using logistic analysis. Only the perception indicating fear of infection transmission from a patron (perceived susceptibility), had a significant predictive effect. The FSW was 11.57 times more likely to request that a patron use a condom when they strongly agreed to a high fear of getting an infection from a patron (CI_{95%} 4.37 to 30.63).

Discussion

This study found average condom utilization among FSW of 51%, which is substantially lower than the 80% average recently found in a controlled intervention study (Ford & Koetsawang, 1999), and far from the Thai Ministry of Public Health's goal of 100%. Intervention and educational efforts need to be focused on the indigenous Thai patrons who are the majority of patrons and had the lowest users of condoms at 27%. It appears that foreign patrons have the knowledge and willingness to utilize condoms, perhaps because of greater awareness of the risk and dangers of HIV/AIDS. Ironically, Worry About HIV/AIDS was positively correlated with Western patrons, and negatively correlated with Foreign Asian and local Thai patrons. This greater perception of risk of contracting HIV/AIDS from a Western patron may explain the higher condom use requests when the FSW negotiates with them.

The age of the FSW was inversely related to condom use, which may seem ironic since the older FSW should be more knowledgeable about sex-based infection risks and are more experienced at negotiating the sex transaction. Two factors may explain these findings. Overall males tend to favor younger women for sexual relations (Buss, 1994; Buss & Barnes, 1986), even outside the sex trade context, and secondly the number of patrons per day was inversely correlated with the age of the FSW. This latter empirical finding suggests that older FSW may have diminished "bargaining" capacity with potential patrons, and hence are less able to insist on condom use. Hence, the opposite may be true that younger (and more in demand) FSW have greater potential to negotiate condom use among the population of male patrons.

The condom utilization gap was most evident, an average of 3.52 condoms were used per day, while FSW average 5.41 patrons per day, suggesting that two patrons per day were disinclined to use a condom. Respondents in Mae Hung Son and the smaller rural locations had significantly the least number of condoms used per day, and had the fewest patrons per day. Hence, reduced demand for FSW may contribute to decreased utilization of condom use.

Perceived susceptibility to a sex-based infection was the only significant determinate of

requesting condom use among all the six Health Belief Model constructs. This is an interesting finding and adds credibility to “fear-based” messages for motivating condom request usage. In addition, the FSW attitudes evidence a high agreement with the benefits of condom use, high disagreement that condoms are expensive, and high expression of HIV/AIDS as a personal worry. However, there remains high agreement that patrons prefer not to use condoms.

First, These results are based on a convenience sampling technique, since subjects were not randomly selected. Hence, generalizability to other populations of FSW must be cautioned. Second, the study used more than one person to conduct the interviews, and there may have been variations in conducting the interviews such that the respondents were influenced in some manner that elicited different responses to the posed questions. Third, no attempt was made to determine the income level of the patrons, which may be an important determinant of condom use. Nor did we attempt to differentiate Thai from non-Thai FSW, the latter may comprise as

much as 25% of the FSW population in Thailand and tend to substantially under-utilize condoms (Ford & Koetsawang, 1999). Last, the sample size was small. Since we used native Thai speaking individuals to conduct interview in-person, the accuracy of collected responses should be fairly robust.

This study found that overall condom utilization was 51% among FSW in Thailand, indicating the need for continuing governmental and nongovernmental educational and condom use intervention programs (De Cock & Weiss, 2000). These efforts need to be focused particularly at the local Thai FSW patron who exhibited the lowest level of condom use and were also rated the lowest for HIV/AIDS Worry among the FSW. We found that only perceived susceptibility to sex-based infections predicted increased condom use requests by FSW. This suggests that educational messages should include elements of susceptibility to sex-based infections to promote use of condoms by FSW.

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