

**FINAL REPORT**

**BSS II – 1998**

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**Changes in  
Sexual Behavior and  
Commercial Sex in Cambodia:  
1997-1998**

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## **EXECUTIVE SUMMARY**

Cambodia has been facing the serious spread of HIV/AIDS since the first HIV cases were detected at the National Blood Transfusion Center in Phnom Penh in 1991. According to the estimate of the National Center for HIV/AIDS, Dermatology and STDs, Ministry of Health. In 1998, there are 150,000 HIV infected people.

The second round of sexual behavioral surveillance survey (BSS) was conducted in Cambodia between March and June, 1998, in five provinces (Sihanouk Ville, Battam Bang, Siem Reap, Kampong Cham and Phnom Penh) in order to track sexual behavior changes in Cambodia. Six population groups (three male, three female) representing the variety of risk behavior were selected for surveying: 1) Female sex workers, 2) Beer promotion girls 3) Working women 4) Military-police 5) Moto taxidrivers 6) Male vocational students and government officials. In total, there are 4265 respondents who involved in this survey.

The result from this BSS II found that sex workers who have sex with casual clients, regular clients, boyfriends reported that they always use condom 53.4%, 52.7% and 23.9% respectively. For military-police and mototaxi drivers when practicing sex with sex workers, the consistency of condom use rate is 62.8% and 61.8% respectively. Among those three groups, the condom use is 10% significantly increased compared to the previous round in 1997. For beer girls, 50.5% of them have boyfriends in the past year and also 31.1% of them have sex with money or gifts. They reported that 29.7% of them used condoms every time they have sex with clients. For this group, there is 20% significant increase compared to the BSS I, 1997. For vocational students, and government officials, the condom use rate is 77%. Even though, the condom use is the highest one among different target groups, there is no significant increase for this group compare to 1997 (71.5% of them always use condoms with sex workers). For this BSS II, there are significant increases of always-condom use among some target groups for commercial sex, but the condom use practice is still low when having sex with their boyfriends or girlfriends. STDs self-medication is still high among various groups compared to other choices.

Consistent condom use in commercial sex increased for all groups excepts the group that achieved the highest level, the vocational students. Health seeking behavior for STDs increased in high risk groups in 1998, but most of the increase was accounted for a rise in pharmacy use as the first choice for care. Use of pharmacies and drug vendors for STD care should be addressed.

## I. INTRODUCTION

Well established HIV/AIDS and sexually transmitted disease (STD) epidemics have been clearly documented in the past few years in Cambodia. The HIV sentinel surveillance has found 43% of Cambodian female sex worker (FSWs), 19% of indirect sex workers, 6% of police officers, and 2.5% of married women are infected with HIV<sup>1</sup>. These numbers mean that Cambodia now has among the highest rates of HIV/STD in the world, and probably the highest in Asia. To control this epidemic, the National AIDS Program (NAP) has developed programs to educate people about STDs/HIV and to prevent the spread of the diseases through promotion of condom use and treatment of STDs. Many non-governmental organizations are also starting STD/HIV prevention and treatment programs in Cambodia. The establishment of such intervention efforts and severity of the epidemics require reliable systems for tracking risk behaviors associated with STD/HIV transmission to determine if and to what extent such behaviors change.

Throughout the world, changes in disease patterns are followed through regular tracking of cases of infectious diseases known as *surveillance*. For public health purposes, most countries systematically collect data on the health behaviors related to chronic diseases such as smoking, physical activity, eating patterns, alcohol consumption, violence and risky sexual behavior. In the United States, there are as many as six different surveys conducted either annually or on a regular basis to follow a range of health behaviors including a Behavioral Risk Factor Surveillance System conducted annually in each state and supported by the Centers for Disease Control (CDC)<sup>2</sup>. The rise of the global HIV epidemic has led to increasing attention on the need for standardized systems for surveillance of the behaviors associated with acquiring and transmitting HIV. To contribute to that need, the USAID-funded AIDSCAP Project launched a series of studies in developing countries to provide a foundation for the establishing regular surveillance of sexual behavior in those countries called the Behavioral Surveillance Survey (BSS). These surveys are designed to be administered annually to provide data on changes of risk behavior over time. This report presents findings from the second round of the Cambodian BSS completed in June 1998 as well as some important differences in the levels of reported behavior from the BSS I (1997) to the BSS II (1998).

## II. WHAT IS A BEHAVIORAL SURVEILLANCE SURVEY (BSS)?

BSS is a series of repeated cross-sectional surveys conducted at regular intervals on a national or regional scale in target groups. The goal is to monitor and track high-risk sexual behaviors in selected target groups on a regular and systematic basis<sup>3</sup>. The questions focus on the main behaviors that put people at risk for HIV infection. The uses of BSS are as follows:

- **Targeting prevention programs:** BSS can show which population subgroups have high risk behaviors and help decide how to design prevention programs for target groups
- **Identifying specific behaviors in need of change:** HIV risk behaviors can occur with different types of sexual partners (such as commercial sex workers, casual partners including sweethearts, or long term partners including spouses). Asked correctly, questions in BSS can point to which relationships need intervention to decrease risk. For example, in many countries condom use has become the norm for commercial sex but few people use condoms with non-paying or casual partners.
- **Providing indicators of success and identifying persistent problem areas:** Since BSS is repeated, it can identify changes in the behavior of groups that are targeted by intervention programs. Though not designed to evaluate specific programs, BSS can illustrate that certain behavioral goals of sets of programs are being met. Also, risk behaviors that do not change over time in spite of program efforts may suggest other types of interventions are needed.
- **Serving as an advocacy and policy tool:** BSS results can be used for advocacy and policy. Findings can be interpreted for journalists and then printed in newspapers or on the radio. Results can also be used to convince politicians and funding organizations of the need for more attention to HIV prevention.

It should be noted that BSS is not designed to evaluate specific interventions. Nevertheless, BSS can show that the behaviors targeted to change by intervention programs have in fact changed, although these changes may have been due to causes other than the intervention.

Although HIV has spread extensively in Cambodia, experience in other Asian countries such as Thailand has shown that behavior can change in a relatively short period of time toward lower risk in some situations and higher risk in others. BSS will warn NAP and NGO program managers of new behavioral patterns and help evaluate prevention programs. The BSS was initiated in 1997 just as Cambodia began implementation of a major, national offensive against HIV with support from the World Bank, French Cooperation, European Union and other donors.

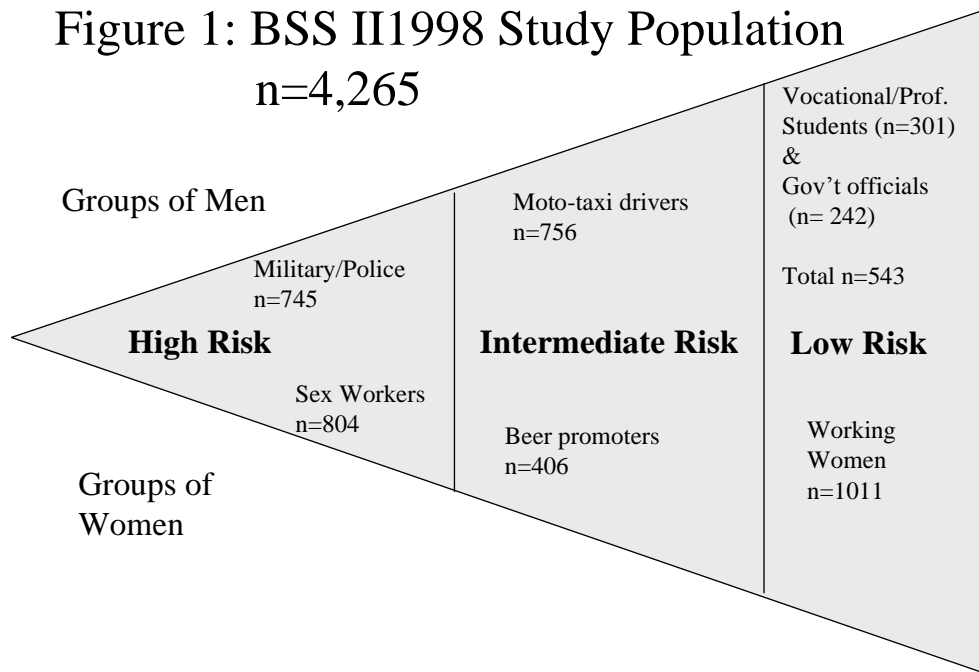
In Cambodia, the specific uses for BSS are:

- Monitor sexual behavior of risk groups from year to year for behavior change
- Provide yearly information on social conditions affecting HIV/STD (e.g. conditions of commercial sex)

### III. STUDY POPULATION

The Cambodia BSS provides a description of the sexual behavior of people who are members in each of the three groups: the core, the bridge, and the general population (Figure 1). By following the behavior changes in this group we will understand the potential for the STD/HIV epidemic in Cambodia.

Sound formative research on sexual behavior previously conducted in Cambodia by anthropologists and NGOs reported in a number of different studies<sup>45</sup> has allowed for the identification of STD/HIV risk groups. Because the distribution of risk behaviors has not been systematically studied across the Cambodian general population, the actual risk level of these groups compared to the general population is not known. HIV prevalence data is available for some groups, however, providing support for their choice as high, intermediate or low risk for Cambodia. Comparisons of behaviors by groups are important to gauge the future direction of an STD/HIV epidemic in Cambodia.



**A. Core Groups:** A disproportionately large number of STDs result directly or indirectly from a small subgroup of the people experiencing infection in a population known as the “STD core group”<sup>6</sup>. This is defined as a group of highly vulnerable individuals characterized by high rates of partner change (often with each other), longer duration of STD infection often related to poor access to acceptable health care, and highly efficient transmission of infection per exposure; that all contribute to high rates of STDs<sup>7</sup>. Early research on syphilis and gonorrhea epidemics identified core groups. It is assumed that the prevention of STDs in these groups will lower a community’s STD rate more than prevention among other groups or the general population.

In Cambodia, the core group is brothel based Female sex workers (FSWs) and urban men belonging to the police and military. Men engaged in these professions are considered the core group for two reasons. First, they have high prevalence of HIV, in fact the 1998 HIV Sentinel Surveillance found 6.2% of police and in 1997 surveillance found 7.1% of military to be HIV positive. Second, they are known to frequently purchase sex and do so at a much higher rate than that reported in any other group of men by other studies in Cambodia. For example, the Cambodia Prevalence and Behavior Study found 50.1% of military/police had commercial sex in the previous month and 81.3% in the past year)<sup>8</sup>.

Female sex workers represent the core group of women in many countries. Women engaged in low-fee commercial sex tend to have more partners and greater sexual activity than the rest of the female population by necessity - their livelihood depends on their level of sexual activity. Cambodian FSWs are no exception. Moreover, the commercial sex industry in Cambodia is organized around “brothels”, commercial sex establishments that employ women to sell sex. Descriptive research has been conducted with FSWs in Cambodia and verifies the risky nature of their sexual activity and describes the structure of brothels<sup>9</sup>. Moreover, epidemiological data on FSWs reveals that up to about 39% of FSWs having either gonorrhea or chlamydia<sup>10</sup> and 42.6% of FSWs are HIV positive<sup>11</sup> in Cambodia.

The BSS sample of FSWs was restricted to brothel-based Cambodian FSWs. The BSS team recognizes that there are other types of FSWs in Cambodia, for example Vietnamese FSWs and non-brothel based FSWs. Even though there are many Vietnamese FSWs in Cambodia and these women may play a role in the spread of STD/HIV, they represent a minority of all FSWs in the country and the difficulty of translating questionnaires and locating bilingual interviewers made it not feasible to include them in BSS. Only FSWs working in brothels were interviewed to insure a consistent approach to sampling. It is hoped that specialized surveys in groups of Vietnamese FSW and non-brothel based FSWs will be conducted to supplement information in the BSS.

**B. Bridging Groups:** The transmission of STD/HIV beyond core groups into the general population has been shown to be based on patterns of mixing by individuals who have sexual intercourse with different types of individuals<sup>12</sup>. As STD/HIV spreads in a country, it moves from the core groups into the general population through people who act as a bridge because they have sexual partners both in the core groups and in the general population. Individuals with both core and non-core partners may therefore play a critical “bridging” role for HIV/STD transmission in countries such as Thailand by linking a low prevalence population of spouses (wives) and other non-core women to a high prevalence population of women who work in commercial sex. The sexual transmission of STD/HIV beyond high risk or “core” groups depends upon individuals who have sexual intercourse with members of core groups and with members of the general population<sup>13</sup>. Studies in Thailand have looked at such bridging among men; one found 16.8% of low income men and 25.1% of truck drivers to be sexual “bridges” between FSWs and low risk spouses and girlfriends during the previous six months<sup>14</sup> and the other found that 22% of men reporting commercial sex in the past year<sup>15</sup> to be bridgers. Married men who had sex with prostitutes represented the most common “bridge” in these studies.

Women not regarded as FSW but who have multiple partners theoretically could also serve as bridges, but few studies have identified such women in developing Asian countries.

The bridge population was defined for the Cambodian BSS as men and women likely to have both commercial and non-commercial partners. These would include those who exchange sex for money but are not engaged in commercial sex as a full-time profession. Women who work for beer companies promoting beer in restaurants and bars, as beer promoters (“beer girls”) are believed to have many sexual partners, including some that are commercial. We suggest they are equivalent to cocktail waitress in other countries. Some beer promoters, though not all, work as indirect sex workers. Others, however, many have “boyfriends” or “sweethearts” in relationships that may be non-monogamous. Moreover, some beer promoters may have more than one “sweetheart” at one time and still other beer promoters may have serially monogamous relationships.

The male bridge group was identified to be men working as moto-taxi and cyclo-taxi drivers (motodivers). Their access to cash and mobility is believed to provide them greater access to commercial sex than other low income men. Taxi drivers congregate at depots and motto drivers (motorcycle taxi drivers) are easily spotted by their common brand of motorcycle and baseball cap.

**C. General/Low Risk Groups:** Another important measure of the speed and breadth of HIV spread used in determining the stage of the epidemic is the prevalence level in a low risk group of sexually active individuals, typically married women of reproductive age. In Cambodia, research on the general population has shown relatively low rates of commercial sex use among men in occupations other than police or military<sup>16</sup>. Additionally, the STD/HIV Prevalence and Resistance Study revealed negligible rates of risky sexual behavior among women attending reproductive health services. The sexual behavior of these married women is not expected to change, consequently, they will not be the targets of sexual behavior change programs given their low risk profile. Prevalence of GC/CT in such women was found to be 5.0%<sup>17</sup> and HIV 3.2%<sup>18</sup> in clinic settings although 2.5% of married “housewives” have been found to be HIV positive in rural and urban settings in the 1998 HIV sentinel surveillance<sup>19</sup>. Nevertheless, the prevalence of HIV among such women is still higher than found in most other countries in low risk populations in Asia.

For the low risk group of women in Cambodia’s BSS, a sample of women likely to experience changes in sexual behavior and norms regarding sexual activity over time was selected for inclusion. These are young women between 18-30 years working in a low-pay profession such as factory work. These “working women” were sampled from a variety of occupations such as daytime market vendors, factory workers, sanitation crew, hotel and restaurant workers. For males, in 1997 vocational students were chosen because they were presumed to be less prone to sexual risk taking given their higher education and social status. In 1998, the group of low risk men was expanded to include “working men” sampled from the same types of employment as the working women. By including such men, a better comparison can be now made between the men and women in sexual behavior.



Low risk men and women are undergoing rapid social changes in Southeast Asia and may be increasingly likely to interact with higher risk partners, therefore, those rates may climb still higher if their sexual behaviors become more risky. Further rationale for the inclusion of lower risk men and women comes from Thailand where “female peers” of low income men (defined as non-spousal non-FSW women) were found to be exposed to HIV in greater numbers than wives of low income men<sup>20</sup>. This study suggested there may be a substitution effect as policies aimed at reducing commercial sex activity take hold and norms weaken against pre- and extra-marital sex with non-FSWs causing an increase in sexual contact between young men and young women<sup>21</sup>. Given Cambodia’s geographic and cultural proximity to Thailand, it is important to track the same social trends. Therefore, we selected sentinel groups at lower occupational risk than the other groups because they may reflect changes in sexual behaviors and norms of the general population.

The BSS groups all represent different levels of risk for STD/HIV in Cambodia. Consideration of vulnerability to HIV and ease of access also influenced the selection of groups. In addition, changes in trends of risk behavior of these groups should be sensitive to effective national program interventions. These groups of individuals are common in the more urbanized parts of Cambodia and changes in trends of risk behavior of these groups should be sensitive to effective national program interventions.

#### **IV. STUDY DESIGN**

The following section will describe the following major components of Cambodia's BSS study design summarized below:

- Five sites (Cambodia's major urban areas)
- Cluster samples
- Face to face interviews, gender matched
- Repeated measures from 1997
- Annual survey

### **A. Study Sites**

The BSS is conducted in Cambodia's five major urban centers in five different provinces. The following are the BSS sites: Phnom Penh, Battambang, Siem Reap, Sihanoukville, and Kampong Cham. Cities are seen as pockets of high risk behavior and places where behavior change programs may be targeted. Moreover, social change tends to originate in urban areas where communications are better and social interaction high. Therefore, sexual behavior change may also be expected to occur first in cities. Each site has a specific social context that allows for a different distribution of risk behaviors. For example, Battambang and Sihanoukville have a large military presence because of the Thai border and political unrest near the former and due to the port in the latter. This results in a large and fluid population of men participating in the unique social experience of military service and often living in groups apart from wives and families. Additionally, Siem Reap is the site of Angkor Wat, the locale of greatest tourism in Cambodia. The tourist trade fosters a large service economy and may allow for the influx of more cash into the local economy than other sites. These are examples of how social conditions in each site can vary and may either foster or impede the practice of risk behaviors such as the sale of sex.

### **B. Sample Design**

A cluster design was employed to sample for each group. Cluster sampling is an efficient way to collect survey information when it is impossible or not practical to make a complete list of everyone in a target population. As a first step, clusters defined as naturally occurring units, were identified for each group. The clusters for FSWs were brothels; for police/military men they were police departments and battalions; for beer promotion women clusters were beer companies; for motodriviers they were heavy traffic street corners such as surrounding central markets; vocational schools were the clusters for vocational students; and finally clusters for working men and women included factories in cities that had factories, government agencies, large hotels, and markets with vendors. All clusters and the number of individuals in each cluster were listed. Clusters were then randomly selected from the list and all members of the selected cluster interviewed until the target sample size was reached for that group. For each of the five groups, the proper channels and local authorities were used to gain access to the survey populations and create lists of clusters.

Interviews were conducted face to face by gender matched interviewers described below. Supervisors were present at all times that interviews were conducted to insure that interviews were conducted in privacy and in an appropriately sensitive manner. All questionnaires were checked in the field by supervisors to improve data quality before the data was entered. Data entry was done in the NAP office in Phnom Penh in EXCEL. Analysis was done in STATA.<sup>1</sup>

### C. Sample Size

The number of respondents for each group was determined based on the estimated level of key risk behaviors (such as percent using condoms in commercial sex) and the degree of confidence required to detect a significant change in behavior over time. An AIDSCAP matrix for determining sample size given the above assumptions was applied and the AIDSCAP Evaluation Manual # 4 describing the basic principles of conducting a BSS in the context of a comprehensive HIV prevention program served to guide the sampling and data collection procedures to maintain consistency with BSS in other countries<sup>22</sup>.

Table 1. Sample Sizes: BSS I and BSS II

	BSS I	BSS II
FSWs	245	804
Police/Military	407	745
Beer Promotion	581	406
Motodriviers	570	756
Working Women	1370	1011
Vocational Students/ Working men*	1183	553
Total	4,356	4,275

\* Working men were only in BSS II.

The sample size was adjusted for year 2 of BSS after the actual prevalence of the risk behaviors found in BSS I was applied to recalculate the sufficient size needed to detect statistically significant changes in reported behaviors. Therefore, the numbers needed for some groups was increased while for others it was decreased (Table 1). The exception was FSW. In BSS I, only two of the five sites interviewed FSWs because two other studies collecting comparable data

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<sup>1</sup> Additional information on the interview process is provided in a following section.

were being conducted in the same time period. At the time of data collection for BSS was initiated (March 1997) brothel based FSWs were being “overstudied”. A number of studies had just been conducted in the same cities with them and the NAP was concerned that other research had been done with them that was duplicative. Moreover, both NAP staff and MOH staff at the provincial level may have been fatigued from so much research. Therefore, an attempt was made to collaborate with other studies such as The Evaluation of Peer Group Education funded by GTZ, a concurrent project on FSWs. The questionnaire for GTZ was amended by adding 8 questions essential for BSS and these were included in the data collected from FSWs in Battambang, Sihanoukville, and Kampong Cham. Thus, the BSS did not collect data in the first round from FSWs in Battambang, Sihanoukville, or Kampong Cham. In BSS II, however, all five sites include samples of FSWs; reflected in a much bigger the total sample of FSWs for 1998 than in 1997. Below is a table of the BSS sample by city for 1998. The final numbers of risk group members interviewed by site are in Table 2 below.

Table 2. Risk Groups By City: BSS 1998

	Phnom Penh	Battambang	Sihanoukville	Kompong Cham	Siem Reap	Total
FSWs	162	136	160	169	177	804
Police/Military	128	172	156	153	136	745
Beer Promotion	64	103	84	79	76	406
Motodriviers	133	155	152	158	158	756
Working Women	195	202	205	202	207	1011
Vocat'l Students/ Working Men	67	128	132	110	116	553

#### D. Questionnaires

Experience with the BSS in other countries has found that a questionnaire that takes 15 to 20 minutes per respondent is best. Too short a questionnaire was found to not allow respondents to

become comfortable with the interviewer, which is necessary before the interviewer can ask personal details of sexual behavior. Too long a questionnaire was found to make the fieldwork and data processing too expensive and slow and places a greater burden on respondents' participation. The topics included demographic information (age, marital status, education, number of living children), perceptions of peer behavior, and treatment seeking for STDs. But most of the BSS questions focus on behaviors such as number of different sex partners by type and condom use. Certain parts of the questionnaire were the same for all groups while other segments were specific to the subgroup. Questions and wording were adapted from existing, pre-tested data collection tools used in STD/HIV Prevalence and Behavior Study.

**Pretests:** Pretests were conducted with motodriver, FSWs and beer promoters by supervisors and again by the actual interviewers during the interviewer training. Questionnaires were revised repeatedly. The final versions of the questionnaires represented a fourth generation of the original forms, insuring clarity in question style and recording format.

For BSS II, all questionnaires used in BSS I were reviewed. Only small changes were made, a few questions were added or removed based on the review. A special attempt was made to keep the questions exactly the same for the important variables of interest such as condom use in commercial sex. Therefore, the questionnaires were basically identical for BSS I and BSS II.

## **E. Data Collection Team**

**Supervision:** Four supervisors from the NAP national office in Phnom Penh made up a coed supervisory team led by a team leader. All supervisors underwent a training on behavioral research, kinds of studies done, and for what purpose. The idea was to use the BSS data collection experience as a building block for the supervisors so that as interest grows in understanding sexual behavior in Cambodia, the NAP will be better able to choose the most appropriate study approach for specific questions and to consider designs other than the cross-sectional survey, especially for evaluation purposes. The supervisory team for BSS II contained three of the five supervisors from BSS I and the same team leader (Dr. Heng Sopheab).

As additional training, supervisors acted as interviewers in the first set of pretests of the questionnaires, conducting the interviews themselves and refining field protocols for interviewing. Thus, all supervisors had experience as interviewers from previous studies and also with the questionnaires for this particular study. As supervisors for BSS, these individuals were expected to instill standards of data collection in the interview team needed to insure data of good quality.

**Interviewers:** In a previous USAID-funded project on STD prevalence in Cambodia, joint survey teams successfully interviewed men and women across a range of sex behavioral variables in three provinces<sup>23</sup>. A similar approach was adopted for the BSS. Interviewers from each of the five sites attended an Interviewer Training Course in Phnom Penh for a week. In 1997, there

were 27 participants, 17 women and 10 men recruited from Ministry of Health departments in each province that was a BSS I site. The mean age of the women participants was 32.2 years and 29% were not married (5/17). The men were slightly older, with a mean age of 34.7 and 20% not married (2/10).

Half the training was didactic on the purpose of the BSS, importance of confidentiality, interviewing on sexual behavior, interviewer skills and rules, and the study population. This part was conducted interactively with the participants and was alternated with classroom interviewing practice. The other half of the training was outside the classroom where all participants were taken out to practice interviewing in the field. The field practice was heavily supervised (all supervisors accompanied the participants) and they were divided into a male and female group. The men were taken to different markets and practiced interviewing motodriver on the street. The women were taken to a red light district, Tuol Kork Dike, where they conducted interviews in brothels with FSWs. On another day, practice was at a beer company where beer promotion women were interviewed and the men went to a different market. After each field practice, there was a debriefing and guided discussion of the fieldwork experience that allowed for clarification of the questionnaires, followed by more didactic training. The practice interviews served as final pre-tests of the questionnaires as well and the interviewers' suggestions and issues were incorporated into the final versions.

BSS II was able to retain most of the interviewers from BSS I. In fact, % of the interviewers were the same. A three-day refresher course was held for the interviewers in 1998 and special supervision given to the new interviewers.

## **V. RESULTS: BSS II 1998**

This section will present the findings from BSS II. A draft report of findings from BSS I is available from the NAP. For low risk individuals, the working women are compared both to working men/government officials (heretofore referred to as working men) and vocational students. However, comparisons between the working women and the students should be interpreted with caution, as these groups clearly are quite different in terms of socio-economic status. The working men, on the other hand, were sampled from similar sites as the working women and serve as an appropriate group in which gender differences in behavior can be explored. For comparisons by group between BSS I and BSS II, the vocational students are compared between the two years because working men were not studied in BSS I (1997).

### **A. Demographic Characteristics of Groups:**

There are striking differences between men and women across the groups studied, as well as large differences within gender by the groups. The sample studied in BSS is predominantly young people; in fact the low risk groups of women and men were intentionally sampled to capture young adults and were restricted to those aged 18-30. The youngest group is the FSWs, followed by the beer promoters (see Table 3 below). Men are older than the women in all the groups (with the exception of vocational students who are younger than working women). The greatest differences in age are between the high risk groups, as the mean age of military/police is ten years greater than the mean age of the FSWs. More than half of the men reported being currently married in all groups but the vocational students. Much lower percentages of women report being currently married, yet this may be explained by their relatively young age. More women in the lowest risk group report being married than in the intermediate and high risk group. Among those who are currently married, almost all report that their parents arranged their marriage. In fact, around 90% across groups report arranged marriage, with the lowest percent being beer promoters and vocational students (83% and 84% respectively). Future research should explore the amount of choice individuals are able to exert within these marriage arrangements as well as the forms marriage arrangement currently take in Cambodia.

Differences between groups of those with children largely reflect age differences. More men report currently having children, which may be explained by their higher mean age than the women studied. Most military/police and working men report children (60% and 75% respectively) and these percentages exactly match the percent that report being currently married in these groups. The same percent of beer promoters and working women report having children (36%); FSWs report less (26%) but are younger in age than the other groups of women. Finally, vocational students report the least children but also have the lowest percentage currently married besides FSWs.

The greatest difference between men and women in BSS is in education. Very few men in any group report no schooling and their mean years of school is higher for all groups than for the women. More than 40% of the FSW report no schooling, an extremely high percent when

compared both to other women (12.6% of beer promoters and 4.8% of working women) and to the men who are their clients.

Table 3. BSS II Basic Demographics – All Groups

	RISK GROUPS: MEN				RISK GROUPS: WOMEN		
	Military /Police	Moto- Drive r	Low Risk Men		FSW	Beer Prom.	Work Womn
			V.Stdt s	Work Men			
<b>AGE- MEAN</b>	30.8	29.4	22.8	27.1	21.5	22.8	25.1
% Currently married	60.4%	78.7%	12.7%	53.1%	<1%	24.1%	36.3%
% Divorced	2.3%	1.5%	0%	1%	43.7%	34.7%	4.7%
Median Monthly Income (riels)*	54,000	150,000	9,000	80,000	200,000	190,000	73,000
Mean years of schooling	8.2	6.9	12.5	9.0	2.5	5.0	7.7
% no school	2.0%	1.1%	0%	2.9%	40.9%	12.6%	4.8%
% In arranged marriage(of married)	90.6%	87.1%	84.2%	89.5%	--	83.0%	93.4%
% with children	59.8%	74.8%	8.0%	46.3%	26.4%	36.2%	36.1%
% Not living with family	27.1%	4.6%	43.1%	10.8%	--	40.6%	8.6%
% Recent migrant**	6.1%	8.4%	13.0%	13.3%	64.5%	36.5%	7.3%

\* The median monthly income was slightly higher for military (60,000R) than police (50,000R).

\*\*Among Military/police, more military were recent migrants (11%) compared to police (2.0%).

Another demographic characteristic measured in BSS is monthly income, which revealed great ranges within the groups. Nevertheless a comparison of the median monthly income is illustrative. Clearly, women engaged in commercial sex (FSWs) have far greater earning power in Cambodia than other women and men. This should be interpreted with caution, however, because many FSWs are in debt to brothel owners (45% with a median debt of \$100 US dollars in 1996)<sup>24</sup> and may not have actual access to their income as the brothel owner may control it. The next highest monthly income was reported by beer promoters (190,000R). It should be noted that the FSWs and beer promoters have the highest incomes of all BSS groups. Motodriver reported a monthly income of 150,000R, which was higher than other groups of men. Given this occupation is in the informal sector; motodriver report generating considerable



income from a job that does not require tremendous skill or training. Working men and women reported median incomes that are very close, with women reporting slightly lower incomes. The military and police report relatively low monthly incomes, with the police earning more than the military but both earn less than working men. Finally, vocational students reported lowest monthly incomes, logical given that they are currently studying rather than working full time.

BSS II collected data on the social situation of participants, such as who respondents currently live with. Family living situations are defined as living with a spouse, parent or relative. More vocational students and beer promoters are not living with family than any other male or female group. Given that the mean age for vocational students and beer promoters groups is the same, yet they are younger than other groups, it is significant that they tend to live either with peers or alone and not with family. Another measure of the social situation of respondents is the percent reporting recent migration (in the past year) to the city/place where they were interviewed. This varied a great deal by group. By far the most FSWs reported recent migration (65%) followed by beer promoters (37%). In all other groups, less than 10% reported recent migration. This is an important distinction between FSWs and beer promoters and other young Cambodians studied in BSS – they tend to be recent migrants to the cities/places they currently reside. And given the very low rate of recent migration reported by other groups, this is unusual for Cambodians of their age.

## **B. Sexual behavior: All Groups**

The mean age of first sex is between 21 and 22 years for all groups but FSW and beer promoters. These women are initiating sexual activity on average between 3 and 4 years earlier than the other Cambodians studied in BSS. Given that the mean age of first sex for FSWs is only 17.6 years, it is clear that these women are engaging in sexual activity at a very young age.

Non-marital sexual activity in Cambodia may take a number of forms. An important one is sexual activity with “sweethearts” or lovers. While little is understood about the dynamics of those partnerships, it is clear that there is considerable amount of sexual activity within them and that such partnerships exist for both men and women and in all risk groups. In the BSS pretests, the topic of boyfriends/girlfriends/sweethearts emerged as a subject that is poorly understood by researchers. The definitions of these terms among different groups is not clear, yet it does seem likely that such terms have different meanings across groups. For example, men may refer to a FSW that they have sex on a regular basis as a “girlfriend”. Beer promoters, on the other hand, may call “boyfriends” regular partners that are non-commercial but there may be an exchange (goods or services) for sex that is involved in these partnerships. Therefore, a “boyfriend” of a beer promoter may be different from a “boyfriend” of a working woman. The definitions of such terms need clarification in more in-depth research. Nevertheless, it is important to track over time how the dynamics of such casual or non-marital and non-commercial sexual partnerships change over time within groups. Recent data suggesting a rise of sexual activity with girlfriends among men in Thailand and concurrent decline in commercial sex points to a need to track such trends in Cambodia.

In BSS, we addressed the issue of sweethearts by asking if individuals ever had a sweetheart, ever had sex with a sweetheart (see Table 4), had a sweetheart in the past year (Table 4), and had sex with a sweetheart in the past year. Additionally, all BSS respondents were asked if they used condoms with sweethearts but these findings will be reported in the section on condom use. Finally, we asked beer girls how often their sweethearts gave them money.

Among the men, a similar percent across groups reported ever having a sweetheart (60.3% of military and police, 66.5% of motodriver, and 57.9% of vocational students/working men). While there was no significant difference between the percent of vocational students and working men who reported ever having a sweetheart, in the past year significantly less vocational students than working men reported a sweetheart (18.7% vs. 30.3%). FSWs were not asked if they ever had sweethearts, because such a high percent were assumed to have had one; an assumption substantiated by the 43.5% of FSWs reporting sweethearts in the past year (table 4). This is in sharp contrast to the 7.4% of working women who reported ever having a sweetheart (6.1% reported sweetheart in the past year).

Among those with sexual experience, there were large differences in lifetime number of sexual partners by group<sup>2</sup>. For non-FSW women, the median number of partners was one; however, there was a bigger mean (3.8) for beer promoters than for working women (0.5). This reveals a greater range in number of partners for beer promoters than working women. The men in all groups have many more lifetime partners than the women and the patterns follows the level of their supposed risk group (with the highest risk group having the most partners). The military/police have many more partners than other groups, followed by the motodriver, and the vocational students/working men. However, the differences in age must be considered when comparing lifetime numbers of partners because older men have had more years in which to acquire more partners. Therefore, the fact that vocational students have the same median and only a slightly lower mean number of sex partners than working men, although their mean age is five years less than working men, is of note. As the vocational students age, it can be assumed they will surpass the numbers of sex partners of the working men. Given that the military/police, motodriver and working men are of similar ages, the differences between them in number of partners can be ascribed to greater sexual activity in the group with more partners (i.e. military/police).

**TABLE 4: SEXUAL BEHAVIOR: BSS II**

	RISK GROUPS OF WOMEN			RISK GROUPS OF MEN			
	FSW	Beer Girls	Work Women	Mil./ Police	Motos	Work Men	Voc'l St'dts
<b>Age First Sex (mean)</b>	17.6	18.2	22.5	22.1	21.3	22.3	20.8
<b>Unmarried Sexually active</b>	100%	75.6%	11.0%	89.1%	82.0%	62.6%	54.4%
<b>Lifetime sex partners median (mean)**</b>	NA	1 (3.8)	1 (1.0)	18 (39.0)	10 (27.8)	5 (16.8)	5 (10.3)
<b>Ever sex w/ sweetheart</b>	NA	39.2% *	<1%	33.8%	35.2%	19.4%	14.3%
<b>Sweetheart past year</b>	43.5%	52.0%	7.4%	19.0%	24.0%	18.7%	30.3%
<b>% watching pornography at some/great frequency</b>	13.4%	6.7%	1%	42.2%	51.2%	34.5%	34.3%

\* FSWs only asked if they had sex with sweetheart in the past year, not asked if ever sex with sweetheart

\*\*Lifetime number of sexual partners was calculated only for those with sexual experience, those who reported zero were excluded in this variable.

<sup>2</sup> FSWs were not asked to report lifetime numbers of sex partners because it was assumed that they would have difficulty reporting an accurate number given that their livelihood depends on having a large number of partners.

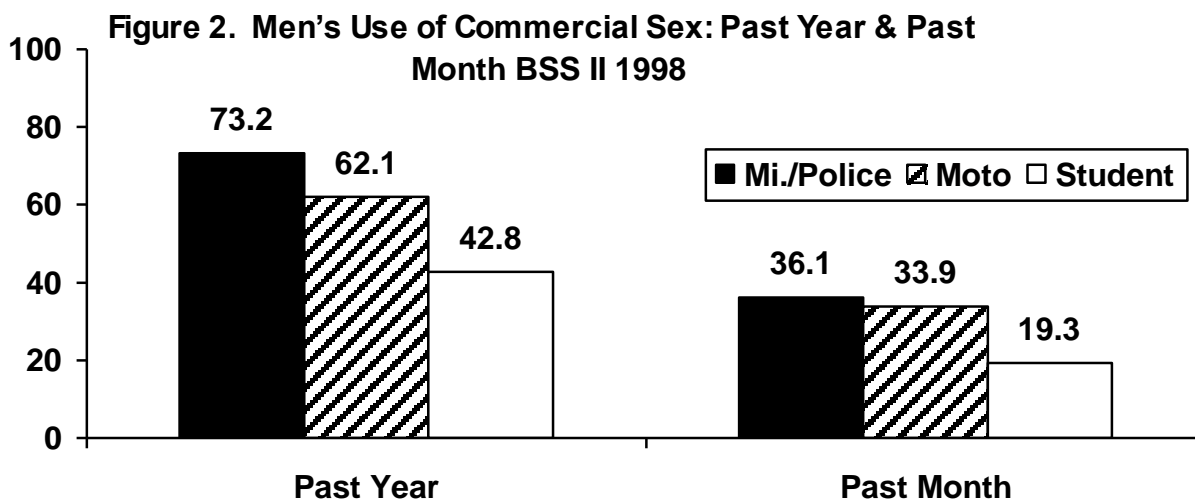
Men were asked about the number of times they had sex in the past month with their wife (for married men). Married military/police reported having sex a mean of 6.2 times with their wife in the past month, married motodriver reported a mean of 8.0 times, married working men a mean of 10.7 times, and vocational students a mean of 9.3 times sex with their wives in the past month. It should be noted that the higher risk groups had less sex with their wives, but more sex with sex workers in the past month (see Figure 2).

Sexual frequency or activity level of the 58.1% of beer promoters who reported sexual activity in the past month was a mean of 3.1 times (median of 4) but 31.3% had sex four or more times. The working women reported a similar level of sexual activity with a mean of 3.5 times in the past month among the sexually active. An interesting difference is that 77.4% of the sexually active working women reported having sex four or more times in the past month (once a week or more) which was more than twice as many beer promoters that reported that level of sexual activity. Comparing just married working women to married beer promoters (57.1% reported sex four or more times in the past month), about 20% more married working women report high frequency sex than married beer promoters. When considering the sexual activity levels of unmarried women, there are great differences between working women and beer promoters. For example, most of the 11% of unmarried working women who report sexual experience are divorced or separated women and less than 1% of never-married working women report sexual experience. By contrast, even though there are also many beer promoters who are divorced or separated, 48.6% of those never-married report sexual experience.

Finally, the NAP was interested in the influence that watching pornography (sex videos) might have on the sexual activity of Cambodians. Men reporting watching pornography much more often than women and more admitted ever watching it. Most women reported never watching pornographic videos (69.3%, 85.2%, and 97.5%) of the high, intermediate, and low risk groups while few men claimed to have never watched these videos (12.8%, 14.5%, and 19.7%) of the high, intermediate and low risk groups of men. Therefore, it is clear that over 80% of Cambodian men have watched such videos at some point, yet few women report having done so.

### C. Commercial Sex: Experience of Men

Considerable research has been conducted to date on the purchase of sex in Cambodia. It has been clearly demonstrated that men of many social strata purchase sex at some point in their lives, and may go through periods of their lives when they purchase sex with great frequency. It is not clear what determines Cambodian men's frequency of commercial sex, or how it varies by age, marital status, educational level, occupational group or other social indicators. BSS collects relatively comprehensive data on the frequency with which men purchase sex in the groups studied. Figure 2 below illustrates that percent of men who reported sex with a FSW in the past month. It is quite high across all groups studied, and follows the expected risk profile of the groups (more men have recently purchased sex in the group assumed to be highest risk, i.e. military/police, than in the corresponding groups).



\*The other low risk group of men, working men, are not included in this table but 15.7% of them purchased sex in the last month in 1998, not a statistically significant difference from the vocational students.

When the percent that purchased commercial sex is examined for the past year in BSS 1998, the differences persist between the groups. More military/police report sex with a sex worker in the past year (73.2%) than the motodriver (62.1%) and combined low risk men (42.8%). Most men report meeting FSWs at brothels (87.4%, 88.9%, and 86.2%) of risk groups respectively among those reporting sex with sex workers, followed by 8% of men across the groups reporting meeting FSWs at guesthouses or hotels. The amount men reported paying a sex worker for sex was consistent across groups, a median of 5,000 reils. When asked if they believe their friends have sex with FSWs, a similar percent of the high and intermediate risk groups of men reported all or most of friends have sex with FSW (60.9% of military/police and 59.4% of motodriver). These figures represent almost 20% more than the percent lower risk groups of men who reported that their friends had sex with FSWs (41.9% of working men and 42.1% of vocational students). Nevertheless, it is clear that men believe that about half of their friends has sex with FSWs, suggesting that male purchase of sex is a social norm in Cambodia.

#### D. Commercial Sex: Indirect and Direct Sex Workers

BSS attempts to measure the percent of beer promoters practicing sex work and understand more about their sexual behavior. To assess their participation in commercial sex, beer promoters were asked the following three questions: how many other beer promoters (their peers) practice commercial sex, have they personally had sex for money or a gift in the past year, and how often do their sweethearts give them money (to identify if some of these sweethearts are commercial partners). The responses to these questions are presented in Table 5 below.

Most or many friends have sex for money or gifts	39.9%
Boyfriend gives money every time they have sex	17.0%
Boyfriend gives money weekly or monthly	47.4
Had sex for money or gift in the past year	31.1%

In Table X, there appears to be a fairly high perception among beer promoters that the practice of sex work is fairly common, as almost half (40%) reported that most or many of their peers have commercial sex. Many beer promoters report receiving money from their sweethearts, however, there is great variability in the frequency of payment. Of those with sweethearts, only 9% never got money from sweethearts and about half receive money on either a weekly or monthly basis (with slightly more given money monthly rather than weekly). It is important to note that some beer promoters receive money every time they have sex (17%), only 3% less than those that are given money weekly. This information should be considered along with the monthly income data reported by beer promoters. They report a relatively high monthly income, only slightly less than FSWs yet more than double that of working women, however, how much of that income is actual salary and how much comes from sweethearts or other men in payment for sex work cannot be determined from the BSS. Yet beer promoters may have other financial strains, for example, 52.5% of those divorced or separated have children. Moreover, in terms of living arrangements, of the 40.6% are not living with family (Table X), 17%% are living on their own and 21.9% are living with friends. This means they are probably paying for housing, which can be a substantial cost. As a final note, while over 30% of beer promoters reported commercial sex, the actual percent engaged in sex work may be higher given the sensitive nature of this question and high likelihood that it is underreported. Given that beer promoters have formal salaries from beer companies, those who do practice sex work are considered “indirect” sex workers as their primary income is assumed to be from their job as a beer promoter.

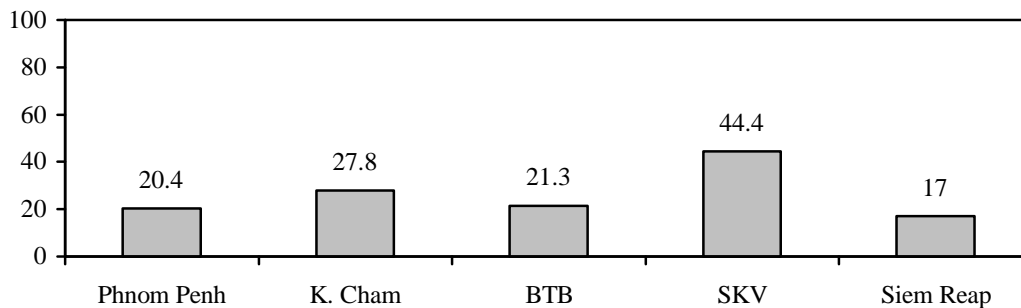
The FSWs are considered “direct sex workers” in the BSS. Table 6 below summarizes the conditions of brothel based sex as reported by FSWs. It is clear from this table that FSWs are young women, paid little for each sex act (although their monthly income is relatively high for women in Cambodia), and that they serve about 3 clients per day. The brothels are small establishments and the women do not remain in a particularly brothel for more than a few

months, and 93% of the FSWs meet their clients at the brothel itself. In terms of payment schedule, there is considerable variation. About a quarter of FSW report payment per man 24.5%, 18.0% are paid per day, and about half are paid by month (49%). Most FSW report receiving 50% of the charge for their work from the brothel owner (86.4%). While FSWs initiated sex at an earlier age than other Cambodians studied (17.6 mean age at first sex), many did not enter into commercial sex directly until an average of 2.7 years (median 1 year) following their sexual debut. FSWs women were asked about a number of different types of partners including clients, regular clients, and sweethearts. Regular clients, defined as men who they had had sex with more than five times, were fairly common as 51.8% of FSWs reported currently having regular clients with a mean of two regular clients and median of one. There were 43.7% of FSWs that reported having a sweetheart or boyfriend in the past year. Finally, it is important to note that 64.6% of FSWs had lived in the current city for one year or less, illustrating that many of them are recent migrants from either other cities or rural areas.

Age first commercial sex (mean)	20.5
Cost sex (median)	5,000 r's
Percent paid per month	49.8%
Number of clients yesterday	2.9
Percent who have sex while menstruating	71.3%
Condoms available in brothel	98.1%
Brothel size (mean)	7.0
Time in brothel (median # months)	2.0

Of especial note in the table above is the high percent of women who reported sex during menstruation (28.7%) across all five cities. This practice varies greatly by province/city (Figure X below). The city with the highest percent of FSWs who reported not stopping sex work during menstruation was Sihanoukville, in which almost half of FSWs (44.4%) continued working.

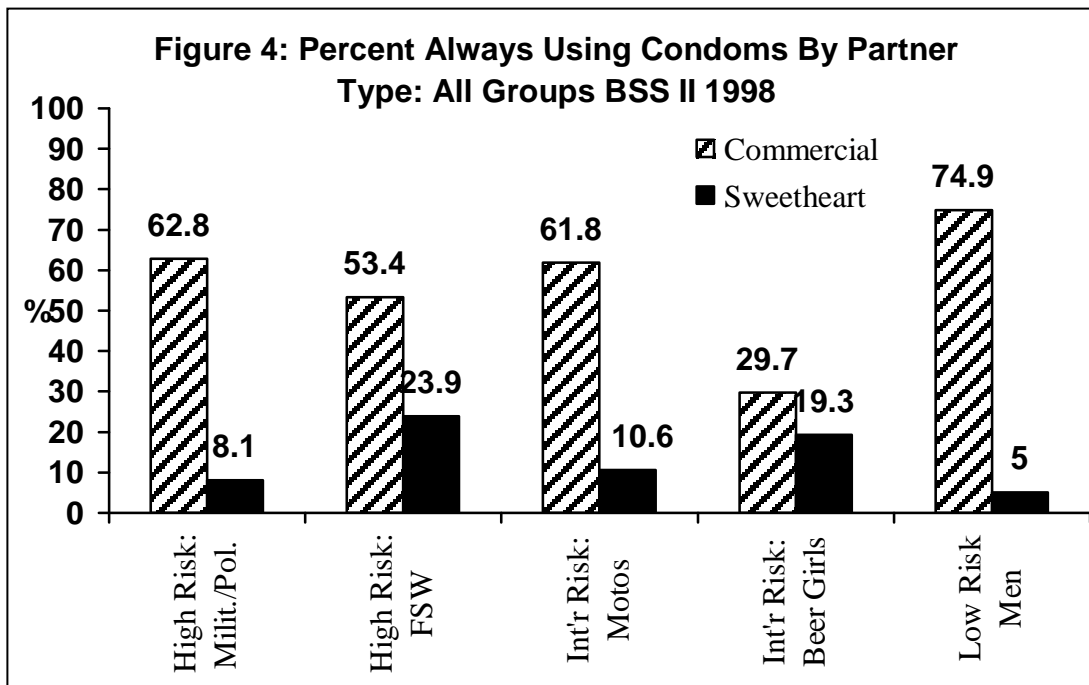
Figure 3: Percent of FSWs Reporting Sex During Menstruation: By City BSS II



Given a higher risk of HIV transmission if sex is during menstruation, these numbers are of great concern.

## E. Condom Use Across Groups

Condom use was primarily assessed in two ways, first by asking BSS participants in ALL groups about condom use the last time they had sex (with a commercial partner and sweetheart), and the frequency with which they use condoms in general with that type of partner (always, sometimes, rarely, or never). Figure 4 below illustrates that for all groups condom use is much higher during commercial sex than with sweethearts. The highest level of condom use with sweethearts was reported by FSWs who reported always using condoms almost a quarter of the time followed by beer promoters who consistently used condoms about 20% of time with sweethearts. For all other groups, reported condom use with sweethearts was much lower.



Among men with sweethearts, the following percentages reported using a condom at last sex with sweetheart by group: 16.8%, 20.4%, and 17.2% respectively for military/police, motodriver and vocational students/working men<sup>3</sup> – twice as many as reported *always* using condoms with sweethearts. For women, 49.3% of FSWs, 32.3% of beer promoters, reported using a condom at last sex with sweetheart (too few working women answered the question to present a valid response). Like the men, many more women reported using a condom at last sex than reported always using a condom.

During commercial sex, consistent condom use (or always use) was reported at a much higher level across all groups (Figure 4). For the men, 62.8% of military/police, 61.8% of motodriver

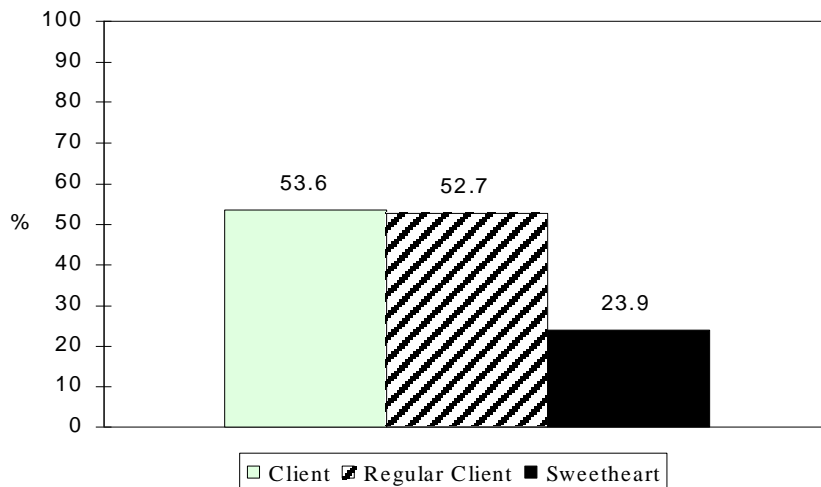
<sup>3</sup> Vocational students and working men are reported together in the condom use section because there was no statistically significant difference in their levels of reported condom use by any variable.



and 74.9% of vocational students/working men reported always using condoms in commercial sex. The group that reported having the least commercial sex, vocational students and working men, also reported the highest level of condom use and vice versa. Among women who reported having commercial sex, the percent reporting always condom use with clients was lower: 53.4% of FSWs and 29.7% of beer promoters.

When FSW were asked to report condom use by type of partner, a clear pattern by level of intimacy is apparent. Figure 5 below reveals that FSWs use condoms most with clients, followed by regular clients, and finally at the lowest level with sweethearts. Given that condom use may be overreported, the significance of these numbers is sobering. At best only half of FSWs in Cambodia are consistently using condoms; providing great opportunity for transmission of HIV and other STDs.

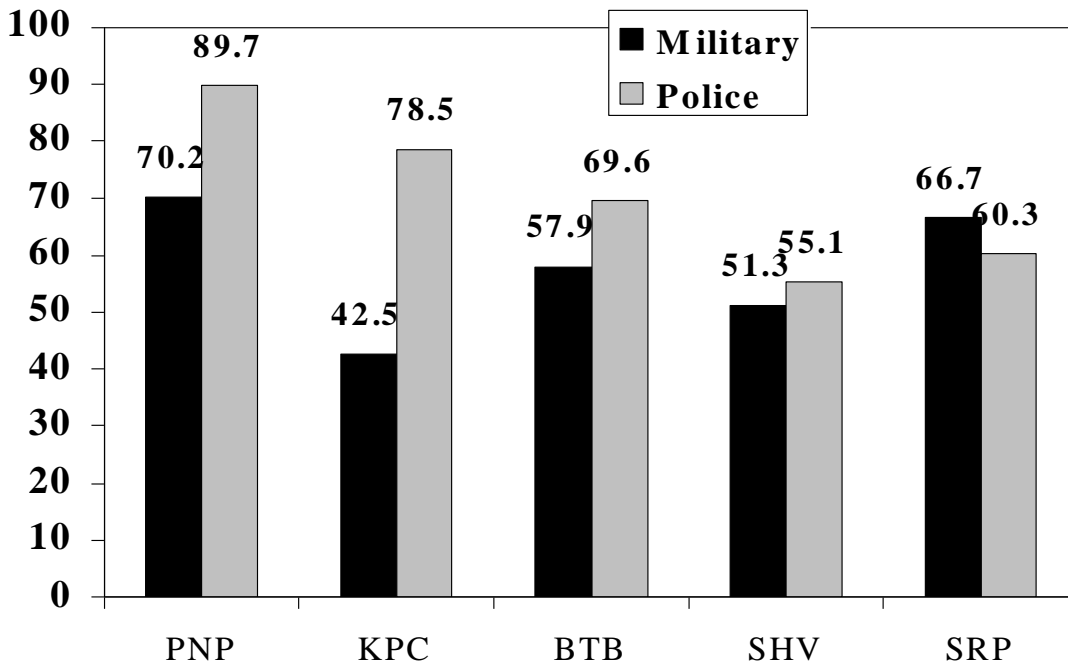
Figure 5: Consistent Condom Use of FSWs By Partner Type: BSS II 1998



## F. Condom Use Patterns by City/Province

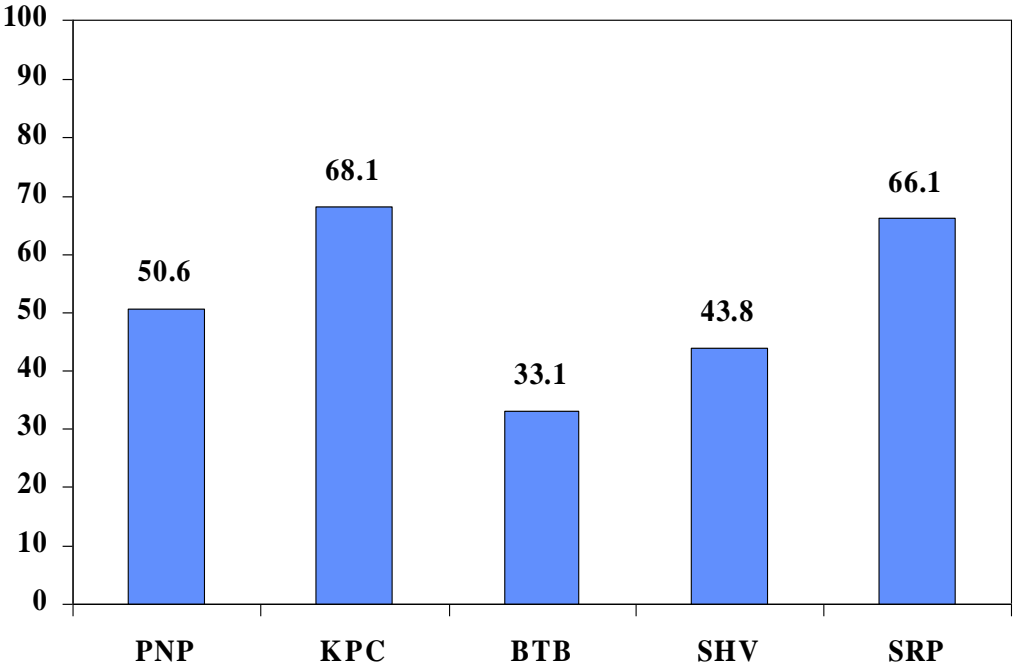
Rates of condom use during commercial sex varied by BSS sites (Figure 6 below). Differences in levels of condom use in the sites in BSS II is not surprising because each city or province has a very different social context and a different condom promotion program. The differences in condom use is as much as 30 percentage points between sites (70% in Phnom Penh vs. 42% in Kompong Cham for the military and for police 90% in Phnom Penh vs. 60% in Siem Reap. Police use condoms consistently with FSWs more than military across all sites. Condom use is highest for both police and military in Phnom Penh. Among the military, those from Kompong Cham report the lowest percent of consistent users. For police, on the other hand, those from Sihanoukville report the lowest percent of consistent condom users during commercial sex. In Sihanoukville, about half of military and police report consistent use with FSWs, clearly a city that could use some interventions focussed on these groups of men.

Figure 6: Police and Military- Always Condom Use in Commercial Sex By City: BSS II 1998



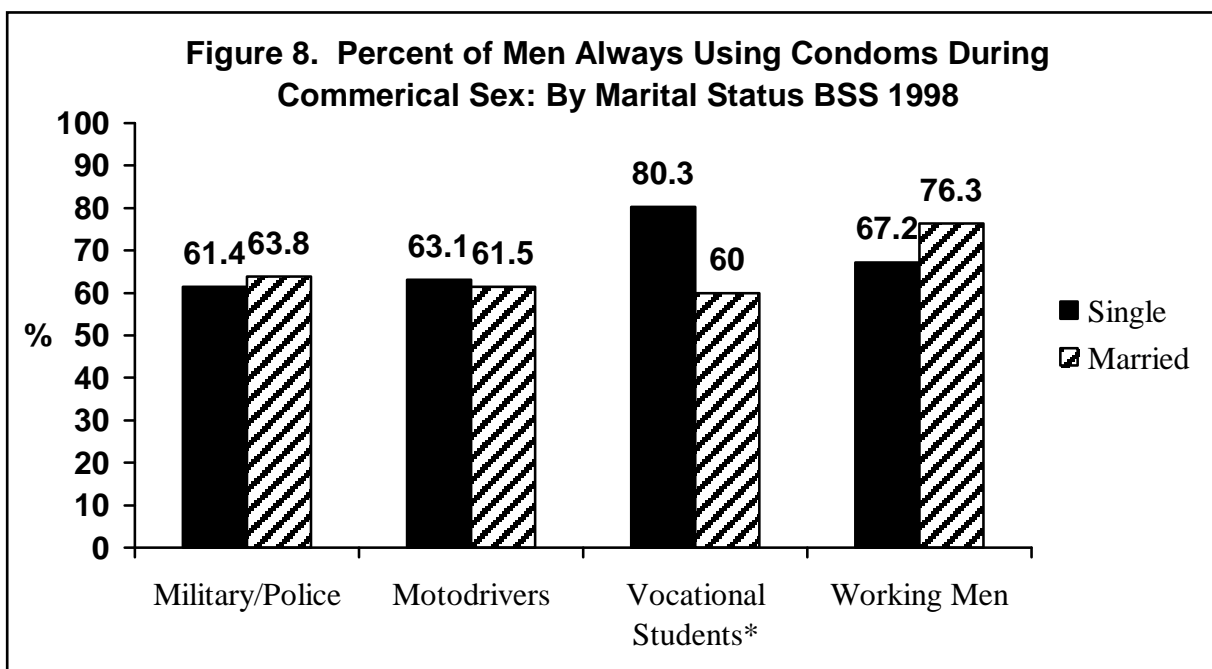
Patterns of condom use during commercial sex were also assessed for FSWs by city/province. Figure 7 below illustrates consistent condom use by city for brothel-based FSWs in BSS II. More FSWs in Kompong Cham report always using condoms than other cities, followed by Siem Reap (66%), Phnom Penh (50.6%), Sihanoukville (43.1%), and finally the least in Battambang (33. %). The fact that only around 30% of FSWs in Battambang report consistent use of condoms with clients is sobering. Clearly, Battambang is lagging behind other cities and provinces in the promotion of condoms among sex workers.

Figure 7. Percent FSW Reporting Always Condom Use with Clients: By City BSS II



## G. Bridging Behavior:

Bridges are defined as individuals who have unprotected sex (i.e. do not always use condoms) with members of both high and low risk groups in the same time period. Such individuals are primarily responsible for the movement of the HIV epidemic beyond core groups (such as FSWs) to the general population (including married women). In most Asian countries, bridges are usually men, often married. In BSS I, the percent of men who bridge in a three month period was found to be 15.6% of military/police and 13.9% of motodriver<sup>4</sup>. While some bridging occurs between FSWs and sweethearts, the vast majority of bridging is to wives. To illustrate this, Figure 8 below reveals the percent of men in BSS II who always use condoms when they have sex with FSWs by their marital status.



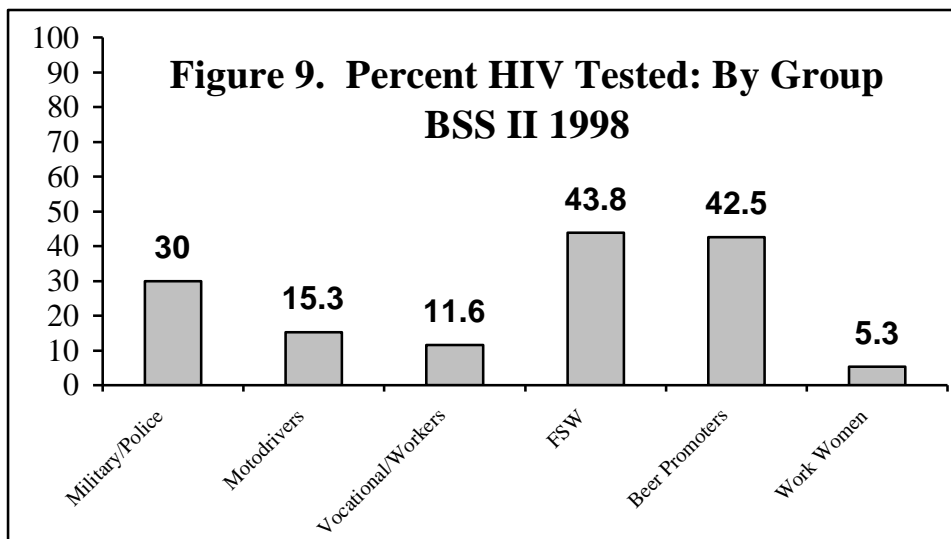
The only group with a statistically significant difference between married and single men is the vocational students, and LESS married vocational students always use condoms with FSW than single students. Moreover, the rate at which the married men report consistent condom use with FSWs is not very high, about 60% for most groups except working men (76% use condoms consistently with FSWs).

Bridging among women was calculated only for beer promoters because it was not clear which partners of FSWs are lower risk than others, and working women were not asked if they practice commercial sex. For beer promoters, bridgers were defined as those who had sex in the past year for money or gifts and not always using condoms AND had sex with a sweetheart or husband and not always using condoms. In the BSS I- 1997, 15.6% of beer promoters were found to be bridges under this definition.

<sup>4</sup> The questions to determine bridging behavior were not asked of vocational students in BSS I.

## H. STD/HIV Symptoms, Testing And Treatment

Although self-report of symptoms of STD can not be used to assess prevalence of STD, the care sought for such symptoms does portray the health seeking behavior for STD. While only a proportion of those with STD do experience symptoms, a focus on their health care seeking behavior is a critical part of any STD control program, especially because those with STD are more likely to transmit or become infected with HIV. In BSS, STD symptoms were defined as unusual vaginal discharge for women and unusual discharge from the penis for men. All BSS groups were asked if they experienced such discharge in the past year, and where they first sought care the last time they had these symptoms. FSWs were also asked if they experienced an STD symptom (unusual vaginal discharge) in the past three months. For men, 14.9% of military/police, 13.4% of motodriviers, and 2.5% of vocational students/working men reported a STD symptom. For women, the percentages were higher but given that non-STD reproductive tract infections can also cause vaginal discharge, this is to be expected. There were 39.6% of FSWs (32.7% in the past three months), 18.0% of beer promoters, and 11.9% of working women who reported vaginal discharge in the past year.

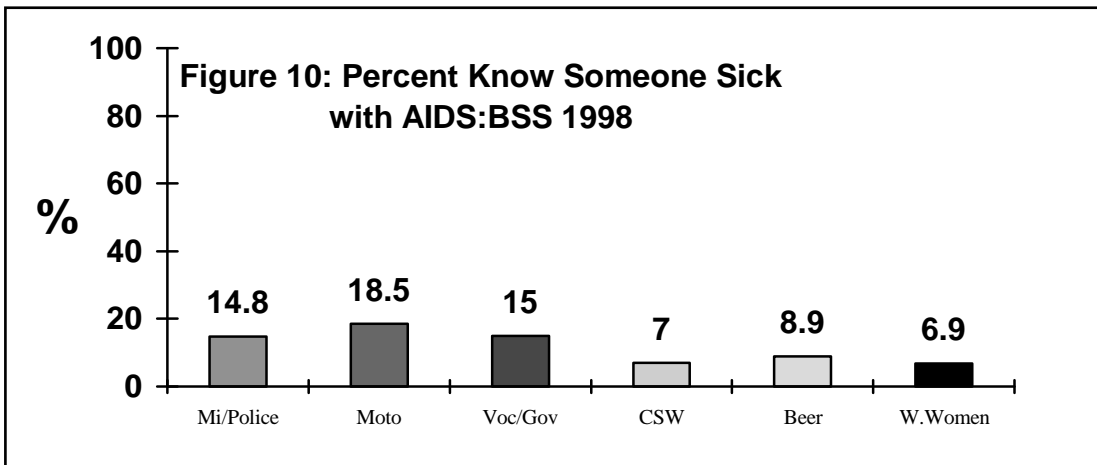


HIV testing is another important component of HIV control programs. BSS asked all participants from all groups if they had ever been tested for HIV. Figure 9 above reveals the vast differences in percentages tested by group. Almost half of the FSWs and beer promoters have been HIV tested and a third of high risk men in the military/police. Much lower percentages report HIV testing in the other groups. Clearly, groups that are targets of the Ministry of Health's HIV Sentinel Surveillance Program (HSS) report much greater testing than other groups in the population.

Those who report having been HIV tested were asked where they received their last test. The most common place reported varied by group, and followed the risk levels of each group. For example, high risk women and men reported HSS most often (68.6% of FSWs and 43.8% of military/police). For intermediate risk groups, private clinic or testing centers were the place

most had received an HIV test (29.2% of beer promoters and 45.3% of motodriver). Finally, the lowest risk groups reported being tested most often for HIV at hospitals (of working 38.9% and 40.6% of vocational students/workers). It is important to note that while many FSWs and military/police report being tested through the HSS program, many are also getting tested for HIV at other sites which may inform them of their results, unlike the HSS which still does not provide results to participants.

In Cambodia, high risk sexual behavior may not change until individuals are confronted with the reality of AIDS in their own lives. Given the long incubation period of HIV, the percent of individuals who know someone visibly sick with AIDS can be expected to increase greatly over the next few years. The effect this has on risk behavior will be explored in BSS. Figure 10 below shows the percent of individuals by risk group reporting knowing someone sick with AIDS.



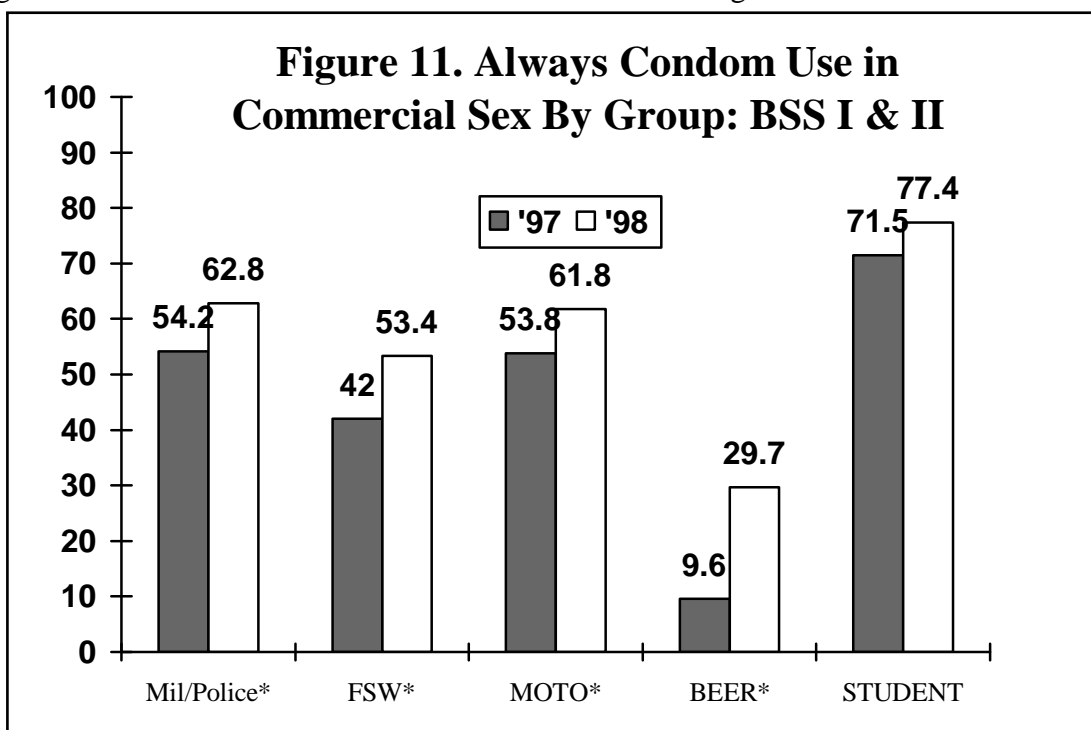
In 1998, the percent of Cambodians who know someone sick with AIDS is quite high for the groups of men studied in BSS. Surprisingly, more motodriver report knowing someone with AIDS (18.5%) than other groups of men. It is also not expected that about the same percent of FSWs report knowing someone with AIDS (7%) as other groups of women. Given that the risk of HIV for FSWs is so much higher than for other women, and that already 42% are HIV infected, it is not clear why so few FSWs know anyone with AIDS.

## VI. CHANGES IN KEY RISK BEHAVIORS: BSS I AND II (1997-1998)

Behavior change is a process that is often slow and may be marked by relapses at an individual as well as population level. Therefore, one year is a very short a period of time for behavior change to be achieved, and it is not possible to determine if the change will be sustained. Nevertheless, changes in key behaviors such as condom use during commercial sex for all groups, purchase of sex by men, sexual activity with casual partners (non-spousal and non-commercial), and treatment seeking for STD symptoms between 1997 and 1998 in BSS I and II will be reported here. It will be important to follow these key behaviors over time to determine if these changes in behavior are sustained because some BSS in other countries did not see significant differences between each year, but did report behavior change over longer periods of time such as five years noticeable as a trend<sup>25</sup>. Statistical significance between years was tested at the bivariate level using the chi-square test for categorical variables, and t-test for numeric variables.

### A. Condom Use In Commercial Sex:

Figure 11 below illustrates an increase in condom use during commercial sex across all groups.

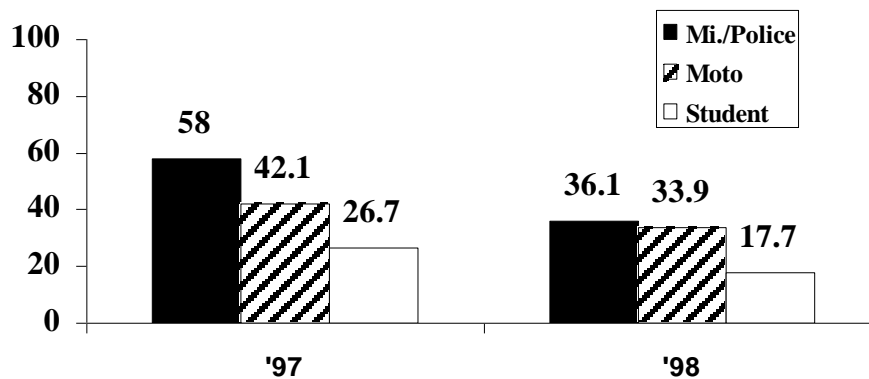


This difference was statistically significant for all groups starred; vocational students were the only group in which the increase was not significant (but they reported the highest level of consistent use). An increase of about 10 percentage points was reported for all other groups, except for beer promoters who reported the greatest increase in consistent condom use (20 percentage points).

## B. Frequency Of Commercial Sex

Figure 12 below reveals that in all groups studied in the BSS, fewer men reported recently purchasing commercial sex in 1997 and 1998. The decrease was statistically significant for all groups tested. The greatest decrease was in the group considered to be of highest risk, military and police men. There was a decrease of almost twenty percentage points in that group in recent sex with FSW.

Figure 12. Men's Past Month Commercial Sex Use: BSS I & II:



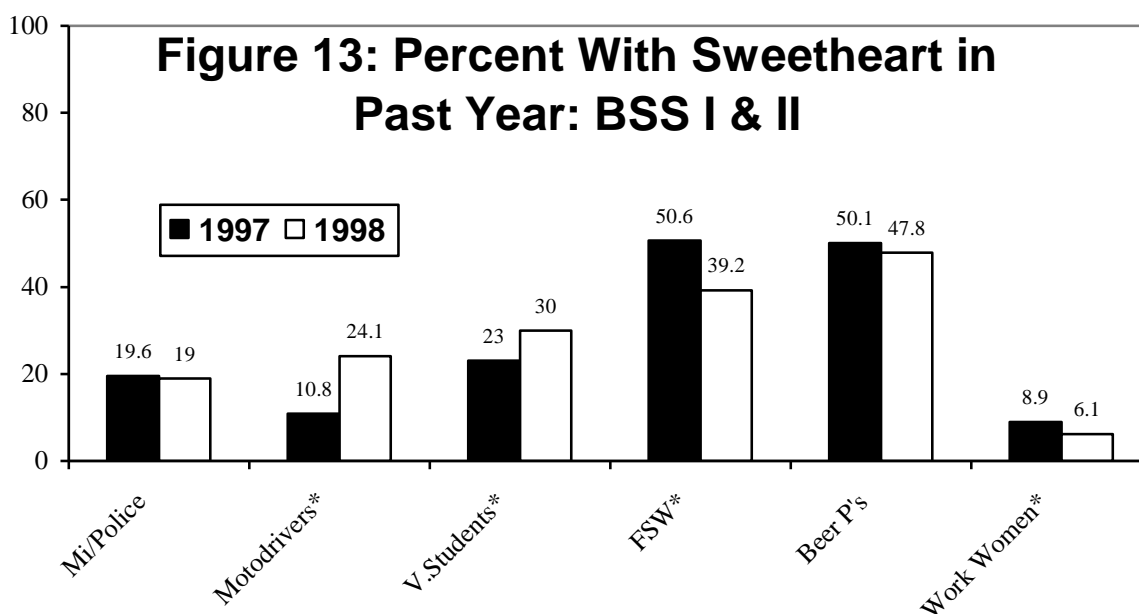
Activity level of commercial sex for FSWs, measured as the number of clients in the last working day, was compared between BSS I and BSS II. Significantly fewer clients per day were reported by FSWs in 1998 than in 1997 (2.5 men last day vs. 3.5 men,  $t=5.6$ ,  $p<0.00$ )<sup>5</sup>. There were less FSWs who had sex with many clients in one day (defined as more than three clients) in 1998 than in 1997 (22.4% vs. 38.4%,  $\chi^2=17.5$ ,  $p<0.000$ ) Less FSWs reported sex during menstruation in 1998 (24.8% vs. 40.7 %;  $\chi^2=16.7$ ,  $p<0.00$ ) and those who stopped having sex during menstruation stopped for more days in 1998 than in 1997 (2.9 vs. 2.2 days;  $t= -3.63$ ,  $p<0.00$ ). These findings should be carefully interpreted because these differences are only available for the two cities studied in both years. Changes in frequency of sex for FSWs will be better measured in future rounds of the BSS when the data is more complete. Finally, there was a significant increase from BSS I to BSS II in the percent of beer promoters who reported exchanging sex for money or gifts in the past year (21.1% in 1997 to 31.1% in 1998;  $\chi^2=12.6$ ,  $p<0.000$ ).

<sup>5</sup> Differences between BSS I and BSS II in commercial sex work was only compared for FSWs from Phnom Penh and Siem Reap because FSWs from the three other cities were in BSS I.



### C. CASUAL PARTNER IN THE PAST YEAR

It has been hypothesized that as men become aware of a risk of HIV/STD in a society, they may begin to have less sex with partners perceived to be high risk (such as FSW) and seek partners that they perceive to be of lower risk (such as sweethearts). Such a pattern has been noted in Thailand. In Cambodia, BSS will follow the percent of individuals in risk groups who report having a sweetheart in the past year to determine if such a shift occurs as AIDS becomes more prevalent. Even in this short period of time, such a difference is apparent in Cambodia. Figure 13 below reveals the percent of individuals reporting a sweetheart in the past year in BSS I and II.

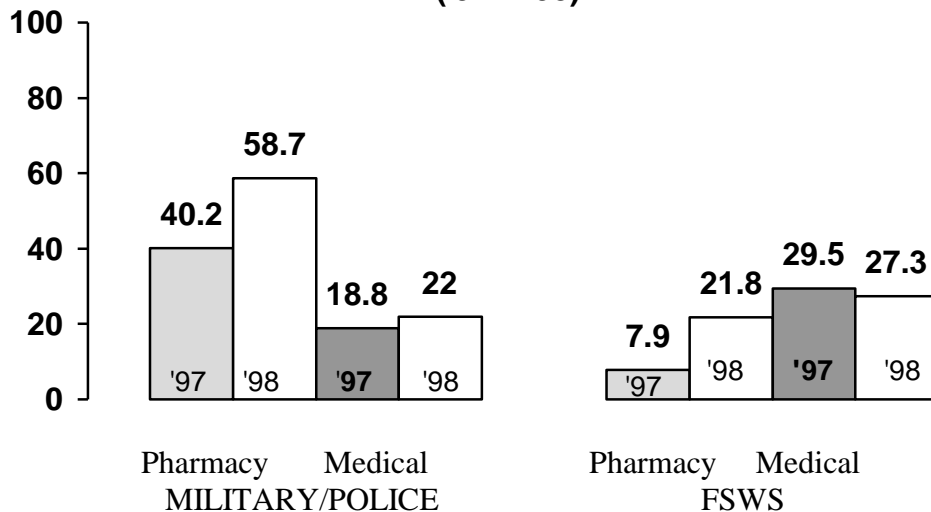


Significantly different percentages of individuals from most of the groups reported sweethearts in the past year, however, men reported more and women reported less sweethearts (a  $\chi^2$  statistic of less than 0.05 was considered significant). More motodriv\*ers and vocational students reported sweethearts but less FSWs and working women. For FSWs, less reported a sweetheart in 1998 than 1997 ( $\chi^2=7.5$ ,  $p=0.006$ ), and the percentages reporting regular clients also declined (65.6% in 1997 vs.35.7% in 1998,  $\chi^2=50.7$ ,  $p<0.000$ ). There was no significant change in the percentages of military/police and beer promoters who reported sweethearts in the past year.

#### D. Treatment for STD Symptoms

Participants who reported a STD symptom in the past year (defined previously in the report) were asked to report where they first sought treatment. Given that most reported seeking treatment from pharmacies and from medical providers (public hospitals, public clinics, private doctors, nurses or midwives, and private clinics are included in this category) Figure 14 below reveals differences by groups according to those two categories. Moreover, for graphical clarity, only treatment seeking for the groups with the highest known prevalence of HIV (military/police and FSWs) are presented below.

**Figure 14: Percent Treated for Last STD Symptom First By Place of Treatment and Group: BSS I & II ('97 + '98)**



Overall, there was a significant difference in the reported treatment seeking of military/police between 1997 and 1998 ( $\chi^2=31.7$ ,  $p<0.000$ ). One important change in type of care sought was the drop in those that experienced STD symptoms but did not seeking care. In 1997, 25% did not seek care, but in 1998 not one man reported not seeking care. This suggests all the men with symptoms sought some type of health care. The increase in care seeking, however, is mostly accounted for by an increase in pharmacy use (Figure 14). While there was an increase in those who sought care from medical providers and from traditional healers (16.1% in 1997 to 19.3% in 1998 for traditional healers); both these increases were very small (less than five percentage points).

Among FSWs, there were significant overall changes in care seeking behavior of FSWs between BSS I and BSS II ( $\chi^2=18.6$ ,  $p=0.002$ ) as well. The percentage of FSWs who reported not obtaining care for unusual vaginal discharge remained the same between years (about 10%) and

the percent who received care only in the brothel decreased (18.0% in 1997 to 10.9% in 1998). While these are encouraging signs, the percent that obtained medical treatment first did not change significantly. While there were significantly more FSWs who sought care from pharmacies in 1998 (Figure 14 above), the percent obtaining treatment from a drug vendor dropped (33.1% in 1997 to 21.8% in 1998) but still remains fairly prevalent. It is discouraging that there was not an increase in FSWs who sought care from medical providers, and yet a big increase in purchasing medications from pharmacists and a continuing high use of drug vendors. Finally, the care seeking differences between BSS I & BSS II are only reported for FSWs in Phnom Penh and Siem Reap, given the shortcoming in the 1997 data mentioned previously.

## **VII. CONCLUSIONS AND IMPLICATIONS**

- Condoms are used consistently by only about half of all brothel-based FSWs. Brothel-based FSWs are young, have about 3 clients per day, are paid 50% of what is charged for sex with them, stay only a few months in each brothel, live in relatively small brothels, and are often recent migrants to their current city of residence.
- About half of the men paid for sex with a FSW in the past year; a third or less in the past month.
- Married men do not use condoms with FSWs more than single men.
- There are beer promoters who are indirect sex workers. About one third of beer promoters have sex for money or gifts. Many beer promoters are divorced and many of those that are unmarried are sexually active.
- Few working women that are unmarried are sexually active. Yet those that are married, report greater sexual activity than married beer promoters.
- Consistent condom use in commercial sex increased for all groups except the group that achieved the highest level, the vocational students.
- There are differences in condom use in commercial sex by city both in '97 and '98.
- There are more men with sweethearts in intermediate and low risk groups in 1998 than in 1997. But condom use with sweethearts did not increase. The only group that increased consistent use of condoms with sweethearts in 1998 was beer promoters.
- Health seeking behavior for STD increased in high risk groups in 1998, but most of the increase was accounted for a rise in pharmacy use as the first choice for care.

## **IMPLICATIONS**

- Condom use needs to continue to increase; many people do not use consistently use condoms.

- Married men who have sex with sex workers should be targeted for condom promotion.
- Condom use with casual partners (sweethearts) should be promoted.
- Use of pharmacies and drug vendors for STD care should be addressed.
- Battambang and Sihanoukville are lagging behind other cities and provinces in their AIDS/STD Control programs, especially in their commercial sex industry.

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**IX. LIST OF INTERVIEWERS**

	<b>No.</b>	<b>Name</b>	<b>Sex</b>	<b>Place of Work</b>
Phnom Penh	1	Chhe Bunthou	M	Municipal AIDS Office
	2	Chhea Sambo	M	Municipal Health Department
	3	Chan An	M	Municipal Health Department
	4	Beng Horn	F	Municipal Health Department
	5	Chhun Chandarin	F	Municipal AIDS Office
	6	Sok Phalla	F	Tuol Kork Dike Clinic
Sihanouk Ville	7	Cheam Mong	MOH	Provincial AIDS Office
	8	Than Khuong	MOH	Provincial AIDS Office
	9	Touch Chy	M	Provincial AIDS Office
	10	Chim Samlot	F	Provincial AIDS Office
	11	Ty Vibolla	F	Provincial AIDS Office
	12	Chheng Sovanna	F	Provincial AIDS Office
Kampong Cham	13	Sim Khon	M	Provincial AIDS Office
	14	Mom Chandara	M	Provincial AIDS Office
	15	Yong Serey	M	Provincial AIDS Office
	16	Chhun Sopheap	F	Surgical Ward
	17	Muok Maryan	F	Provincial Hospital
	18	Penh Sokhunthy	F	Provincial AIDS Office
Battam Bang	19	Ham Rithy	M	Provincial AIDS Office
	20	Toun Sophal	M	Provincial AIDS Office
	21	Sok Neang	M	Provincial AIDS Office
	22	Chhe Chakriya	F	Hygiene Station
	23	Khim Sokhy	F	Hygiene Station
	24	Ean Kim Eap	F	Hygiene Station
Siem Reap	25	Bou Sarin	M	Malaria Unit
	26	Pen Sary	M	Provincial AIDS Office
	27	Som Sophal	M	Hygiene Station
	28	Chhit Maryan	F	Provincial STD Clinic
	29	Chan Thorn	F	Provincial Hospital
	30	Ea Sam Ath	F	Administration Unit