

SOCIAL AND BEHAVIORAL DETERMINANTS OF CONSISTENT CONDOM USE AMONG FEMALE COMMERCIAL SEX WORKERS IN GHANA

Ahmed Adu-Oppong, Richard M. Grimes, Michael W. Ross,
Jan Risser, and Gladstone Kessie

This study investigated the social and behavioral predictors of consistent condom use among female commercial sex workers (FCSWs) in Ghana. Four hundred fifty street commercial sex workers were interviewed in Accra, Kumasi and Techiman. The level of condom education was very low (14%); however consistent condom use (all the time) with clients was relatively high (49.6%). Two hundred seventy-seven of the participants did not use condoms all the time.

Significant predictive factors associated with consistency of condom use among FCSWs in a multivariate analysis were age, level of education, religion, and number of customers. Some of the major obstacles identified in this study to consistent condom use were refusal by clients, lack of availability of free condoms, and the lack of empowerment to negotiate safer sex with clients.

In summary, this study points to an urgent need for reestablishing effective prevention intervention and some insights of what is required of such program in Ghana.

BACKGROUND

Although overall levels of infection have remained relatively low compared with many other African nations, several factors place Ghana at risk for further spread of the disease, including:

Ahmed Adu-Oppong is with Georgia Southern University, Jiann-Ping Hsu College of Public Health in Statesboro, GA. Richard Grimes, Michael Ross and Jan Risser are with University of Texas School of Public Health, Health Science Center in Houston, TX. Gladstone Kessie is with the Holy Family Hospital, Ministry of Health in Brong Ahafo, Ghana, West Africa.

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Address correspondence to Ahmed Adu-Oppong, PhD, Georgia Southern University, Jiann-Ping Hsu College of Public Health, P.O. Box 8015, Statesboro, GA 30460-8015; E-mail: aaduoppong@georgiasouthern.edu

- Lack of information in vulnerable populations
- Inaccurate perception of personal risk
- Marriage practices and gender relations, such as polygamy, early marriage, women's subservience to men
- Widespread poverty and high rates of unemployment among women
- Stigma and discrimination toward those living with HIV/AIDS

To successfully intervene, it is necessary to identify high-risk groups and to modify their behavior before the epidemic becomes more widespread. One such group is female commercial sex workers (FCSWs). The earliest reported cases of AIDS in Ghana were among commercial sex workers with a history of travel outside the country. The FCSW group has remained an important population for spreading the disease throughout West Africa. Although the prevalence of HIV within the adult population of this area of Africa (with the exception of Côte d'Ivoire and Nigeria), remains generally lower than 10%, the prevalence among FCSWs ranges between 62% and 84%. This has been reported in almost all countries in the region including Ghana (Asamoah-Adu et al., 2002); Uganda (Robinson, Mulder, Auvert, Whitworth, & Hayes, 1999), Benin (Alary et al., 2002), Burkina Faso (Lankoadé et al., 1998); Nigeria (Esu-Williams et al., 1997); Cameroon, Kenya, and Zambia (Morison et al., 2001). In such circumstances, a sizable fraction of cases of HIV infection among adult men in the community is reported to be the result of contact with FCSWs (Mulanga-Kabeya et al., 1999). They, in turn, become infectors of their spouses and other sex partners.

FCSWs may also be more prone to becoming infected because of their relatively young age. Studies have shown that adolescent females are more susceptible to certain sexually transmitted infections (STIs). One of the reasons for this increased susceptibility is the thin layer of cells (columnar epithelium) covering the cervix of a young female. As they become adults, this thin layer is largely replaced by a multilayered (squamous epithelium) covering, reduces the risk of infection compared with the single layer. Therefore, young women are more likely to be infected when exposed to HIV (Fitch et al., 2002). FCSWs also have a high number of partners and have the potential of infecting significant numbers of their clients.

However, simulation modeling suggests that the role of FCSWs in HIV transmission within a community decreases when prevalence increases in its general adult population (Cote et al., 2004). When the prevalence of HIV in the general population reaches high levels, as seen currently in many urban centers of eastern and southern Africa, the fraction of new cases of HIV infection that are acquired from FCSWs (i.e., the population attributable factor), decreases because sex among individuals not belonging to these core groups becomes associated with a significant risk of exposure to HIV. Thus, it becomes extremely important to prevent the spread from the FCSW group into the general population and into uninfected FCSWs. Laboratory research has demonstrated that latex condoms provide an essentially impermeable barrier to particles comparable in size or smaller than STIs, including HIV (Steiner et al., 2003; UNAIDS, 2005). Studies have shown that correct and consistent use is essential to realize the full benefits provided by condoms in reducing the risk of HIV infection. The body of research demonstrating the effectiveness of latex condoms in reducing sexual transmission of HIV is both comprehensive and conclusive. Scientific studies of sexually active discordant couples have demonstrated that the consistent use of latex condoms reduces the likelihood of HIV infection by 80% to 90% (National Institutes of Health, 2001; Steiner et al., 2003). This effectiveness of condom use have been demon-

TABLE 1. Profile of respondents

Profile of Respondents (N = 450)	%
Age Mean = 26.2, Minimum = 14 years, Maximum = 42 years, SD = 6.0.	
<20	12.0
20–24	24.9
25–29	40.0
30–34	15.1
35–40	6.0
>40	2.0
Educational Attainment	
Primarily school	44.2
Secondary school	30.9
Postsecondary	24.9
Marital status	
Single never been Married	70.0
Married	15.1
Divorced	10.0
Widow	4.9
Religious affiliation	
Catholics	54.4
Muslims	32.4
Protestants	8.7
Pagans	4.5
Nationality	
Ghana	74.7
Ivory Coast	6.0
Burkina Faso	5.3
Nigeria	8.9
Liberia	2.0
Togo	3.1
Request clients to use condom	
All the time	52.9
Sometimes	22.2
Never	24.9
Reasons for commercial sex work	
Financial	95.0
Peer influence	2.0
Fun	1.0
Drugs	2.0
Received Condom education	
Yes	14.4
No	85.6
Number of days work per week	
1–2 days	10.0
3–4 days	60.0
5–6 days	20.0
>6 days	10.0
Number of clients per day	
1–3	20.2
4–7	50.7
8–11	20.0
>11	9.1
Charge per client in Ghanaian Cedis	
10,000–29,999	10.2
30,000–49,999	15.1
50,000–79,999	59.6
80,000–99,999	10.0
>100,000	5.1
Condom use	
All the time	49.6
Sometimes	38.9
Never	11.6
HIV Transmission Knowledge	
0 correct answers	37.6
1 Correct answer	45.1
2 Correct answers	10.7
3 Correct answers	6.7

TABLE 1. continued

Profile of Respondents (N = 450)	%
Source of HIV transmission knowledge	
Friends	30.4
Print Media	4.9
Television	15.1
Health Fair	20.0
Hospital	24.4
School	5.1
Concern about STDs	
Yes	60.7
No	39.3
Protection from STDs	
Condoms	40.0
Spermicidal	20.0
Vaginal gel	20.0
Antibiotics	19.6
Tested for HIV	
Yes	24.9
No	75.1
Reasons for HIV test	
Illness	7.1
Pregnancy	11.3
Arm Forces	2.0
Voluntarily	1.5
Blood donation	3.0
Total	24.9

strated in Cambodia where condom promotion has been credited for the fall in HIV prevalence among prostitutes from 80% to 90% in 1997 to 21% in 2002 (Population Services International, 2004). Such evidence based condom use for the prevention of HIV transmission among commercial sex workers was the reason for this investigation.

METHODS

To determine an appropriate intervention in the FCSW population, it is necessary to understand the knowledge, activities, and attitudes of the women. To better delineate the current sexual behaviors among FCSWs that limits their ability to use condoms for safer sex practice, the Ministry of Health of Ghana, in collaboration with Sankofa Health Foundation, conducted a cross-sectional study of social, behavioral, and epidemiological characteristics of female sex workers in three major Ghanaian cities in hope of improving the impact of HIV/STI control program that has been organized for this high-risk group.

The survey was conducted anonymously with no link of the responses to the respondents. Quantitative data were collected by conducting the KABP (knowledge, attitude, behavior, and practice) survey among 450 female street sex workers in three cities. The interviewers for the KABP survey were university students who had been trained for this purpose. Two students conducted 150 interviews in each city. Street workers who gave their verbal consent were administered the KABP questionnaire and were given 30,000 cedis—the equivalent of US\$3.50 as an incentive.

In Accra, fifteen bars/hotels where roamers/street sex workers congregate were approached for permission to conduct the study, five agreed to participate. Reasons for nonparticipation were denial that such activity existed in their establishment and

fear of losing business. Eighty interviews were conducted in the five establishments that participated and 70 were conducted on street corners where sex workers congregate. In Kumasi all interviews were conducted on street corners where sex workers congregate waiting on solicitors. In Techiman sex workers were recruited from the sex workers organization where the majority of them are roamers. Permission from the appropriate university ethics committee was received.

ANALYSIS

Data from the questionnaires were coded, entered, cleaned, and analyzed using STATA, Version 8.0, software (STATA Corporation, College Station, TX). Descriptive statistics were calculated for each variable. Several hypotheses were tested using univariate and multivariate (stratification) analysis. For the univariate analysis, chi square statistic, related p values, odds ratios (ORs), and 95% confidence intervals (CIs) were calculated. Logistic regression using full model was performed to generate the OR and 95% CI simultaneously to adjust for confounding. The outcome variable (consistent versus inconsistent or no condom use) was ascertained from the questionnaire. The goal of the multivariate analysis was to determine the composite effect of the variables in a group and not to make decisions based on the individual variables; therefore, the analysis was done by entering the variables simultaneously in the regression analysis model rather than a stepwise analysis.

RESULTS

The demographic background of the respondents is summarized in Table 1. The average age of the participants was 26.1 years with the minimum age at 14 years and the maximum age at 42 years. However, the average age at which they began commercial sex work was 23.7 years with the minimum age of 13 years and the maximum of 41 years. Seventy percent of the respondents were single and had never been married. Forty-four percent had completed primary school education, 31% secondary school education, and 25% had postsecondary education. The majority (75%) of the participants had never been tested for HIV, and among those who had been tested 45% of them were tested because they were pregnant. A majority of the participants (54%) identified themselves as Catholics; 32% of them identified with the Muslim faith. All of the participants were West African nationals: 75% were from Ghana, 9% were from Nigeria, 6% were from Ivory Coast, 5% were from Burkina Faso, 3% from Togo, and 2% were from Liberia. Only 25% of the participants identified their occupation as commercial sex workers. The vast majority (95%) of the respondents reported that they were doing this because of financial reasons. Sixty percent of the participants worked 3–4 days a week and 50% of the respondents saw an average of 4 to 7 clients a day.

Based on a literature review we developed eight hypotheses to test. Data describing each hypothesis are presented in Table 2.

The first hypothesis was that FCSWs who are most knowledgeable about HIV transmission would be more likely to consistently use condoms. From the analysis FCSWs who were more knowledgeable about HIV transmission were more likely to be consistent condom users than those FCSWs who were not knowledgeable (OR = 3.4, 95% CI = 2.2–5.1, $p < .0001$). The hypothesis was accepted.

The second hypothesis was that FCSWs who are younger would be more likely to consistently use condoms than those who are older. Ages 13–24 was considered

TABLE 2. Hypothesis Testing

Characteristics	Consistent Condom Use	Non Consistent Condom Use	Statistical Test	Accept/Reject Hypothesis
HIV transmission knowledge				
0 correct answers	53(23.8%)	116(51.1%)	$\chi^2 = 35.4, p < .0001^a$	Accept
1 Correct answer	109(48.9%)	94(41.4%)	OR = 3.4, CI = 2.2–5.1	
2 Correct answers	38	(17.0%)	10(4.4%)	
3 correct answers	23	(10.3%)	7(3.1%)	
Age				
Younger (13–24)	121(54.3%)	45(19.8%)	$\chi^2 = 57.3, p < .0001$	Accept
Older (>24)	102(45.7%)	182(80.2%)	OR = 4.8, CI = 3.1–7.5	
Education				
Primary	56(25.1%)	143(63.0%)	$\chi^2 = 65.5, p < .0001^b$	Accept
Secondary	95(42.6%)	44(19.4%)	OR = 5.1, CI = 3.3–7.7	
Post secondary	72(32.3%)	40(17.6%)		
Marital status				
Singles	181(81.2%)	134(59.0%)	$\chi^2 = 26.3, p < 0.0001$	Accept
Married exposed	42(18.8%)	93(41.0%)	OR = 2.99 CI = 1.91–4.70	
Religion				
Catholics	96(43.0%)	149(65.6%)	$\chi^2 = 70.4, p < .0001^c$	Accept
Muslims	114(51.2%)	32(14.1%)	OR = 6.4, CI = 3.9–10.4	
Protestants	9(4.0%)	30(13.2%)		
Pagans	4 (1.8%)	16(7.1%)		
Cost of transaction				
High (>79,999)	48(21.5%)	20(8.8%)	$\chi^2 = 14.2, p < .001$	Reject
Low (<80,000)	175(78.5%)	207(91.2%)	OR = 2.8, CI = 1.6–5.0	
Number of clients				
High (>7)	124(55.6%)	7(3.8%)	$\chi^2 = 52.2, p < .0001$	Reject
Low (1–7)	99(44.4%)	220(96.2%)	OR = 39.4, CI = 17.5–87.4	
Number of days worked				
High (>4)	81(36.3%)	54(23.8%)	$\chi^2 = 8.4, p = .004$	Reject
Low (1–4)	142(63.7%)	173(76.2%)	OR = 1.8, CI = 1.2–2.8	

^aCompared those with zero correct answers to those with 1–3 correct answers. ^bCompared those with Primary education to those with secondary and Postsecondary education. ^cCompared Muslims with Non Muslims.

young and ages greater than 24 was considered older. Age was found to be a significant determinant of consistent condom use among FCSWs in Ghana. FCSWs who were younger by our definition were more likely to be consistent condom users than those who were older (OR = 4.8, 95% CI = 3.1–7.5, $p < .0001$). The hypothesis was therefore accepted.

The third hypothesis was that FCSWs with higher levels of education would be more likely to consistently use condoms. Educational attainment was compared with consistent condom use to see if there was a relationship between higher education and consistent condom use. Higher education was defined as those with secondary and postsecondary education. There was an association between the level of education attained by the respondents and their behavior of consistent condom use. FCSWs with higher education were more likely to be consistent condom user than those with less education; therefore, the hypothesis was accepted (OR = 5.1, 95% CI = 3.3– 7.7, $p < .0001$).

The fourth hypothesis was that FCSWs who have never been married (singles) would be more likely to consistently use condoms than those who are or have been exposed to marriage (i.e., divorced/widowed). Exposure to marriage was a significant determinant of inconsistent use of condom. Those who never married were more likely to use condoms consistently (OR = 3.0, 95% CI =1.9– 4.7, $p < .0001$). The hypothesis was accepted.

The fifth hypothesis was that FCSWs who identified themselves as Muslims would be more likely to use condoms consistently than those who are of other religions or non-Muslims. The analysis showed that FCSWs who identified themselves as Muslims were more consistent condom users than those who identified with other religion (OR = 6.4, 95% CI = 3.9–10.4 $p < .0001$). From this analysis it was found that religion is a significant determinant of consistent condom use. In comparing Catholics and Protestants there is a trend toward more consistent condom use among Catholics than Protestants, but because the numbers were so small, the association did not reach statistical significance. The consistent condom users consisted of 78% Muslims, 39% Catholics, 23% Protestants, and 20% Pagans.

The sixth eighth hypothesis was that FCSWs who charged more for their services would be less likely to consistently use condoms. The average cost was grouped from 10,000 to 79,999 Ghanaian cedis as low and 80,000 Ghanaian cedis and up as high and compared each group to their customers consistent condom use the chi-square statistic and OR to determine if condom use significantly increases with lower cost of services to clients as compared with higher cost. The analysis indicated that high-cost FCSWs were more likely to use condoms consistently than the low-cost FCSWs (OR = 2.8, 95% CI = 1.6–5.2, $p = .0002$). The hypothesis was therefore rejected.

The seventh hypothesis was that FCSWs who saw more clients per day would be less likely to consistently use condoms. The number of customers serviced per day was compared with their condom use pattern. The data were examined to determine if condom use is significantly greater among the low-volume FCSWs who saw one to seven clients per day as compared with the high-volume FCSWs who saw (8 or more clients) per day. Condom use was found to increase significantly among those who saw more clients per day as compared with those who saw fewer clients per day; hence, the hypothesis was rejected. High-volume FCSWs are more likely to be consistent condom users than are the low volume FCSWs (OR = 39.4, 95% CI = 17.7–87.4, $p < .0001$).

TABLE 3. Multivariate Analysis

	Odds Ratio	<i>p</i> Value	95% Confidence Interval
HIV knowledge	0.5	.122	0.18–1.22
Age	8.8	.000	3.34–22.95
Education	19.6	.000	7.04–54.52
Marital status	0.9	.760	0.38–2.01
Religion	4.8	.000	2.48–9.08
Cost	4.5	.001	1.91–10.55
Number of clients	46.1	.000	18.41–115.38
Number of days worked	0.7	.379	0.34–1.50

The eighth hypothesis was that FCSWs who work 5 or more days per week (high intensity) would be less likely to consistently use condoms. The number of days worked was compared with their condom use pattern to see if condom use significantly increased among those who work fewer days per week (1–4 days was considered low intensity) as compared with those who work more than 4 days in a week. There was a significant increase in consistent condom use among FCSWs who practiced high intensity rather than low-intensity commercial sex work. Therefore, the hypothesis was rejected (OR = 1.8, 95% CI = 1.2–2.8, $p = .004$). FCSWs who worked more days (>4 days in a week) were more likely to be consistent condoms users than those FCSWs who worked fewer days (1–4 days in a week).

In the questionnaire there was room for the collection of qualitative data where respondents had the opportunity to explain in their own words the reasons for not using condoms consistently. The results of the qualitative data are introduced in the Discussion section, which illustrates some of the reasons behind the FCSWs behavior of inconsistent condom use.

Even though HIV knowledge, marital status, and number of days worked were all statistically significant predictors of consistent condom use in the univariate analysis, they were not significant predictors of consistent condom use in the multivariate analysis. After adjusting for all variables in a multivariate analysis, we identified five independent predictors of consistent condom use in this population. These variables were age, educational level, religion, cost, and number of customers. Educational attainment and number of customer encountered per day were the strongest predictors of consistent condom use with (OR = 19.6, CI = 7.0–54.6, and OR = 46.1, CI = 18.4–115.4, respectively; see Table 3).

DISCUSSION

In the multivariate analysis the volume of customers was the single most predictive indicator of consistent condom use (OR = 46.1, CI = 18.4–115.4, $p < .0001$). This exemplifies the perception of the FCSWs' vulnerability to disease and as their exposure increases by having more customers (volume) the greater the increase of their vulnerability to diseases; therefore, they try to protect themselves from STDs by consistently requesting that their customers to use condoms. Because this group of FCSWs tend to be popular among their peers and are requested more often by customers, they tend to be more financially stable and use their popularity as a negotiating tool. Unlike the less popular FCSWs, these women have the luxury to deny service to their customers if they refuse to use condom.

Educational attainment was found to be significant determinant of consistent condom use among the female commercial sex workers in Ghana in the multivariate analysis (OR = 19.6, CI = 7.04–54.52, and $p < .0001$). This is an indication that the more educated these women are, the more value they assign to their life and will go an extra mile to protect themselves from STDs including HIV. In the quantitative data, the majority of the women (75%) said they were doing this temporarily to resolve their current financial situation; 24.9% of the women had postsecondary education and were doing this either to pay for their tuition or to allow them to acquire the seed money they needed for their envisioned business venture.

In the multivariate analysis age was a determining factor for consistent condom use. Female commercial sex workers who were 24 years or younger were more consistent condom users than those who were older than 24 years. This can be attributed to the fact that the younger FCSWs place a greater value on their lives and will take the necessary precautionary measures to ensure that they are protected from STDs, including HIV to allow them to live a decent productive quality life because they do not see themselves dying anytime soon. The cost charged per transaction was found to be significant determinant of consistent condom use among the study population by the multivariate analysis (OR = 4.5, CI = 18.41–115.38, $p < .0001$). This is also associated with the social dynamics of the commercial sex workers. The women who are requested more often by the clients are the ones who charge more for their services and also have the power to negotiate safer sex or request their clients to use condom.

The multivariate analysis did not find HIV knowledge, marital status, and number of days worked per week to be significant determinants of consistent condom use among the commercial sex worker in Ghana.

This is the first HIV-related study that has definitively associated consistent condom use to a religious affiliation in women (OR = 4.8, CI = 2.48–9.08, $p < .0001$). There have been several studies that have reported lower HIV prevalence within Muslims populations in Africa. Some investigators have attributed this low prevalence rate to their marriage beliefs (Oppong, 1998) and the high rate of circumcision (Weiss, Quigley, & Hayes, 2000). With further investigation we may be able to add consistent condom use. This phenomenon of consistent condom use among Muslims needs to be further investigated to see if this trend seen among FCSWs also exists among the general population. It is also important to understand if religious teachings influence one's desire to use condoms either for health preventive purposes or for family planning.

Of concern is the finding that only 14% of the FCSWs have received condom education, even though 50% reported consistent condoms use with their clients. The results are inconsistent with other studies that have found that condom education promotes consistent condom use (Zhang et al., 2000). Poor knowledge about condom education among the study population and the high consistent condom use reported makes one question how effectively condoms are being used since using condoms effectively plays a tremendous role in their efficacy (Pinkerton & Abramson, 1997). However, the customers may be learning how to effectively use condoms from other informal sources and this needs to be further explored.

From the qualitative data nearly two thirds (163/227) of the respondents who did not use condoms all the time stated that it was due to "refusal by clients," and the remaining 28% (64/227) of the respondents did not request their customers to use condom at all. FCSWs reports that their customers were not willing to use condoms for the following reasons: not using condoms is a sign of trust (30%), condoms reduce

pleasure (30%), condoms burst (13%), condoms are not necessary because the FCSW look healthy (19%), condoms do not prevent diseases (10%), and men do not like sex with condoms (8%). These reasons are consistent with what has been reported by other FCSWs studies (Zhang et al., 2000).

Cultural perceptions of power and the authority to permit or withhold sexual service or profit were determining influences that were crucial in condom use negotiation. FCSWs who were not popular, not financially stable, and who have few encounters did not see themselves to be in a position to negotiate for condom use with their customers because of financial reasons and, culturally, did not think that they had the capacity or the authority as a female to request the male customer to use a condom or to withhold sexual services from him if he refused to use a condom. FCSWs need to be empowered with condom negotiation skills to be able to request their customers to use condoms at all times.

Condom availability affects condom use. Only 24.7% of the respondents said they had access to free condoms; 69% of the respondents stated that they would use condoms all the time if they had access to free condoms. The government needs to find ways to provide free condoms and condom education to this population, especially because FCSWs have expressed the desire to use both free condoms and condom education programs.

Given the number of consistent condom users among this population who use condoms to protect themselves against STDs, there is an indication that they perceive themselves to be vulnerable to STDs. This indicates that a preventive educational model can be developed around their vulnerability for a successful outcome. One important factor in changing risky sexual behavior is the perception that one is actually at risk for contracting the HIV virus. Those individuals who perceive themselves to be at a higher risk may be more likely to change their sexual behavior, as was found in Rwanda for urban women (Lindan et al., 1991). In Ghana, young men who perceived themselves to be at high risk of HIV infection were more likely to use condoms than were those who did not perceive a risk (Awusabo-Asare et al., 1995).

Compared with other studies conducted in Ghana on this population (Asamoah-Adu et al., 2001; Cote et al., 2004; UNAIDS, 2003) this study reports an increase in foreign nationals (4% to 25%) among the study population. This may be the result of civil unrest in the region that has destroyed the local economies. The decrease in the proportion of Ghanaian women in this study as compared with previous studies conducted in Ghana could be attributed partly to the high burden of HIV-related disease and death that affected these FCSWs in the early 1990s, and possibly also to the recent improvement in the economic situation in Ghana, with a resulting decrease in the number of young women migrating from the rural areas to become commercial sex workers.

POLICY IMPLICATIONS

As indicated earlier, the overall HIV infections in Ghana have remained relatively low in the Sub-Saharan African context. However, several factors places Ghana at risk for further spread of the disease if the government does not scale up its prevention initiatives.

This study and others (Caldwell, Orubuloye, & Caldwell, 1999; Hotard et al., 1998; Rao et al., 1991; Wilson et al., 1991) have demonstrated that individuals who are knowledgeable about HIV transmission are more likely to protect themselves by consistently using condoms. This study also reports that only 5% of the respondents

received their HIV transmission knowledge from the schools. One of the immediate goals of the national government will be for the Ministry of Health and Education to collaborate on making sure that HIV education becomes a mandatory curriculum for the primary and secondary schools. This will ensure that by the time people finish secondary education they are knowledgeable about HIV transmission. It will also ensure that the education is given at an early age so that students will be knowledgeable about HIV transmission before they become sexually active. This policy can be implemented with minimal resources by involving all the nongovernmental organizations (NGOs) in the country addressing HIV/AIDS in each administrative region to help with community-level education as well.

Although 69.0% of the respondents reported that they would use condoms consistently if they have access to free condoms, only 24.7 % reported that they have access to free condoms. Making free condoms available to clients of STD clinics, HIV treatment facilities, FCSW organizations, and NGOs will be an ideal incentive for people to attend HIV/STD prevention education programs. Each of these entities could have an HIV/AIDS educator, to receive free condoms one would have to attend the educational session with the educator who among other things will teach how to effectively use condoms. This policy can be implemented easily with fewer resources and can provide an immediate impact as reported in other studies (Asiimwe–Okiror et al., 1997; Davis & Waller, 1999; Ma et al., 2002; Meda et al., 1999)

Using conservative estimates from the study population, the average number of customers seen by an FCSW per day is 5 and they work on average 4 days a week. Thus, in a week an FCSW has on average 20 sexual encounters, which translates into 1,040 sexual encounters per year. So the 450 participants of this study represents nearly a half of a million sexual encounters in a year. Although it is not known how many separate individual are represented by these encounters, there is certainly ample opportunity for these FCSWs to become infected with HIV and to infect many of their clients in turn. Data from Davis and Weller (1999) demonstrated in their meta-analysis that regular heterosexual partners who were serodiscordant and who always use condoms transmitted HIV at a rate of 0.9 per 100-person years. For those who never used condoms, the rate of transmission was estimated at 6.8 per 100 person-years for male-to-female transmission and 5.9 per 100 person-years for female-to-male transmission (Davis & Waller, 1999). The volume of acts of intercourse among the FCSWs is presumably much higher than the regular sexual partners; hence, the potential for transmission of HIV would be much higher among the FCSWs. However, the data show that there is an 87% reduction in the rate of transmission among consistent condom users when compared with those who never use condoms (Mann, Stine, & Vessey, 2002). Therefore, any policy that encourages and enables the use of condoms will greatly assist in the reduction of HIV transmission as a result of commercial sex work in Ghana.

This study also reports that 95% of the respondents cited that their reason for being involved in commercial sex work is financial, and 96% reported that they would quit commercial sex work if they could find meaningful employment. In addition, 49.6% reported that their first sexual debut was for economic reasons. For poor women forced by hardship into commercial sex work, behavior change does not come simply through education and dissemination of information. Changing this behavior will be difficult and will only come through empowerment-providing opportunities that enable poor women to secure respectable livelihoods. The government will need to find a way to improve the economic situation for women in the country. This in-

cludes providing formal education to Ghanaian women, and providing better employment and microeconomic financing for FCSWs. However, such a policy has to be formulated, developed, implemented and evaluated concisely to prevent any unanticipated negative consequences. Programs should not be designed specifically for FCSWs because they will tilt the balance between supply of FCSWs and their demand. Reducing supply will more likely increase the price of commercial sex work, which may render the program ineffective. Therefore, any job-training program should be for women in general. There is ample of research that indicates empowering women through economic freedom and ensuring women's rights benefits the entire family (World Health Organization, 2004) When women are educated, healthy, plan their families, and earn a decent income, they put these resources to work for their families. Their children are healthier and better educated, and the benefits are passed on from one generation to the next. However, when girls are valued less than boys, kept out of school, married as child brides, or become FCSWs, the family is threatened by the cycle of poverty, illiteracy, and poor health that often ensues.

This study and others (Ao, Sam, Mannongi, Seage, & Kapiga, 2003; Norman, 2003; UNAIDS, 2003) have demonstrated the level of educational attainment is positively associated with consistent condom use. Hence, providing higher educational opportunities for women and better employment will not only reduce their attraction to commercial sex work but if they are already involved in commercial sex work they will be more likely to use condoms consistently.

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