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**Consistent Condom Use among Sex Workers
in Nigeria**

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ABSTRACT

Objectives: This study examines factors influencing consistent condom use among sex workers in Nigeria. Such information can help improve the design of intervention campaigns to reduce the spread of HIV among high-risk groups and the general population.

Methods: We used a nationally representative sample of 2,578 sex workers collected in 1998. This study uses logistic regression to predict the effect of exposure to advertising for “Gold Circle” and “Cool” brand condoms (two popular social marketed brands), knowledge of HIV transmission, number of regular partners, self-efficacy, risk perception, and demographic variables on consistency of condom use.

Results: The findings suggest that most sex workers lived in urban (84%) areas, were below age 30 (74%), and over half had secondary or higher education (55%). Most respondents had been involved in sex work for two or less years (73%) and had a regular partner (72%). Although the majority of sex workers were worried about AIDS (81%), only 55% reported consistent condom use in the last five sex acts. Among sex workers who usually asked clients to use condoms, 76 percent used condoms in the last five sex acts, compared to 8% of those who do not ask all clients to use condoms. After controlling for background variables and other factors, multivariate results suggested that sex workers who had been exposed to two or more sources of advertising for “Gold Circle” and “Cool” condom brands were about two times more likely to consistently use condoms than those who did not see any advertisements ($p < 0.001$). Sex workers who knew of two or more modes of HIV transmission were 44% more likely to consistently use condoms than those who had no knowledge ($p < 0.05$). Sex workers who worried about contracting HIV were two times more likely to consistently use condoms than those who were not worried ($p < 0.001$). The most important predictor of consistent condom use was self-efficacy. Sex workers who asked all their clients to use condoms

were 39 times more likely to consistently use condoms than those who did not ask all their clients to use condoms.

Conclusions: Program interventions that use multiple communication media to increase condom brand awareness, to provide information about the modes of HIV transmission and its consequences, and to increase self-efficacy can help improve consistency of condom use among Nigerian sex workers. This may reduce the likelihood of HIV transmission to other populations.

INTRODUCTION

Since the first reported case of AIDS in Nigeria in 1984, the number of infected persons has increased rapidly (Ajuwon and Wuraola, 1998; Caldwell et al., 1999; Caldwell, 1995). National estimates suggest that over two million Nigerians were infected by 1998, nearly doubling to five million by 1999 (Nigeria National AIDS and STD Control Program, 1998). HIV infection is most prevalent among sex workers (Ajuwon et al., 1998) and increased from 17.5% in 1991/92, to 22.5% in 1993/94, and to 36.4% in 1995/96 among this group (Nigeria National AIDS and STD Control Program, 1997).

The continually increasing prevalence of HIV/AIDS in Nigeria has mobilized the Nigerian government, international organizations, and local non-governmental organizations (NGOs) to develop and implement intervention programs designed to reverse this situation.

Sex workers are at high risk for contracting and spreading the disease to the general population and are therefore targeted by many interventions. Most interventions for sex workers aim to increase consistent condom use (Esu-Williams, 1995; Morris et al., 1995; Walden et al., 1999). Consistent condom use has proven to be the surest preventive measure against contracting HIV/AIDS for sex workers (Adetunji and Meekers, 2001; Ford and Koetsawang, 1999; Messersmith et al., 2000; World Health Organization, 1996). Hence, efforts to increase sex workers' consistent use of condoms could substantially reduce the spread of AIDS in Nigeria.

This study uses a nationally representative survey of female sex workers in Nigeria to examine the most important factors influencing consistency of condom use and self-efficacy in condom use for this group. Such information can help facilitate the design and improvement of programs for HIV prevention among sex workers.

SOCIO-CULTURAL CONTEXT OF HIV/AIDS IN NIGERIA

The AIDS epidemic has received widespread attention in the local media (Messersmith et al., 2000; Renne, 1993). Despite this, prevention remains difficult due to the belief among Nigerians that AIDS does not exist in their own community, the belief in predestination, and the belief that AIDS can be cured.

Many Nigerians believe that AIDS is a foreign disease, and many rural people believe AIDS exists only in urban areas. The tendency for families of AIDS victims to remain silent about the cause of death further reinforces the perception that the risk of HIV/AIDS is low in their community (Ajuwon et al., 1998).

Many Nigerians believe that they cannot change what is predestined to happen. A common belief is that “death is death” no matter what the cause (Orubuloye and Oguntimehin, 1999). Some Nigerians are of the opinion that human beings are destined to die and that it is irrelevant if it is caused by AIDS (Caldwell et al., 1999)¹. Hence, motivation to avoid HIV infection is low.

The severity of the epidemic is also underestimated due to the belief that AIDS can be cured. There are reports that local medicine and local physicians can cure AIDS (Etieyibo, 2000). Spiritual cures are believed to exist as well. Such beliefs may make it difficult for sex workers to convince their clients to use condoms.

The social context of gender relations, poverty, poor administration of brothels, and government laws and regulations discourage consistent condom use. Sex workers’ ability to ask their clients to use condoms is negatively affected by the male dominant Nigerian society that gives men undue influence over decision making on important issues (Ademola and Wuraola, 1998). These gender dynamics make it possible for clients who do not want to use condoms to more easily convince sex workers to practice unsafe sex.

¹ In a similar study, Awusabo-Asare (1999) showed that some sex workers in Ghana presented the same argument when asked the reason for continuing in the risky profession.

Some sex workers are in the trade due to poverty, the requirements to meet basic wants, and a lack of skills needed to find employment in other professions. Some brothels require daily rent payments, which puts additional financial pressure on sex workers. Sex workers who face such economic adversities are more likely to forego condom use with reluctant clients because they need the income. In other words, some sex workers may be more concerned with economic survival than with condom use by all clients (Esu-Williams, 1994).

Sex workers in Nigeria are in the lowest class of society; families and friends chastise them, and those who are disowned by their family have no other option than to remain in the trade (Esu-Williams, 1994; Peracca et al., 1998). This condition is likely to foster low self-esteem and to lower their ability to negotiate condom use with clients.

Due to frequent harassment by law enforcement agents, many sex workers have gone underground. This places them at the mercy of brothel managers and clients who take advantage of their situation (Esu-Williams, 1994). Under these circumstances, sex workers are less likely to convince their clients to use condoms.

DATA AND METHODS

The study used a survey of a representative sample of 2,578 sex workers residing in brothels (Ladipo, et al., 2000). A brothel was defined as a building with a bar area for meeting clients and rooms for resident sex workers. The survey did not include non-resident sex workers because they are difficult to identify and because many of them combine sex work with other professions and are very mobile. The data were collected between September and August of 1998 by the Society for Family Health (SFH), a social marketing organization affiliated with Population Services International.

Multi-stage sampling was used to select the sample. In the first stage, seven cities were purposely selected: Lagos, Ibadan, Port Harcourt, and Enugu from the south; Bauchi, Kaduna, and Jos from the north of Nigeria. For the selected cities, lists of brothels in urban and peri-urban areas were obtained from local government offices in the regions, which were subsequently updated by SFH staff.

In the second stage, these lists were used to systematically select 271 brothels. The last stage of sampling involved the selection of 2,634 sex workers using systematic sampling with probability proportional to the size of the population in each brothel. Fifty cases were removed due to incomplete data.

The questionnaire covered a wide range of topics, including the respondents' sexual practices, HIV awareness and knowledge about HIV/AIDS, STD infections and STD treatment, exposure to media information, personal risk perception, self-efficacy in condom use, reproductive health problems, and access to condoms.

Dependent Variables

Consistency of condom use is measured using a question asking sex workers how often they used condoms in their last five sexual acts. Our indicator of consistent condom use is a dummy

variable indicating whether sex workers used a condom in all of the five sex acts or in fewer than five.

Since self-efficacy is believed to be one of the factors affecting condom use, we also examine factors that affect self-efficacy. Our indicator of self-efficacy is a dummy variable indicating whether sex workers reported usually asking all their clients to use condoms or not.

Independent Variables

Several theoretical models of behavior change posit that healthy behavior (i.e. condom use) is a function of several factors, including self-efficacy, personal risk perception, awareness of HIV/AIDS, knowledge of the modes of HIV transmission, and social support (UNAIDS, 1999; Edem and Harvey, 1998, Ford and Koetsawang, 1999). We measure these components as follows:

Self-Efficacy: Self-efficacy is defined as a sex worker's belief in her own ability to negotiate condom use with clients (Ford et al., 1998). Studies in Calabar and Port Harcourt, two cities in the south-east of Nigeria, suggest that the majority of sex workers have low self-esteem — a precursor to a lack of self-efficacy (Esu-Williams, 1994). Findings in a similar study in Ago-Are, a village in the rural south west of Nigeria, suggest that sex workers lacked the ability to ask their clients to use condoms (Ajuwon and Wuraola , 1998). We predict that a sex worker who has self-efficacy is more likely to consistently use condoms than her counterpart who lacks self-efficacy.

Personal Risk Perception: Personal risk perception is measured by a variable indicating whether the respondent was worried about contracting HIV/AIDS (yes/no). The assumption is that a sex

worker who is worried about contracting HIV is more likely to use condoms than a counterpart with a lower risk perception (Ford et al., 1998; Caldwell, 1995).

Knowledge of modes of HIV transmission: The questionnaire asked sex workers how one could contract HIV. Our indicator of knowledge of the modes of HIV transmission is the number of correct sources that were spontaneously mentioned (none, one, two or more). We predict that a sex worker who knows many modes of contracting HIV is more likely to practice safe sex than a counterpart who has poorer knowledge of transmission.

Exposure to HIV/AIDS Prevention Messages: Exposure to HIV/AIDS prevention messages is measured by asking sex workers where they saw or heard about “Gold Circle” and/or “Cool” condoms, two popular condom brands social marketed by SFH. Our indicator of exposure is the number of sources spontaneously mentioned (no exposure, one source, or two or more sources). We assume that a sex worker who is exposed to multiple sources of HIV/AIDS prevention messages is more likely to use condoms consistently with clients than a colleague who is not exposed to such messages.

Background Variables: We controlled for region, rural/urban residence, age, education, years of experience in the profession, and number of regular partners. Sex workers in the southern part of the country are assumed to be more likely to consistently use condoms than their colleagues in the north, because the latter tend to be less exposed to family planning and AIDS prevention messages, and due to socio-cultural differences (Kritz et al., 1994).

Available evidence suggests that accessibility to media messages, health facilities, and condoms favor people in urban areas (Bankole and Westoff, 1996; Bankole et al., 1993). We therefore expect sex workers in urban areas to have higher levels of consistent condom use than those in rural areas.

Since age enhances a woman's recognition and respect in Nigeria (Kritz et al., 1994), we expect older sex workers to use condoms more consistently than younger sex workers. Age was grouped into four categories: 12-19; 20-24; 25-29; and 30 or older.

We assume that educated sex workers are more likely to consistently use condoms than those not educated. Education was categorized into none, primary education, and some secondary education.

We predict that sex workers who have been in the profession for a longer period of time will be less likely to consistently use condoms with clients. Such sex workers are likely to have developed bonds and financial ties with some clients (Morris et al., 1995), making it more difficult to insist on condom use. Findings of a study in the south-east of Nigeria suggest that the majority of sex workers who had more time on the job had long-term relationships with clients with the goal of marrying them (Esu-Williams, 1994). The duration of sex work was coded as less than one year, one or two years, and three years or more.

The type of partners that sex workers have may influence consistency of condom use (Walden et al., 1999; Morris et al., 1995; Bloor, 1995). We hypothesize that sex workers are more likely to use condoms with clients than with regular partners. A regular partner may also be a client who regularly visits a sex worker and pays for sex. Sex workers are likely to develop trust in these regular partners, which may affect their evaluation of their risk of contracting HIV. Our control variable is a dummy variable indicating the number of regular partners at the time of the survey (none vs. one or more).

Data Analysis

Bivariate differences in self-efficacy in condom use and in consistency of condom use were tested using Chi square analyses. At the multivariate level, logistic regression was used to predict the effect of the above noted explanatory variables on self-efficacy and consistency of condom use. To simplify interpretation, the results of the logistic regression analyses are presented as odds ratios. For example, odds ratios greater than one imply a higher likelihood of

consistent condom use than the reference category. Odds ratios smaller than one imply a lower likelihood of consistent condom use than the reference category.

RESULTS

Descriptive Statistics

The characteristics of the sample are described in Table 1. The largest proportion of sex workers is found in the south-west (36%, including Lagos and Ibadan), followed by the north-west (19%), the middle-belt (13%), south central (13%), north-east (11%), and the south-east (8%). Over two-thirds (84%) of sex workers live in urban areas. Most sex workers are young; 62% are in their twenties, and an additional 11% are in their teens. Over half (55%) have attained secondary or higher education and 27% have at least some primary education, while 17% have no education. The majority of sex workers (73%) are new in the profession, having two or less year of experience.

(Table 1 about here)

The majority of sex workers (84%) recalled hearing or seeing advertising for “Gold Circle” and “Cool” brand condoms. Over half of sex workers (53%) knew two or more modes of HIV transmission, while 16% did not know any modes of transmission. Although the majority of sex workers were worried about AIDS (81%), only 55% reported consistent condom use in the last five sex acts. Among sex workers who usually asked clients to use condoms, 76 percent used condoms in the last five sex acts, compared to 8% of those who do not ask all clients to use condoms.

Bivariate Results

Table 2 shows the percentage distribution of sex workers according to the number of sources of media advertising for “Gold Circle” and “Cool” brand condoms to which they had been exposed. Looking at the percentage who had been exposed to two or more sources of media advertising for

these brands, we observe that sex workers in the south-east have the highest exposure (78%). The lowest levels of exposure to media advertising for the two condom brands are found among sex workers in the north-east and south-west (52% each). The finding that sex workers in the south-west report the lowest levels of exposure is somewhat surprising since Lagos and Ibadan, the two major metropolises in this region, have the best access to media in Nigeria. Some explanations for this low exposure may be that these sex workers do not pay attention to condom advertisements, do not have time to listen to the radio or watch television, or that media advertisements are not aired when sex workers usually listen to the radio or watch television.

(Table 2 about here)

A breakdown by age shows that sex workers aged 25 to 29 are the most likely to report exposure to two or more sources of advertisements for “Gold Circle” and “Cool” condoms (67%), followed by those aged 20 to 24 (62%), 30 and over (55%), and 12 to 19 (51%).

Sex workers with secondary education or higher are more likely to report exposure to advertisements for the two condom brands (64%) than those with either only primary (60%), or no education (49%).

Although the percentage of sex workers who had been exposed to two or more advertisements for “Gold Circle” or “Cool” condoms does not differ between urban and peri-urban areas, urban sex workers are less likely than peri-urban ones to report not having had any exposure to advertisements (15% vs. 22%).

Table 3 shows the percentage of sex workers who report usually asking all of their clients to use a condom. The south-east has the highest percentage of sex workers who usually ask all their clients to use condoms (84%), followed by the south-central (79%), south-west (77%), north-west (67%), and the middle-belt (65%); the lowest percentage was found in the north-east (46%). Urban sex workers were more likely to report usually asking all of their clients to use condoms than their peri-urban colleagues (74% vs. 55%).

(Table 3 about here)

Sex workers who attended primary (70%) or secondary school (75%) are more likely to usually ask all of their clients to use condoms than those who did not attend school (61%).

The findings suggest an inverse relationship between the likelihood that sex workers usually ask their clients to use a condom and the amount of time they have been in sex work. Seventy-seven percent of sex workers who have less than a year's experience usually asked all of their clients to use condoms, compared to 72% of those who had one to two years of experience, and 61% of those who had three or more years of experience.

Sex workers who have only casual partners are more likely to usually ask all of them to use condoms (82%) than sex workers who have both regular and casual partners (67%).

Sex workers who report being exposed to at least one source of advertisements for “Gold Circle” and “Cool” brand condoms are more likely than those who did not recall any advertisements to usually ask all of their clients to use a condom (over 70% vs. 61%).

The findings suggest that sex workers who have a better knowledge of the modes of HIV transmission are more likely to usually ask all of their clients to use condoms. Seventy-four percent of sex workers who know at least two modes of HIV transmission usually asked all their clients to use condoms compared to 66% of those who know only one mode of HIV transmission, or 68% of those who have no knowledge.

Sex workers who do not worry about AIDS are more likely than those who do to usually ask all of their clients to use condoms (77% vs. 69%). Most likely, this reflects the fact that sex workers who feel they can successfully negotiate condom use (those with self-efficacy) are less likely to be concerned about becoming infected.

Multivariate Results

Sex Workers' Likelihood of Having Asked All Clients to Use Condoms

Table 4 examines factors affecting the likelihood of sex workers usually asking all of their clients to use condoms. Model 1 shows the effects of various socio-demographic factors. Model 2 adds

controls for exposure to condom advertising, knowledge of the modes of HIV transmission, and concern about AIDS. If the effect of the socio-demographic factors on self-efficacy disappears or diminishes after adding these variables then this suggests that the socio-demographic differentials were caused by differences in HIV information or risk perception. If, however, the effects of the socio-demographic factors persist, then we cannot attribute them to differences in exposure to HIV information or differences in risk perception.

(Table 4 about here)

Model 1 suggests that sex workers in the south are more likely than those in the north to usually ask clients to use condoms. Sex workers in the south-east are 2.4 times more likely than those in the north-west to “usually ask” all clients to use condoms, while those in the south-west and south-central are 1.5 times and 1.6 times more likely to do so as those in the north-west, respectively. By contrast, sex workers in the north-east are 0.6 times as likely as those in the north-west to usually ask for condom use.

Urban sex workers were 1.7 times more likely than peri-urban sex workers to usually ask for condom use ($p < .001$).

A breakdown by age group shows that sex workers aged 25-29 are 1.5 times more likely than those aged 12-19 to usually ask for condom use. Those 30 and older are 1.9 times more likely to do so than teenage sex workers.

The likelihood that sex workers usually ask all clients to use condoms increases with their level of education. Sex workers who attended primary school are 1.3 times more likely than those who are uneducated to ask all of their clients to use condoms, and sex workers who had at least a secondary schooling are 1.6 times more likely to ask all their clients to use condoms than those uneducated.

Sex workers who had been in the profession for three or more years are 0.6 times as likely as newer sex workers to usually ask all clients for condom use. Sex workers who had one

or more regular partners are 0.43 times as likely to ask all of their partners to use condoms than those who do not have a regular partner.

Model 2 shows that the effects observed in Model 1 change little after adding controls for exposure to condom advertising, knowledge of HIV transmission, and personal risk perception. In other words, the differences in self-efficacy by region, place of residence, education, age, duration of sex work, and type of sexual partners is not a result of differences in information or risk perception.

Nevertheless, as shown in Model 2, exposure to condom advertising, HIV knowledge, and personal risk perception are associated with higher levels of self-efficacy. Sex workers who recalled seeing or hearing advertisements for “Gold Circle” and “Cool” condoms on one communication channel are 1.6 times more likely to usually ask all their clients to use condoms than those who reported not being exposed to any advertisements. Sex workers who were exposed to two or more sources of condom advertising are 1.7 times more likely to ask all of their clients to use condoms than those who had no such exposure ($p < .001$).

Sex workers who know at least two modes of HIV transmission are 1.4 times more likely than those who do not have any knowledge of transmission to ask all of their clients to use condoms. After controlling for other factors, sex workers who worried about AIDS are 1.5 times more likely to usually ask all clients to use condoms than those who do not worry about AIDS. In other words, the earlier finding (see Table 3) that sex workers who worried about AIDS were less likely than other sex workers to ask all clients to use condoms, can be explained by the fact that these women have other characteristics that lower their likelihood of asking for condom use (i.e. they tend to be women who had been involved in sex work for a long time, or who had regular partners).

Condom Use in All of the Last Five Sex Acts

Table 5 shows the relative odds that a sex worker used a condom in the last five sex acts. In Model 1 we examined only the effect of socio-demographic factors. Model 2 adds controls for exposure to condom advertising, HIV knowledge, and personal risk perception. Model 3 adds a control for the frequency that sex workers asked for condom use (our proxy for self-efficacy).

(Table 5 about here)

Model 1 (Table 5) suggests that sex workers in the south-east are 1.9 times more likely to have used condoms in each of the last five sex acts than those in the north-west, but those in the middle-belt and north-east are only 0.5 times and 0.7 times as likely as those in the north-west to have used condom in all of the last five sex acts, respectively.

Urban sex workers are 1.9 times more likely than those in peri-urban areas to have used condoms in the last five sex acts. Level of education has no significant effect on the likelihood of having used condoms in each of the last five sex acts.

Consistency of condom use increases with age. Sex workers aged 25 to 29 are 1.8 times more likely to have used condoms in each of the last five sex acts than those under 20, and sex workers aged 30 and older are 2.0 times more likely to have used condoms in each of the last five sex acts than the reference group ($p < .001$).

Women who have been sex workers for at least three years are 0.6 times as likely to have used condoms in all of the last five sex acts than those who have been sex workers for less than one year.

Earlier studies had argued that women who have been involved in sex work longer have regular partners with whom condom use is unlikely (Bloor, 1995; Day et al., 1988; Morris et al., 1995; Walden et al., 1999; Wilson et al., 1990). Our analysis shows that sex workers who had one or more regular partners are 0.6 times as likely to have used condoms in the last five sexual acts than those who did not have regular partners ($p < .001$).

Model 2 adds controls for exposure to condom advertising, knowledge of modes of HIV transmission, and personal risk perception. After adding these controls, consistency of condom use for sex workers in the north-east no longer differs from those in the north-west. In other words, consistency of condom use among sex workers in the north-east was lower than for those in the north-west because the former had less exposure to condom advertising, a lower knowledge of HIV/AIDS, and a lower risk perception.

Model 2 also shows that exposure to condom advertising is associated with higher levels of consistent condom use. Sex workers who were exposed to one source of advertising for “Gold Circle” or “Cool” condoms were 1.9 times more likely to have used condoms in all of the last five sex acts than those who were not exposed to such advertising. Sex workers who were exposed to two or more sources of condom advertising are 2.2 times more likely to have used condoms in all of the last five sex acts than those not exposed to condom advertising ($p < .001$).

Sex workers who knew of at least two modes of HIV transmission are 1.5 times more likely to have used condoms in the last five sex acts than those who do not know how HIV is transmitted. Finally, sex workers who worried about AIDS are 2.0 times more likely to have used condoms in all of the last five sex acts than those who did not worry about AIDS.

The third model in Table 5 adds a control for our indicator of self-efficacy. The findings suggest that self-efficacy is the most important predictor of consistency of condom use. Sex workers who asked all clients to use condoms are 39 times more likely to have used condoms in all of the last five sex acts than those who asked only some clients or did not ask any clients ($p < .001$). After adding this control for self-efficacy, having a regular partner no longer affects consistency of condom use. In other words, sex workers with regular partners were less likely to use condoms because they were less likely to ask for condom use. However, adding this control for self-efficacy does not negate the effect of the other variables.

DISCUSSION

This study has examined factors associated with self-efficacy, defined as asking for condom use, and consistency of condom use. The results show that the factors associated with higher self-efficacy included living in the south, living in an urban area, being at least 30 years of age, having secondary or higher education, having been involved in sex work for less than three years, not having any regular partners, exposure to condom advertising, understanding HIV transmission, and concern about AIDS.

With the exception of those who had secondary or higher education, the subgroups that had the highest self-efficacy also had the highest levels of consistent condom use. The evidence also confirms that sex workers who usually asked all of their clients to use condoms were substantially more likely (39 times more likely) than other sex workers to consistently use condoms. These findings are consistent with earlier studies (Ford and Koetsawang, 1999; Thorpe et al., 1997).

However, our analysis has shown that self-efficacy only partially explained the observed differences in consistent condom use. Our analyses showed that women who had regular partners had low levels of consistent condom use because they had lower self-efficacy. Likewise, women in the south appeared to have high levels of consistent condom use because they had higher self-efficacy. However, since the other variations in consistency of condom use did not change much after controlling for self-efficacy, they must be attributed to other factors.

Although our data did not allow us to identify these factors, the literature offers some potential explanations. The higher levels of consistency of condom use might reflect that access to condoms tends to be easier in urban areas (Bankole and Westoff, 1996; Bankole, et al., 1993). Likewise, older sex workers may use condoms more consistently than younger ones, not because they are more likely to ask their clients to use condoms, but because age is respected in most Nigerian societies (Kritz et al, 1995; Kritz et al. 1994) and because older women have better condom negotiation skills. Women who have been involved in sex work for three or more years

may be less likely to consistently use condoms because they are less objective at evaluating their risk of contracting HIV, or they hope to marry one of their clients (Esu-Williams, 1994).

“Collective efficacy” may be equally or more important than individual self-efficacy. Bandura (1978, 1982, and 1997) defined collective self-efficacy as a group’s belief in its ability to take action. Such collective efficacy has been documented among Calabar sex workers in Nigeria, who cooperate to ensure consistency of condom use with clients (Esu-Williams 1995). Thailand’s universal condom policy also generated collective efficacy (Ford and Koetsawang, 1999).

Earlier studies have suggested that the type of partners that sex workers have affects their consistency of condom use (Bloor, 1995; Day et al., 1988; Morris et al., 1995; Walden et al., 1999; Wilson et al., 1990). Our study shows that this effect operates through self-efficacy. That is, sex workers who had regular partners were less likely to consistently use condoms because they had less self-efficacy.

Our study confirms earlier findings that exposure to multiple communication media had a positive effect on consistent condom use among sex workers (Kennedy et al., 2000), and that knowledge of the modes of HIV transmission improves consistent condom use as well (Edem and Harvey, 1998, and Esu-Williams, 1995).

In conclusion, program interventions that use multiple communication media to increase condom brand awareness, to provide information about the modes of HIV transmission, consequences of infection, and to increase self-efficacy, can help improve consistency of condom use among Nigerian sex workers. This may reduce the likelihood of HIV transmission to other populations (Ford et al., 1998 and Esu-Williams, 1995).

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Table 1: Sample Characteristics

	Total N = 2578	%
Geographic area		
North-west		18.6
North-east		11.4
Middle-belt		13.5
South-west		35.7
South-east		7.8
South-central		13.0
Place of Residence		
Urban		83.9
Peri-urban		16.1
Age		
12-19		11.1
20-24		33.9
25-29		28.7
30+		26.3
Level of Education		
None		17.0
Primary		27.3
Secondary +		55.6
Time started sex work (years)		
Less than one year		39.8
One or two years		33.0
Three or more		27.2
Number of regular partners		
None		27.8
One or more		72.2
Number of sources of exposure to Gold Circle/Cool condoms		
None		16.2
Only one		23.5
Two or more		60.3
Number of modes of HIV transmission known		
None		15.5
One mode		31.0
Two or more		53.5
Concerns about AIDS		
% who are worried about contracting AIDS		80.8
Initiation of condom use		
% who usually ask all clients to use condoms		70.9
Condom use in last five sex acts		
% who used condoms in each of the last five sex acts		
among all sex workers		55.3
among sex workers who usually ask all clients		76.0
among sex workers who do not usually ask all clients		7.8

Table 2: Percentage of sex workers who had been exposed to zero, one, and two or more sources of advertising for Gold Circle or Cool condoms

		Number of sources of exposure		
		None	Only one	Two or more
Total (N)	2562	16.1	23.3	59.9
Geographic area				
North-west	478	12.3	21.5	66.1
North-east	289	22.5	25.3	52.2
Middle-belt	345	16.5	22.3	61.2
South-west	918	17.6	29.7	52.6
South- east	200	15.0	7.0	78.0
South- central	332	13.0	18.4	68.7
		$\chi^2 (10)= 87.551, p=.000$		
Place of Residence				
Urban	2152	15.1	24.6	60.3
Peri-urban	410	22.2	17.6	60.2
		$\chi^2 (2)= 17.907, p=.000$		
Age				
12-19	280	21.1	27.9	51.1
20-24	856	16.5	21.5	62.0
25-29	725	11.6	21.1	67.3
30+	660	18.9	25.9	55.2
		$\chi^2 (6)= 36.953, p=.000$		
Level of Education				
None				
	426	23.9	26.8	49.3
Primary	690	17.4	22.6	60.0
Secondary +	1403	13.6	22.8	63.6
		$\chi^2 (4)= 35.372, p=.000$		
Time started sex work (years)				
Less than one	1017	19.0	22.5	58.5
One or two	846	14.7	23.8	61.6
Three or more	695	14.2	24.3	61.4
		$\chi^2 (4)= 9.247, p=.055$		
Number of regular Partners				
None	698	19.1	23.5	57.4
One or more	1827	15.2	23.4	61.4
		$\chi^2 (2)= 5.851, p=.054$		

Table 3: Percentage of sex workers who usually ask all clients to use condoms

	N	% who usually asked all clients to use condom	
Total	2558	70.9	
Geographic area			
North-west	480	65.8	
North-east	288	46.5	
Middle-belt	341	65.1	
South-west	919	77.5	
South- east	198	83.8	
South- central	332	79.2	$\chi^2(5)= 140.829, p=.000$
Place of Residence			
Urban	2150	73.9	
Peri-urban	408	54.9	$\chi^2(1)= 60.004, p=.000$
Age			
12-19	279	68.1	
20-24	854	71.3	
25-29	721	70.2	
30+	663	72.1	$\chi^2(3)= 1.764, p=.623$
Level of Education			
None	424	61.1	
Primary	687	70.0	
Secondary +	1403	74.6	$\chi^2(2)= 29.201, p=.000$
Time started sex work (years)			
Less than one	1018	76.8	
One to two	843	71.9	
Three or more	693	60.8	$\chi^2(2)= 52.195, p=.000$
Number of regular partners			
None	700	81.7	
One or more	1822	66.8	$\chi^2(1) = 54.242, p=.000$
Number of sources of exposure to Gold Circle/Cool condoms			
None	406	61.3	
Only one	600	70.2	
Two or more	1514	73.9	$\chi^2(2)= 25.003, p=.000$
Number of modes of HIV transmission known			
None	390	68.5	
Only one	791	66.5	
Two or more	1361	74.0	$\chi^2(2)= 14.813, p=.001$
Worry about AIDS			
No	481	77.3	
Yes	2014	69.4	$\chi^2(1)= 11.829, p=.001$

Table 4: Relative odds that sex workers usually ask all clients to use condoms

	Model 1	Model 2
Geographic area		
North-west (r)		
North-east	.56***	.63**
Middle-belt	.85	.87
South-west	1.53**	1.65***
South-east	2.35***	2.12***
South- central	1.63**	1.59*
Place of Residence		
Peri-urban (r)		
Urban	1.69***	1.59***
Age		
12-19 (r)		
20-24	1.33	1.21
25-29	1.51*	1.33
30+	1.92***	1.83***
Level of Education		
None (r)		
Primary	1.33*	1.30
Secondary +	1.55**	1.51**
Time started sex work (years)		
Less than one (r)		
One or two	.84	.83
Three or more	.56***	.55***
Number of regular partners		
None (r)		
One or more	.43***	.41***
Number of sources of exposure to Gold Circle/Cool condoms		
None (r)		
Only one		1.59**
Two or more		1.71***
Number of modes of HIV Transmission known		
None (r)		
Know one		1.02
Know two or more		1.44*
Worry about AIDS		
No (r)		
Yes		1.46**

Note: * = $p < .05$, ** = $p < .01$ and *** = $p < .001$, r = reference category

Table 5: Relative Odds of Condom Use in each of the Last Five Sex Acts

	Model 1	Model 2	Model 3
Geographic Areas			
North-west (r)			
North-east	.72*	.82	1.41
Middle-belt	.49***	.53***	.43***
South-west	.87	.90	.57***
South-east	1.85**	1.74**	1.34
South-central	1.25	1.27	1.00
Place of Residence			
Peri-urban (r)			
Urban	1.86***	1.71***	1.53*
Age			
12-19 (r)			
20-24	1.30	1.21	1.11
25-29	1.75***	1.53**	1.53*
30+	2.01***	1.94***	1.67*
Level of Education			
None (r)			
Primary	1.05	1.03	.81
Secondary +	1.20	1.14	.84
Time started sex work (years)			
Less than one (r)			
One or two	.84	.85	.89
Three or more	.57***	.57***	.71*
Number of regular partners			
None (r)			
One or more	.64***	.59***	.91
Number of sources of exposure to Gold Circle/Cool condoms			
None (r)			
Only one		1.88***	1.64**
Two or more		2.23***	1.97***
Number of modes of HIV transmission known			
None (r)			
Know one		1.28	1.43*
Know two or more		1.54**	1.44*
Worry about AIDS			
No (r)			
Yes		1.95***	2.05***
Initiation of condom use			
Asked all clients to use condoms			
None/some clients (r)			
All clients			39.54***

Note: * = $p < .05$, ** = $p < .01$ and *** = $p < .001$, r = reference category