

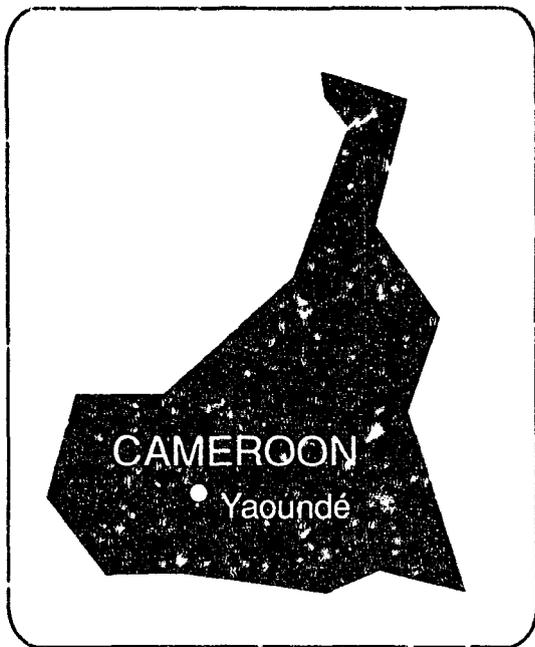
REDUCING THE SPREAD OF AIDS IN SUB-SAHARAN AFRICA:

**RESULTS OF AN INTERVENTION PROGRAM
AMONG HIGH RISK INDIVIDUALS IN YAOUNDE, CAMEROON**

National AIDS Control Service, Yaoundé

Family Health International

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This pilot investigation was made possible by a grant to Family Health International by the United Support of Artists for Africa Foundation (USA for Africa). FHI and the Cameroon National AIDS Control Service are deeply grateful for this assistance, which enabled them to work closely with a group thought to be of key importance in slowing the spread of HIV infection within a society.

It is particularly gratifying to note that the fruits of this effort are many, and extend far beyond the provision of condoms and AIDS information to 125 prostitutes in a single African city. With diverse financial support, made available no doubt in part as a result of the impact of this project, as many as 10,000 women in Cameroon alone will receive similar services. In addition, other novel approaches—including the social marketing of condoms—are being introduced as part of the array of activities to combat AIDS.

Though they must remain nameless, our heartfelt thanks and admiration go to the eleven Peer Health Educators on whom the success of the program rested. Their interest, ability, resourcefulness and dedication to educating and motivating their co-workers about the dangers of AIDS have been an inspiration to all of us in the public health community who have been privileged to work with them over the past two and a half years.

INTRODUCTION

Background. As of mid-1987, a total of 35 clinical cases of AIDS had been diagnosed in Cameroon. Most of these were reported in the major urban areas of Douala and Yaoundé, respectively the nation's principal port and its capital city. An estimate made in that year, based on limited and mostly urban data, was that between 0.3 and 0.5 per cent of the national population was infected. This prevalence, while quite low in comparison to neighboring countries of East and Central Africa, is nevertheless likely to increase rapidly unless effective steps are taken to slow the transmission of the AIDS virus.

Following the premise that a small number of persons with many sexual partners can spread the AIDS virus more rapidly than a large number of persons with few partners¹, representatives of FHI and the Cameroon Ministry of Public Health met in June, 1987, to develop an intervention model to slow the transmission of HIV among urban prostitutes, a population at high risk of contracting and spreading AIDS as well as other sexually transmitted diseases. Initial concern was for the prostitutes themselves, whose health and lives are at stake. At the same time, prostitutes can spread the virus which causes AIDS both through their clients and through their families. Infected clients can in turn spread the disease to their wives and other sexual contacts. The high degree of geographic mobility among prostitutes furthermore makes it likely that they may spread the disease both within Cameroon and to neighboring countries.

Prostitutes are concentrated at a number of sites in Yaoundé, the location selected for this pilot intervention. Although not organized into fixed groups, they communicate through informal networks. Their numerical size and frequency and diversity of sexual contacts make them particularly appropriate recipients for a comprehensive educational and service delivery program to influence their behavior toward "safer sex" practices with respect to the transmission of the virus that causes AIDS.

¹Peto J, AIDS and Promiscuity, The Lancet 8513 (October 25, 1986), p. 979.

Objectives. The broad goal of this investigation was to develop and test an intervention model to reduce the spread of HIV infection among urban prostitutes in Cameroon. An essential component of the model was the recruitment and training of a small number of prostitutes to act as peer health educators (PHEs), providing information about AIDS and its modes of transmission, condoms to reduce their likelihood of contracting or spreading the disease, and motivation to adopt risk-reducing practices as fully as possible.²

Specifically, prostitutes were encouraged to:

- use condoms at each act of intercourse;
- use vaginal spermicides when clients refuse to use condoms;
- receive injections only from recognized medical facilities.

TARGET POPULATION

The general population of interest was female prostitutes living and working in Yaoundé. An estimate of the total number of such individuals is difficult to make due to definitional imprecision and inability to enumerate accurately. The National AIDS Control Service put the number in 1988 at approximately 3,000.

The study population for the pilot intervention was limited to 125.³ Prostitutes were recruited at several sites in Yaoundé under the direction of Professor Lazare Kaptué-Noche, Director of Health Services at the Ministry of Public Health, on the basis of his experience testing high risk individuals for HIV seropositivity. Sites were typically well-known bars, night clubs or hotels where prostitutes congregate.

²Ngugi E et al, Prevention of Transmission of Human Immunodeficiency Virus in Africa: Effectiveness of Condom Promotion and Health Education among Prostitutes, The Lancet 8616 (October 15, 1988), p.887, and Roumelioutou A et al, Effectiveness of Condom Use in Preventing HIV Infection in Prostitutes, The Lancet 8622 (November 26, 1988), p.1249, cite the importance of personal contact by credible persons in achieving lasting reductions in high risk behavior in these groups.

³Although nearly 200 prostitutes received educational materials and condoms through the program due to its popularity in the prostitute community, data were collected from only the first 125 enrolled in the study.

Beginning in December, 1987, project staff visited bars, night clubs and hotels in Yaoundé known to be places where female prostitutes meet clients. They selected eleven women whose age, education and/or intelligence appeared to give them an informal leadership status among their peers. These women were trained in informal group meetings with project staff to explain the nature and threat of AIDS to their fellow prostitutes, the need for preventive action as quickly and as completely as possible, steps that prostitutes can take to slow the spread of the disease, and motivational techniques leading to acceptance and use of safer sex practices. Each Peer Health Educator (PHE) was then asked to "recruit" ten to fifteen prostitutes with whom they were already familiar to participate in the pilot intervention.

To be included in the study, a prostitute had to meet the following criteria:

- (1) currently and regularly working as a prostitute in Yaoundé, and intending to remain so for the next six months;
- (2) willing to be interviewed two or more times during a nine-month period about her life style and sexual practices;
- (3) willing to receive a complete gynecologic examination at the beginning of the study and to provide endocervical specimens for laboratory analysis; and
- (4) willing to be clinically tested for seropositivity for HIV antibodies at admission to the study.

FIELD WORK

PHEs began providing information and counseling on AIDS and safer sex practices to reduce its spread in January, 1988. Condoms were provided at no charge, with instruction on correct use and explanations of their role in preventing STDs. A pamphlet (Appendix 1), developed by local project staff in Cameroon, was printed for distribution as part of the intervention. Contact between PHEs and "their" prostitutes was informal, yet regular; most met at least on a weekly basis in the early stages of the intervention. PHEs were given sufficient stocks of condoms to insure that supply constraints would not be a factor in evaluating the program.

A baseline survey of prostitutes' knowledge of AIDS and other STDs, previous experience with barrier methods of contraception, and client characteristics was conducted at the start of the intervention. Shorter follow-up interviews to measure change in knowledge, attitudes and practices

(KAP) over the course of the program were administered at six and nine months. Additionally, clinical examinations (including laboratory tests to determine HIV status and the presence of other STDs) were done on all women during the early stages of the intervention. Those testing positive for STD infection were referred to the Elig Essono STD Clinic in Yaoundé for treatment; those found to be HIV seropositive were counseled by the study coordinator at Yaoundé's Central Hospital.

BASELINE SURVEY

Background Characteristics. The “typical” prostitute participating in the intervention was in her twenties, never-married but with one or two young children. She had attended school beyond the primary level and had entered the commercial sex market during the past five years as a means of economic support. Less than half had worked in other jobs prior to becoming a prostitute. Of these, most were market traders; only one in five had held a salaried position. All of the women were Cameroonian by birth, although few were native to Yaoundé. Percentage distributions of these background variables are given in Table 1. It is not known to what extent these women are representative of the population of all prostitutes in Yaoundé.

Sexually Transmitted Diseases. Few of the prostitutes participating in the intervention reported current or past sexually transmitted diseases (STDs): 15% said they had ever had gonorrhea and 6% syphilis. No women reported either chlamydia or genital herpes; 6% said they had ever had genital ulcers (Table 2).

Three-fourths of the women said they had taken steps to avoid STDs. The most commonly reported precautions were the use of antibiotics and/or vaginal suppositories. Only one woman in six, however, had consciously acted in a way that might reduce her likelihood of being infected with or spreading HIV. Ten percent stated that they used condoms, and an additional 6% said they tried to protect themselves by reducing their number of clients.

Condoms. When asked specifically about their knowledge and use of condoms, four-fifths of the women knew what they were, two-fifths said they had used them, and one-fifth reported that they were current users (Table 3). The inconsistent data on condom use suggests that many prostitutes in Yaoundé use condoms for contraceptive purposes and—at least before the present intervention—were not aware of their effectiveness in blocking the transmission of STDs, including AIDS.

Only eight (6%) of the 125 women enumerated at the start of the intervention reported that they used condoms “frequently” with their clients. An additional 22% said they were “occasional” users. By far the majority (59%) said they “never” used condoms.

Table 1: Selected Characteristics of Prostitutes, Baseline Survey

Characteristic	Percent	(N)
Age		
18-19	6	(7)
20-24	34	(42)
25-29	42	(53)
30-39	<u>18</u>	(23)
Marital Status		
Never married	79	(99)
Currently married	6	(7)
Formerly married	<u>15</u>	(19)
Living Children		
None	10	(12)
1-2	57	(71)
3 or more	22	(27)
Unknown	<u>12</u>	(15)
Years Attended School		
3-6	28	(35)
7-10	51	(64)
11-14	<u>21</u>	(26)
Activity Before Prostitution		
Worked	42	(53)
Student	26	(32)
Nothing	30	(37)
Unknown	<u>2</u>	(3)
Why Became Prostitute		
Earn money	61	(76)
Husband/partner left	25	(31)
Pleasure	9	(11)
Other	<u>6</u>	(7)
How Long Worked as Prostitute		
Less than 1 year	19	(24)
1-5 years	63	(79)
Over 5 years	14	(17)
Unknown	<u>4</u>	(5)
Total	100%	(125)

**Table 2: Sexually Transmitted Diseases, Baseline Survey
(as reported by respondent)**

	Percent	(N)
Ever had		
Gonorrhea	15	(19)
Syphilis	6	(8)
Herpes	0	(0)
Chlamydia	0	(0)
Genital ulcers	<u>6</u>	(7)
Principal Precautions Taken to Avoid STDs		
None	24	(30)
Antibiotics (only)	16	(20)
Antibiotics & vaginal suppositories	16	(20)
Vaginal suppositories (only)	16	(20)
Condoms	10	(12)
Medical check-ups	6	(8)
Reduce number of partners	6	(8)
Good hygiene	<u>6</u>	(7)
Total	100%	(125)

Among ever-users, two thirds said they were the initiating party the last time a condom was used with a client. Nevertheless, condoms were actually provided by the woman only half the time; the remainder were supplied by clients.

One out of every three women ever using condoms said they had experienced breakage on one or more occasions. In one instance, a pregnancy was reported to have resulted.

Clients. The average number of clients over the past seven days was 2.7 (Table 4). Ten percent reported they were not active at all during the past week; two thirds had between one and four clients. Discothèques are the most popular spot for prostitutes to meet clients; two thirds of the women said they met clients in such locations. Slightly over one half of the women said they met clients in bars. Hotels and on the street were reported by just under one third of the women.

The average charge to engage in sexual relations by those women responding (80% of those enumerated) was F CFA 6200— about US\$23 at the current rate of exchange. Over half said they

Table 3: Knowledge and Use of Condoms, Baseline Survey

	Percent	(N)
Condoms:		
Currently using	18	(23)
Used in the past but not now	22	(28)
Heard of; never used	38	(48)
Never heard of	<u>21</u>	<u>(26)</u>
	100%	(125)
Use Condoms With Clients:		
Frequently	6	(8)
Occasionally	22	(27)
Rarely	13	(16)
Never	<u>59</u>	<u>(74)</u>
	100%	(125)
Who <u>Provided</u> Condom Last Time Used? (excludes never-users)		
Self	53	(27)
Client	<u>47</u>	<u>(24)</u>
	100%	(51)
Whose <u>Idea</u> to Use Condom Last Time Used? (excludes never-users)		
Self	67	(34)
Client	<u>33</u>	<u>(17)</u>
	100%	(51)
Ever Had <u>Problems</u> With Condoms? (excludes never-users)		
Yes	33	(17)
No	<u>67</u>	<u>(34)</u>
	100%	(51)

charged between F CFA 5000 and 10000. Average weekly gross earnings from prostitution among the women in the present intervention was thus F CFA 6200 x 2.7, or US\$62.

When asked for reasons for not agreeing to have sex with a client, only 2% responded that refusal to use a condom would be sufficient cause. Nearly all the reasons given were related to physical attractiveness or ability to pay.

Knowledge of AIDS. All 125 women interviewed at the start of the intervention said they had heard of AIDS (Table 5). All but three women (98%) had listened to programs or announcements about AIDS over the radio, 83% had seen AIDS covered on television and 77% had read about AIDS in

Table 4: Clients, Baseline Survey

	Percent	(N)
Number of Clients Last 7 Days		
None	10	13
1-2	41	51
3-4	26	32
5+	13	16
Unknown	10	13
Mean: 2.7 clients		
Meet Clients in		
Bars	55	69
Hotels	33	41
Discos	67	84
Street	31	39
Amount Charge For Sex (F CFA)		
Less than 500 ⁴	22	28
5000-9000	37	46
10000	17	21
15000-25000	4	5
Not stated	20	25
Mean: 6200 F CFA		
Reason Refuse Sex With a Client		
Dirtyness	32	40
Doesn't interest me	24	30
Ugly; deformed	17	21
Refuses to pay	10	12
Too thin	5	6
Refuses to use condoms	2	2
Other reasons	11	14

the print media. By contrast, 60% reported a client as ever speaking about AIDS, and only 30% had obtained any information about the disease at an STD clinic.⁴ Although in excess of 90% knew that both men and women could contract AIDS, only 75% thought that AIDS was currently a health problem in Cameroon.

⁴As women were not asked if they had ever been to such a clinic, it is thus not possible to determine clinic effectiveness in providing AIDS information to high risk group clients.

Table 5: AIDS Knowledge, Baseline Survey

	Percent	(N)
Heard of AIDS	100	125
Where Heard of AIDS		
Newspaper	77	96
Radio	98	122
Television	83	104
Friend	67	84
Client	60	75
STD clinic	30	38
Agree AIDS is a Problem in Cameroon	75	94
Believe Women Can Get AIDS	91	114
Believe Men Can Get AIDS	90	113
What are Principal Symptoms of AIDS ¹		
Extreme weight loss	26	32
Skin rash	25	31
Loss of strength	14	17
Diarrhea	12	15
Fever	9	11
Vomiting	3	4
Genital malformation	2	2
Don't know (stated by respondent)	26	32
Unknown (no response)	20	25

¹Up to two responses coded.

While “knowledge” of AIDS may have been universal among participating prostitutes at the start of the intervention, their understanding of the manifestations of the disease was limited at best. When asked to give the principal symptoms of AIDS, nearly half (46%) could give none. Extreme weight loss and skin rash were cited by 26% and 25%, respectively; other symptoms mentioned by more than ten individuals were loss of strength (14%), diarrhea (12%) and fever (9%).

Condom Acceptability. Although nearly half (44%) of the women listed condom use as an effective means of reducing one's risk of becoming infected with the AIDS virus, only one fourth said they had started using condoms to reduce their risk since learning about AIDS (Table 6). All of the women except one stated that they would require every client to use condoms if they could be assured that condoms would protect them completely against AIDS. In contrast to this ideal, the reality of the situation is more closely summarized by the finding that only 36% of the women believed that they could succeed in convincing all of their clients to use condoms at each sexual encounter. Moreover, three fourths (73%) of the prostitutes said that they would accept double the normal payment from a client to have sex without using a condom.

Table 6: Acceptability of Condoms, Baseline Survey

	Percent	(N)
Can reduce AIDS risk by using condoms (spontaneously reported)	44	(55)
Started using condoms to reduce AIDS risk since learning about disease	24	(30)
Would require all clients to use condoms if convinced would protect against AIDS	99	(124)
Proportion of clients likely agree to use a condom at each encounter		
- All	36	(44)
- More than half	21	(26)
- Half or fewer	39	(48)
- Don't know	4	(5)
Would accept double the normal payment from client not to use condom ²	73	(91)

²Nearly all of these women said they would use a vaginal suppository.

Clinical Results. Following the study protocol, prostitutes agreed to undergo a physical examination and be tested for various sexually transmitted diseases, including the presence of HIV, on admission into the intervention. As depicted in Table 7, 37% tested positive for syphilis, 16% for gonorrhea, 13% for hepatitis B and 9% for chlamydia. A positive Western blot for HIV-1 was reported in seven (6%) of the 122 women tested; no HIV-2 was detected.⁵ On examination, 33% of the women were found to have a vaginal discharge, and 16% had genital ulcers. Of those with genital ulcers, four of twenty women (20%) were infected with HIV.

Table 7: Clinical Status at Admission: Percent Positive on Selected STDs/Conditions

Test	Percent Positive	Number Tested ³
HIV-1 (ELISA; confirmed by W. Blot)	6	122
HIV-2 (ELISA; confirmed by W. Blot)	0	122
Gonorrhea (direct culture)	16	122
Chlamydia (immunofluorescence)	9	102
Syphilis (positive blood test)	37	104
Hepatitis B positive antigen	13	47
Genital ulcers	16	122
Vaginal discharge	33	122

³Three women left the intervention before clinical examination; others did not return for chlamydia, syphilis or hepatitis B testing.

These findings illustrate that, with the exception of gonorrhea, the presence of STDs as reported by Yaoundé prostitutes grossly underestimates their actual infection rate (Tables 2 and 7). Although more than one third tested positive for syphilis, only 6% said they had ever had the disease. Smaller differentials are observed for chlamydia (9% versus 0%) and genital ulcers (16% versus 6%).

⁵Two of the seven seropositive women claimed to use condoms “occasionally” with their clients; another said she used them “rarely.” Four had never used condoms.

IMPACT OF THE INTERVENTION: CHANGES IN KNOWLEDGE AND BEHAVIOR

Nine months after the baseline survey and at the end of the subsequent intensive motivation and service provision intervention, study personnel attempted to locate and interview as many as possible of the 125 prostitutes originally recruited into the study. Seventy-three (58%) were successfully re-interviewed; nearly all of those not followed up had moved away from Yaoundé.⁶

Role of Peer Health Educators. All but one (99%) of women who were re-interviewed said they were familiar with the locally designed and printed brochure on AIDS, its modes of transmission and how to protect oneself against infection (Table 8). Ninety-five percent reported that a PHE had met with them to talk about AIDS; 77% said they received “useful” information from her. One third of the women (32%) stated that they had questions about AIDS that the PHE was unable to answer satisfactorily. Most commonly unavailable from the PHE was information on the efficacy of spermicides, how to recognize seropositive individuals, and whether mosquitos or other insects were vectors of the disease.

Condom Acceptability. All prostitutes but one accepted condoms offered by a PHE. Almost two thirds (63%) said that their clients were opposed to using them: 25% reported that some clients thought that if a woman proposed using condoms, this indicated that *she* had AIDS. One fifth said that their clients didn't like the physical sensation of condom-protected intercourse, 8% said that their clients denied the existence of AIDS and claimed that condoms weren't needed, and 4% said that their clients were certain of being uninfected with the virus and thus felt they did not need to use a condom.

When asked what action they took the last time a client refused to use a condom, a minority (29%) said they turned the client away. Of those who did not, approximately one half used a vaginal spermicide; the remainder—36% of the women who were followed up—agreed to unprotected sex.

⁶Those who were followed up for the full intervention are, in demographic terms, a clearly representative subsample of the 125 who were admitted. Distributions according to age, marital status, education, residence, length of time in prostitution, clients per week, where they meet clients, what they charge, knowledge of and attitudes toward AIDS, and STD/HIV status are essentially identical. Nevertheless, it cannot be determined whether prostitutes who were not followed up were more, less or equally likely to use condoms regularly than those who were followed up.

Table 8: Impact of the Intervention: Selected Findings from the Nine-Month Follow Up Visit (N=73)

	Percent
Familiar with intervention brochure	99
Received AIDS information from PHE	95
- Thought information useful	77
- Thought information not useful	18
Had questions PHE unable to answer	32
- Efficacy of spermicides	11
- How to recognize seropositive individuals	8
- Mosquitos as means of transmitting virus	4
- Other	8
Offered condoms by PHE	100
- Accepted condoms	99
- Did not accept condoms	1
Reporting clients opposed to using condoms	63
- Client thought meant prostitute had AIDS	25
- Client didn't like sensation	19
- Client didn't believe AIDS existed	8
- Client claimed he didn't have AIDS	4
- Other	7
Action taken last time a client refused to use a condom	
- None (unprotected)	36
- Used spermicide	34
- Used antibiotic	1
- Refused sex	29
Condom breakage during past month	
- None	79
- Once	14
- Two or more times	7
Measures taken since beginning of program to reduce likelihood of contracting AIDS	
- Use condoms	88
- Use spermicides	82
- Reduce number of clients	32
- Use antibiotics (not a recommended action in the intervention program)	18
- Practice better hygiene (not a recommended action in the intervention program)	10

One prostitute in five reported condom breakage during the month preceding the final interview: 14% said this occurred only once; 7% said it happened on two or more occasions.

Risk-Reducing Behavior. The final question of the follow-up interview asked the women to enumerate all measures (whether or not the measures were recommended as part of the intervention) they had started or continued to take since the beginning of the PHE intervention program to reduce their susceptibility to the virus which causes AIDS. Nearly nine out of ten women (88%) said they used condoms (the frequency of use before and after the intervention is discussed below), 82% reported spermicide use, and 18% said they took antibiotics. Fully one third of the women (32%) reported that they had reduced—presumably by being more selective—their number of clients, and 10% said they had started practicing better hygiene.

Increased Condom Use. One of the main objectives of the intervention was to increase the *proportion* of Yaoundé prostitutes using condoms and the relative *frequency* with which they used them with their clients. Of the 73 women who were followed throughout the entire intervention, 93% claimed to be using condoms at least some of the time after nine months, compared with only 44% at the time of the baseline interview (Table 9). Women stating that they used condoms “frequently” or “always” rose dramatically, from 6% to 55%. Those reporting “rare” or “never” use declined by a nearly similar margin: from 66% at the baseline survey to 25% after nine months of intervention activities. Frequency of condom use at the end of the intervention is not related to any of the background variables in Table 1 except education: three fourths of the women with six or fewer years schooling became “frequent” or “always” users, compared with less than half of those with seven or more years education.

Table 9: Reported Condom Use With Clients, Before and After PHE Intervention, Among Those Followed Up (N=73)

	Before	After
Percent Using Condoms		
Always	0	7
Frequently	6	48
Occasionally	28	19
Rarely	10	19
Never	56	6
Not reported	0	1
	100%	100%

Better Understanding of Risk Factors. A second important objective was to educate prostitutes about the ways HIV may be transmitted and to correct misconceptions concerning common activities and characteristics which do *not* spread the virus. As shown in Table 10, the already high knowledge before the intervention of the principal routes of transmission of the AIDS virus—sexual relations, unsterile needles and transfusions of infected blood—increased to over 90% at its conclusion. By the end of nine months of PHE education and service delivery in the prostitute community, only 4% of the women in the program remained unaware or unconvinced that theirs was indeed a high risk profession. The level of *incorrect* information concerning how the virus is transmitted declined: many women learned during the intervention that AIDS is not spread by casual contact such as kissing, shaking hands or sharing a drinking cup.

Table 10: Belief that AIDS is Transmitted by Various Means, Before and After PHE Intervention, Among Those Followed Up (N=73)

	Before	After
Percent Believing AIDS Transmitted by:		
Sexual relations	86	96
Unsterile needle	84	93
Blood transfusions	82	90
Pregnancy	80	80
Breastfeeding	80	59
Kissing	51	18
Sharing a cup	49	16
Shaking hands	33	10

Of women followed up for the full nine months of the intervention, only 16% at the baseline survey correctly stated that it is not possible to tell on the basis of physical characteristics or behavior that a person can give you AIDS (Table 11). Eighteen percent said that a client who was “too thin” would give you the disease; 8% reported that clients who offer to “pay too much” were those who harbored the virus.⁷ By the end of the intervention, nearly 70% of the women had become aware that such characteristics are not absolute indicators of HIV status or one’s ability to spread the disease.

⁷Only one characteristic was recorded; few women offered multiple responses.

Table 11: How to Tell if Someone is at Risk of Giving You AIDS, Before and After PHE Intervention, Among Those Followed Up (N=73)

	Before	After
Percent Stating:		
Can't tell	16	68
Refuses to use condom	3	7
Dirty	3	7
Too thin	18	5
Poor health	4	4
Offers to pay too much	8	3
Blemished skin	4	1
Other	4	3
Don't know	40	1
	100%	100%

DISCUSSION

The pilot intervention concluded in November, 1988, with the completion of the follow-up visits to the 73 prostitutes still active in the program. Over nine months, PHEs distributed over 45,000 condoms and 10,000 vaginal spermicidal suppositories to nearly 200 women: the original participants in the intervention plus additional individuals who received services but from whom information was not collected.

The data strongly indicate that prostitutes, recruited and trained as Peer Health Educators, can effectively inform, counsel and provide condoms to fellow prostitutes, resulting in (1) improved knowledge about how AIDS is transmitted and (2) the adoption of risk-reducing behaviors, particularly the use of condoms. Women in the intervention were highly motivated to take necessary actions to reduce their risk of becoming infected. As a group, their principal criticism of the intervention was that it should have been directed as well to *clients* of prostitutes, whose reluctance to accept condom use as an effective means of avoiding AIDS and other sexually transmitted diseases is documented in the present study. Many of the women felt that the educational and motivational aspects of the counseling program would have been better targeted toward men—perhaps radio announcements or pamphlets distributed in bars and other places where men go to meet prostitutes—

with the message that it is in *their own* best interest to use condoms in all sex contacts outside mutually monogamous relationships.

In addition to the locally produced PHE pamphlet, which went through two printings and was distributed widely in Yaoundé, two other documents were produced (with financial support from other sources) by the National AIDS Control Service during the intervention: a second color pamphlet, “Les Dix Commandements Pour Eviter le SIDA” (The Ten Commandments on Avoiding AIDS), and a twenty-page manual, SIDA! Ce Que Vous Devez Savoir (AIDS! What You Need to Know). An improvisational theatre troupe, Les Amies de Rose et Douglas, was formed among the prostitutes in the intervention with assistance of the program staff. Since 1988, they have presented short sketches about their lives, their perceptions of AIDS, and the importance of using condoms to a wide variety of audiences in nightclubs, cinemas, STD clinics and community meetings throughout Cameroon. In October, 1989, they performed in Yaoundé before the Second International Symposium on AIDS Information and Education.

The popularity and success of the pilot intervention has led to its continuation in Yaoundé and the initiation of similar programs in both Douala and in Maroua, a provincial capital and trading center in the north of Cameroon. FHI, through its USAID-supported AIDSTECH program, is providing technical assistance and funding to the National AIDS Control Service to expand the educational, motivational and condom distribution components of the intervention to an estimated 10,000 prostitutes and their clients in the three cities. In addition, PHEs are being trained as sales agents in a recently initiated condom social marketing program in Cameroon. With support from FHI and Population Services International, the program is targeting persons at high risk of HIV infection.

It is perhaps still too early to tell if the Peer Health Educator approach will keep HIV infection from spreading rapidly through the prostitute community in Cameroon, and from them to their clients and ultimately into the general population. Thus far, it appears to be an acceptable one; women participating in the pilot study understand and are trying to act on the messages they are receiving from the PHEs. We must hope they are successful.

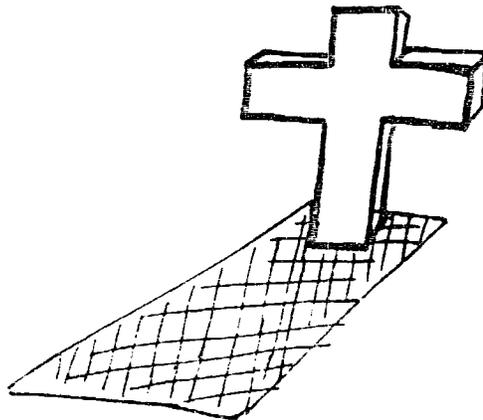
APPENDIX 1

Intervention Pamphlet

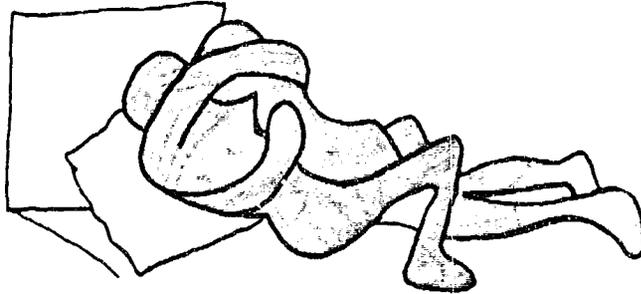


LE SIDA TUE

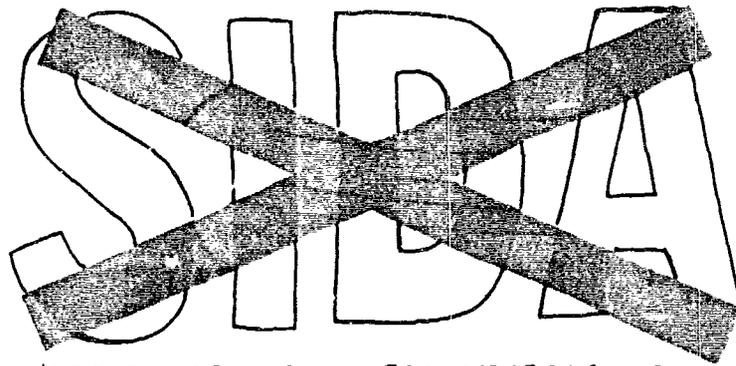
IL N'YA ACTUELLEMENT
AUCUN TRAITEMENT



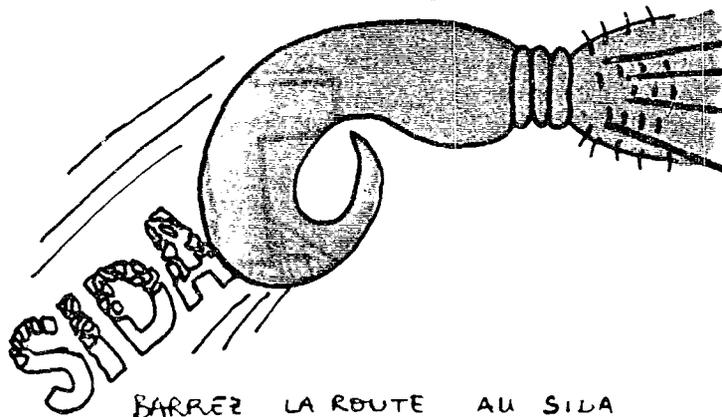
LE SIDA SE TRANSMET par les RAPPORTS SEXUELS



PROTEGEZ VOUS LORS DES RAPPORTS SEXUELS



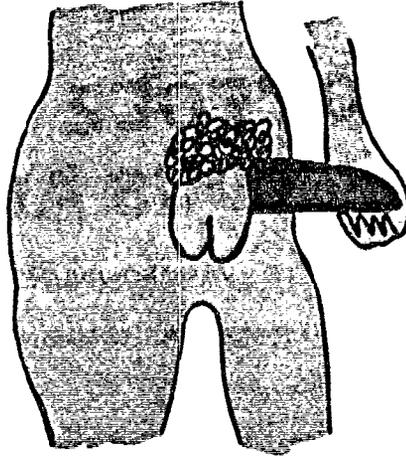
L'EFFORT DE CHACUN EST NECESSAIRE
POUR BARRER LA ROUTE AU SIDA



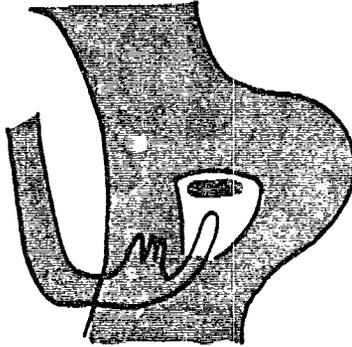
BARRER LA ROUTE AU SIDA

CAMEROON. MINSAP. CNLCSIDA. EDUC. INFO. HIGH RISK GROUP
SEX. PRO. FINANCIAL AID FHI, NC, USA. USAGERESEVE. MML

L'HOMME DOIT PORTER UN CONDOM

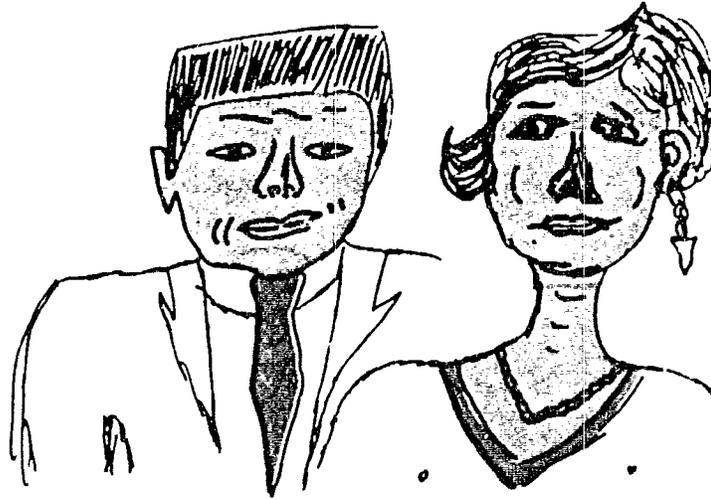


SI L'HOMME REFUSE DE PORTER LE
CONDOM, LA FEMME DOIT METTRE UN
OVULE SPERMICIDE



**OU ALORS N'AYEZ PAS
LE RAPPORT SEXUEL**

N'ATTRAPEZ PAS LE SIDA



PROTEGEZ VOUS

L'HABIT NE FAIT PAS LE MOINE

PROTEGEZ VOUS CAR

VOUS RISQUEZ D'ATTRAPER LE SIDA

MEME SI VOTRE

PARTENAIRE OCCASIONNEL(LE)

PARAIT ETRE EN BONNE SANTE

L'EFFORT DE CHACUN EST NECESSAIRE

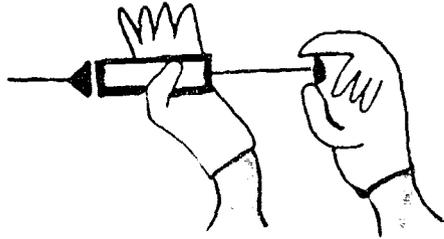
POUR BARRER LA ROUTE AU SIDA

SAFER SEX



BARRER LA ROUTE AU SIDA

LE SIDA SE TRANSMET AUSSI PAR
LE SANG, PAR L'UTILISATION DES
SALES AIGUILLES

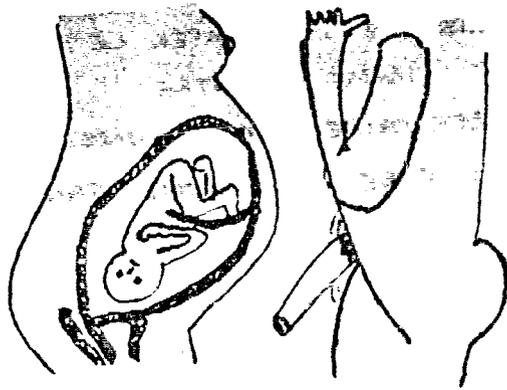


SI VOUS DEVEZ RECEVOIR DES SOINS,
DES INJECTIONS,

ALLEZ AU DISPENSAIRE

ALLEZ A L'HOPITAL

FAITES VOUS INJECTER SEULEMENT
PAR LE MEDECIN OU L'INFIRMIERE



HOMME SEROPPOSITIF,
FEMME SEROPPOSITIVE,

EVITEZ DE CONCEVOIR CAR
VOTRE ENFANT PEUT NAITRE ATTEINT
DE SIDA

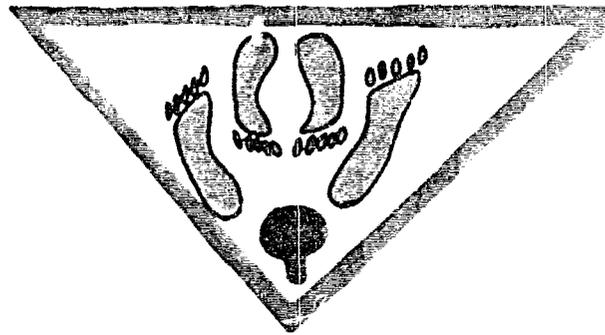
BARRER LA ROUTE AU SIDA

PROTEGEZ VOUS

SANS PROTECTION VOUS RISQUEZ
D'ATTRAPER LE SIDA

PROTEGEZ CEUX QUE VOUS AIMEZ

- EVITEZ LE VAGABONDAGE SEXUEL
- AYEZ TOUJOURS DES CONDOMS SUR VOUS
- OU ALORS DES OVULES SPERMICIDES
- UTILISEZ LE CONDOM
OU L'OVULE SPERMICIDE
LORSQUE VOUS FAITES L'AMOUR
AVEC UN PARTENAIRE DE RENCONTRE



N'OUBLIEZ PAS DE VOUS PROTEGER
L'HABIT NE FAIT PAS LE MOINE
VOUS POUVEZ ATTRAPER LE SIDA
MEME SI VOTRE PARTENAIRE
PARAIT ETRE EN BONNE SANTE



N'ATTRAPEZ PAS LE SIDA