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KNOWLEDGE, ATTITUDES, AND PRACTICES
RELATED TO AIDS AMONG WORKERS IN UGANDA

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AIDSCOM

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Table of Contents	Page
Executive Summary	i
1. Introduction	1
2. Characteristics of the Sample	2
3. Exposure to Training Program	4
4. Knowledge of AIDS	5
5. Reported Behavior	9
6. Condom Use	13
Appendix A. Susceptibility and Prevention	20
Appendix B. Perceptions of Others Behavior	23

Executive Summary:

AIDSCOM is assisting FUE and EIL to implement training programs within worksites in Uganda. This document reports on baseline research with 623 men and women who work at five diverse sites.

What does the baseline study say about where these respondents are now with regard to AIDS-relevant knowledge and practice? Where does it suggest the program put its emphasis over the next phase?

Where are the respondents now?

1. About 32% of the men and 5% of the women reported that they had unprotected sex with more than one partner in the previous two months. However, the majority of the partners reported by the men were spouses, and only 14% of the men were reporting sex with more than one partner who was not a spouse. (It is difficult to know the extent to which these numbers underestimate the actual incidence of multiple partner sex. They may be underestimates because people are reluctant to report such sexual activity when they are aware that having more than one partner is a risk for HIV transmission; also they may be accurate estimates for a two month period, but underestimate the incidence of more than one partner over a longer time period.) Given the high rates of HIV infection in Uganda and the assumption that sexual transmission is its predominant route, it may not be credible that such a small percentage of this population is at risk because of multiple partners. Indeed when respondents were asked about whether their friends had more than one partner, 48% said yes.
2. Only 7% of all respondents had used a condom in the last two months. Even among people with more than one partner, only 19% had used them at all in the last two months; and 6% had used them all the time except with spouses. To the extent that condoms are the most likely barrier to HIV transmission, encouraging condom use is an obvious objective for an intervention.
3. Results which suggest that promoting condoms will be difficult include the high number of people (52%) who said they would never want to use condoms, and the 60% who report it would be difficult to ask partners to use a condom. While both of these figures may reflect the fact that many respondents do not see themselves (and may not be) engaging in risky sexual practices, they still suggest an underlying negative response which an educational intervention will have to address.
4. As in many countries, the respondents knew a good deal about AIDS and its transmission. Virtually everyone was aware of AIDS and nine out of ten respondents knew it was transmitted by sex and from mother to child. Strikingly few people cited incorrect transmission routes: only 3% mentioned insect bites spontaneously

(the most commonly mentioned incorrect route). Few people (5%) believed AIDS could be cured. There was some confusion about the extent of the incubation period, with more than 50% believing that it was one year or less, or not knowing. It is only this last item which suggests any significant shortfall in knowledge, and it is a quite sophisticated type of knowledge. What knowledge elements are an appropriate target for a communication intervention is addressed in the next section.

5. A somewhat troubling finding, and one that suggests a possible communication objective, relates to attitude toward co-workers with AIDS. Thirty-four percent expressed substantial fear of working next to someone with AIDS and 35% said they preferred that people with AIDS should be dismissed from the workplace. Such frequent discriminatory responses do not bode well for an inevitable Ugandan future with many PWAs. Lessening the social tensions associated with the presence of PWAs in the workplace is a significant potential target.

What should the program address?

In deciding appropriate objectives for a program, planners begin by defining where there is a shortfall in behavior. Once behavioral targets are chosen, program planners would first examine concrete circumstances (such as ease of access to condoms) to determine if these factors influence behavior. Communications planners search for elements of knowledge or attitudes which satisfy three criteria; 1) they are associated with the behavior of concern, 2) are at inadequate levels, and 3) are open to educational interventions. (While an association of knowledge and behavior is not evidence of a causal effect of knowledge on behavior, it at least suggests the possibility of such an effect.)

In this section, those points of leverage that seem most promising to achieve a reduction in risk behavior and greater condom use among those who have multiple partners are described.

Points of Intervention:

1. Knowledge of AIDS transmission routes is not related to number of partners or to condom use among men with multiple partners after controlling for age and educational level. AIDS transmission knowledge does show a small but significant association to the overall risk score (number of partners with whom condoms are not consistently used). The specific knowledge that AIDS is transmitted by sex is not related to risk behavior, predominantly because almost everyone (92%) possessed such knowledge. However, although only 8% of the respondents did not mention sex as a means of transmitting AIDS, none of them had used a condom in the last two months. Teaching people about routes of transmission is unlikely to produce significant changes in behavior where such knowledge is already high. However, at

site A, where knowledge levels and exposure to other sources of information are relatively lower, increases in knowledge may be needed before other interventions can succeed.

2. The knowledge/attitude variables which show an association with number of partners relate to the social expectations of those around the respondent. If, in their workplace, there tended to be many others who have multiple partners, respondents also tended to report having multiple partners ($r = .35$). Similarly, if the respondents perceived their friends as likely to have more than one partner, they, themselves, were also more likely to report having multiple partners ($r = .09$). These results suggest that for some the number of partners they have reflects the social milieu in which they find themselves. Thus a program which seeks normative change, which tries to reach the social group as a whole rather than to influence individuals in isolation, is thus sensible. Such a program may try to do this through deliberately organizing group discussions and events which give people the sense that others are changing or that others expect them to change. At the very least, the program should insure that any channels of communication used incorporate messages which emphasize the idea that everyone is changing so as to affect the perceived social norm.

3. As with number of partners, social context variables were important predictors of condom use among men with multiple partners. If the respondent believed that other men at work were using condoms, he was much more likely to use them ($r = .39$). This was true even when controlling for reported access to condoms at the work site. This suggests that the same social norm-conscious approaches described for the number of partners outcome above would also be relevant in planning a condom promotion intervention.

4. The clearest actionable recommendation is to make condoms available, and to make workers aware of the availability. In work site C, where two-thirds of the respondents said condoms were available, 17% had used a condom in the last two months. In the other four sites, where the average proportion reporting condom availability at the work site varied from none to one-third, the average of last two month use was less than 5%.

5. In work site B there had been some training activity by FUE. There was no association between attending a training in that site in the last month (when the training was likely to be conducted by FUE trainers) and number of partners or risk score. However, there was an association with using a condom in the last two months (22% versus 6% among those who did not attend or were in other sites). The association was significant even after controlling for age, educational level, number of partners and condom availability. Attending other trainings was associated with increased knowledge but not condom use, suggesting that the FUE training was different in emphasis than other AIDS education sessions people had attended in the worksites. These are

encouraging results. After more time and more activity, longer term effects can be assessed.

3. Certain knowledge variables were predictive of condom use. There was a substantial correlation between spontaneously mentioning condoms as a way of preventing AIDS in response to an open-ended 'how do you prevent AIDS?' question and reporting use of condoms in the past two months among men with multiple partners ($r = .27$). Knowledge about the role of condoms in AIDS prevention may be a particularly useful focus for a communication intervention, since less than 10% of the respondents mentioned it as a means of AIDS prevention. There is a good deal of room for increase and there is a substantial association with less risky behavior.

4. Unsurprisingly, the tendency to say that asking a partner about condom use was difficult was negatively related to condom use ($r = -.37$). Women and men were equally likely to say it was difficult. This was a widely reported response, and may be an appropriate target for a communication intervention.

5. Other knowledge and attitude variables had small positive relationships with condom use: AIDS knowledge score ($r = .11$); perceived susceptibility to infection ($r = .19$); knowing someone with AIDS ($r = .17$); and believing one can prevent AIDS ($r = .16$). However, none remained a statistically significant predictor when demographic variables (age, sex, educational level and number of partners) were controlled and thus may be less obvious targets for emphasis in an intervention.

6. A final interesting result is that when the respondents were asked why they would not use condoms, there were two predominant responses. About one-third said they were unfamiliar with condoms. Familiarity is something that can be addressed by the communication intervention. Then, nearly 40% of the respondents said they didn't use condoms because they trusted their partners. If condom use could be seen as a sign of concern for one's partner rather than a sign of distrust, more people might be ready to use them. This is a possible goal for a communication intervention. Interestingly, relatively few respondents cited expense or decrease in pleasure as obstacles to condom use.

1. INTRODUCTION

AIDSCOM is a public health communication support program funded by the Agency for International Development and administered by the Academy for Educational Development to assist in the creation and implementation of HIV prevention programs in developing countries. Since October 1988, AIDSCOM staff and consultants have been providing technical assistance to the Federation of Uganda Employers (FUE) and the Experiment in International Living (EIL) for the development of AIDS in the workplace training programs in Uganda. The project involves training trainers and peer educators in member workplaces (FUE) and community organizations (EIL) to implement AIDS training and prevention activities in their organizations.

In March 1990, 623 interviews were carried out with individuals in five organizations (4 FUE workplaces and one EIL organization) targeted for AIDS training programs. These data will be a baseline for evaluation of changes in knowledge and reported practices. In addition, the findings from the first round of data collection will be useful in planning the implementation of the training programs. This is a report of the results of the baseline study.

Section 2 of this report is a description of the characteristics of the organizations included in the sample with a comparison of site by exposure to other sources of information. Section 3 is a summary of the findings regarding exposure to AIDS education in the organizations. Section 4 is a description of current levels of knowledge regarding AIDS and its prevention. Section 5 focuses on the variables that account for reported sexual behavior. Section 6 is a summary of findings regarding use of condoms. Appendix A contains a description of responses related to susceptibility to AIDS and Appendix B describes findings with respect to perceptions of others behavior.

2. CHARACTERISTICS OF THE SAMPLE

Site A is a company engaged in agricultural production in a rural area, with an employee population of approximately 3,000. An additional 4,000 family members live on the site, which is a self-contained community. Sites B and C are manufacturing facilities in urban areas, each with an employee population of 500-600 persons. Site D is an urban-based transportation company with an employee population of approximately 800. Site E is a community-based organization that conducts a variety of training programs for young women. A summary of individual characteristics by site appears in Table 1. At the time of the data collection, the FUE training program had begun in site B. Initial training for sites C, D, and E was initiated at the time of the research. Training for site A was in the planning stages.

Seventy-eight percent of the sample had completed primary school or higher. Eighty percent reported they could read English. A slightly higher percentage (83) reported ability to read in their own language. Of those who reported ability to read in their own language but not in English, 54 percent were Luganda speakers and 19 percent were Lusoga speakers.

There is considerable variation by site in the basic individual characteristics. At site A, only 50 percent had completed a primary school education or higher, and 64 percent reported ability to read English. Exposure to sources of information through the mass media was also lowest at this site, with 12 percent reading a newspaper at least once a week, and 52 percent listening to the radio at least weekly. In contrast, at sites C and E, over 90 percent report ability to read English, more than half read a newspaper weekly, and over 70 percent listen to the radio at least once a week.

Table 1. Individual Characteristics by Site

ORGANIZATION	A	B	C	D	E	TOTAL
Sample size	84	101	147	189	102	623
Male %	71.4	89.1	91.8	89.4	2.9	73.4
Female %	28.6	10.9	8.2	10.6	97.1	26.6
Mean age	31.3	33.8	33.9	34.5	22.9	31.9
Married %	67.9	91.1	86.4	89.9	21.6	75.1
Steady partner %	11.9	4.0	8.2	5.8	33.1	11.4
No partner %	20.2	4.9	5.4	4.3	45.1	14.5
Education %						
Completed primary school or higher	50.0	69.0	92.5	76.2	92.2	78.0
Read%						
English	63.9	77.0	91.8	72.5	91.2	79.7
Other Language	73.8	86.9	92.5	93.7	96.3	88.4
Media exposure % at least 1x weekly						
Newspapers	11.9	61.6	51.7	46.8	52.5	46.2
Radio	51.8	81.8	78.2	68.1	72.3	70.6
TV	2.5	16.2	22.4	13.5	54.4	21.1

3. EXPOSURE TO TRAINING PROGRAM

Twenty-two percent reported attending a talk about AIDS at work and six percent had attended one in the last month (Table 2). The majority of the talks were conducted by someone from outside the workplace. The percentages were highest in site B, the only location where the FUE training program had been implemented at the time of the data collection. Since site B had also been visited by a Ugandan singer with AIDS in the fall of 1989, only those who had attended a training in site B within the last month were considered to have been exposed to the FUE training program.

Twenty-five percent said that there was someone in the workplace who went around talking to workers about AIDS, and 19 percent said the person had talked to them. The percentage was highest at site B, where training of peer educators had been implemented before the time of the study.

Table 2. Exposure to Training Program

Organization	A	B	C	D	E	TOTAL
Attended talk about AIDS by someone:						
from work	5.9	17.8	4.1	2.6	1.0	5.6
from outside	13.1	46.5	12.9	0.5	21.6	16.1
in the last month	2.4	26.7	6.1	1.1	0.0	6.4
Know of person who goes around talking about AIDS to workers						
	6.5	42.6	50.7	6.5	6.3	24.5
Person talk to you	8.2	43.6	22.1	7.6	4.0	19.0
Seen video about workplace*	13.4	24.0	19.3	2.7	4.0	11.7

All numbers are percentages

* The video had not been shown at the time of the study.

4. KNOWLEDGE OF AIDS

What do people already know?

Awareness of AIDS or slim (a local term for AIDS) was almost universal (99 percent). Four percent were aware of slim, but not familiar with the term AIDS (Table 3).

Over 90 percent knew that AIDS was transmitted by sex. Just over half (57 percent) mentioned transmission by contaminated needles, and 37 percent mentioned blood transfusion. Only six percent mentioned mother to child transmission spontaneously, but 88 percent said AIDS could be transmitted this way when asked.

Although only a small number mentioned incorrect routes of transmission, 17 percent responded that AIDS could be transmitted by used clothing when asked. This percentage was highest (33.3) at site A, where 21 percent of the people interviewed said that they didn't know how AIDS was transmitted.

Most (87 percent) agreed that AIDS could be transmitted by healthy looking people. However, only three percent knew that the incubation period could be more than 10 years. Twenty-nine percent said it was less than a year.

Five percent reported that AIDS could be cured by the right doctors, and four percent said there was a medicine to prevent AIDS. AZT and drugs from Kenya, Zaire, and China were mentioned as cures.

Table 3. Knowledge of AIDS by Site

Organization	A	B	C	D	E	TOTAL
Aware of AIDS	84.5	97.0	97.3	94.2	100.0	95.0
aware only of slim	11.9	3.0	2.0	5.8	0.0	4.3
How can someone get AIDS?						
Sex	73.8	86.1	95.9	96.8	97.1	91.8
Blood transfusion	26.2	41.6	42.9	25.9	53.9	37.1
Needles	38.1	70.3	65.3	45.0	69.6	57.0
Mother to child	3.6	9.9	6.8	2.6	10.8	6.3
Insect bites	2.4	3.0	2.7	3.2	2.0	2.7
Used clothing	0.0	1.0	1.4	1.1	1.0	1.0
Witchcraft	1.2	0.0	0.0	0.5	2.0	0.6
Don't know	21.4	7.9	3.4	2.1	1.0	5.8
Can AIDS be spread by:						
Healthy looking people	79.0	94.9	87.7	86.0	94.1	87.0
A mother to during pregnancy	84.3	75.2	84.8	88.8	95.0	88.3
Used Clothing	33.3	16.7	15.1	15.5	9.9	17.0
Incubation period						
Don't know	36.9	37.6	32.7	24.9	9.8	27.9
One year or less	32.1	20.8	15.0	41.8	31.4	29.1
One to 10 years	25.0	39.6	46.9	31.7	48.0	38.4
Over 10 years	2.4	2.0	4.8	1.1	7.8	3.4
Can AIDS be cured by:						
Doctors	3.7	9.2	4.1	2.1	5.0	5.5
Medicine	1.2	12.9	9.0	2.1	3.0	4.4
People with AIDS should be dismissed	57.3	47.5	15.2	32.6	44.1	35.8
Afraid of catching by working next to	48.8	28.0	26.2	33.0	40.2	33.7

All numbers are percentages

The most frequent method of prevention mentioned was staying with one partner (Table 4). Seventy percent mentioned one partner in response to how can someone prevent AIDS, and 62 percent gave that response with regard to preventing themselves from getting AIDS. Using clean needles was the next most frequent response. Eleven percent or less mentioned abstaining from sex or using condoms as a means of prevention. Knowledge of prevention was lowest at site A, where 19 percent said they did not know of any ways to prevent AIDS. The percentage who mentioned condoms as a means of preventing AIDS was highest at site C, which has an active family planning program.

Table 4. Prevention of AIDS by Site

Organization	A	B	C	D	E	TOTAL
How can someone prevent AIDS?						
One partner	54.8	74.3	62.6	83.1	62.7	69.7
Zero grazing	10.7	18.8	28.6	28.0	7.8	21.0
Love carefully	8.3	5.9	12.9	11.6	6.9	9.8
Abstain from sex	3.6	6.9	6.1	6.3	36.3	10.9
Condoms	4.8	7.9	20.4	2.1	10.8	9.1
Clean needles	28.6	40.6	40.8	21.7	51.0	35.0
Care with blood	9.5	18.8	25.9	6.9	29.4	17.3
Don't know	18.5	5.3	2.7	1.1	1.0	4.3
What could you do to prevent AIDS? (asked of those who said they could prevent getting AIDS)						
One partner	51.2	76.2	48.3	82.5	36.3	61.6
Zero grazing	2.4	10.9	21.8	5.3	1.0	9.0
Love carefully	1.2	3.0	6.1	2.6	4.9	3.7
Abstain from sex	9.5	3.0	4.1	2.6	34.3	9.2
Condoms	7.1	9.9	15.0	2.1	6.9	7.9
Clean needles	17.9	35.6	21.8	7.4	30.4	20.5
Care with blood	7.1	10.9	12.2	2.1	16.7	9.0

All numbers are percentages

Thirty-six percent thought people with AIDS should be dismissed from their jobs, and 34 percent said they would be afraid of catching AIDS if they worked next to someone with AIDS. Fear of catching AIDS by working next to someone was significantly associated with believing someone with AIDS should be dismissed (chi square 87.4, $p < .0001$).

What is related to knowledge?

A knowledge score was computed using the responses to the transmission question. It consisted of adding one point for each correct route of transmission mentioned and subtracting one point for each incorrect route. The score is associated with educational level ($r = .41$, $p < .001$) and with attending talks at work ($r = .20$, $p < .001$). Those who had attended talks at work had higher educational levels and were more likely to know someone with AIDS. Attending any talks at work was associated with the knowledge score after controlling for educational level in a regression equation.

5. REPORTED BEHAVIOR

What variables account for current behavior?

Seventy-five percent of those interviewed were married, 11 percent were unmarried with a steady partner, and 15 percent were unmarried with no steady partner. Twenty-two percent of the married men had two wives, and two percent had three wives. Twenty-six percent of the married women were living in polygamous unions. Men who had only one wife were more likely to report having another partner than those who had at least two wives (20 versus 11 percent, chi square = 4.8, $p < .05$). Women were less likely than men to report a partner in addition to their spouse (four percent).

Thirty-five percent of the men and five percent of the women reported more than one partner (Table 5). Thirty-six percent of the women and eight percent of the men did not report any partners.

Table 5. Number of partners by sex

	Men	Women
0	36 (7.9%)	60 (36.1%)
1	263 (57.5%)	98 (59.0%)
2	119 (26.0%)	7 (4.2%)
3	32 (7.0%)	0 (0.0%)
4	5 (1.1%)	1 (0.6%)
5	2 (0.4%)	0 (0.0%)
Mean age	34.1	25.8

Because the women in the sample were on the average younger than the men, caution is needed in interpreting results of analyses by sex without controlling for age. Overall, women reported significantly fewer partners than men, except in the youngest age group (Table 6). Age is correlated with number of partners, with a peak in the 31-40 age group.

Table 6. Number of partners by age and sex

Age	Men	Women	t	sign.
15-20	0.9	0.5		NS
21-30	1.2	0.8	4.0	<.001
31-40	1.5	0.9	4.3	<.001
41+	1.4	0.6	3.5	<.01
Total	1.4	0.7	9.8	<.001

Evidence that number of partners is influenced by the behavior of others in the workplace was also found. The number of partners reported by an individual was significantly associated with the number of partners reported by others in the workplace ($r=.354$, $p<.001$). People who said they believed that their friends had more than one sexual partner in the last couple of months were also more likely to say that they had more than one partner.

In order to approximate the risk of HIV infection, a score was computed that incorporated use of condoms as well as number of partners. If an individual reported always using condoms with a partner, that partner was subtracted from the number of partners to create a variable that reflects the number of partners with whom one had unprotected sex (Table 7). This variable was considered to provide the closest approximation to actual epidemiological risk.

Table 7. Risk score by sex

Risk score	Men	Women
0	38 (8.3%)	62 (37.3%)
1	272 (59.5%)	96 (57.8%)
2 - 5	147 (32.2%)	8 (4.8%)

Although the risk score was based on partner number and was strongly correlated with number of partners ($r=.95$, $p<.001$), it showed a slight difference in its pattern of associations with other variables. Both risk score and number of partners were

analyzed in a regression equation controlling for age, sex and educational level (Table 8).

Table 8. Comparison of regression analysis predicting number of partners and risk score.

	Number of partners	Risk
Sex (Male)	Yes	Yes
Age (older)	Yes	Yes
Educational level (higher)	No	No
Condom availability	No	No
Attended talk about AIDS in last month at site B	No	No
AIDS knowledge score	No	Yes
Number of partners among co-workers	Yes	Yes
Believe friends have more than one partner	Yes	Yes

Condom availability and attending a talk at site B in the last month (the FUE training) were not associated with partner number or risk score. AIDS knowledge score was related to reduced risk but not to reduced number of partners. The actual number of partners among co-workers and believing one's friends had more than one partner were related to partner number and risk score after controlling for the other variables.

Because consistent condom use was low, the extent of the difference between predictors of partner number and risk score is currently small. Both partner number and risk score have limitations in that they don't distinguish between different categories of partners. A case could be made that a variable that weights sex with spouses and non-steady partners the same way does not take into account the likelihood of using protection with spouses, or the fact that such behavior is rarely recommended. However, it is difficult to achieve consistency in

classifying partners. There are cultural differences in systems of marriage and sexual union between the designers of the intervention and Uganda, and within Uganda as well. One woman's 'husband' may be another's 'steady partner', both literally and figuratively. A 'casual' partner may be a brief encounter that holds little actual risk in terms of frequency of exposure. Given the high rate of infection in Uganda, a significant increase in condom use only with 'casual' partners would not appreciably affect overall HIV transmission. A variable that incorporates each partner with whom condoms are not always used is the best approximation of actual risk.

6. CONDOM USE

What are current levels of condom awareness and use?

Knowledge of condoms was high. Seventy-six percent of the sample identified the condom when shown, and 91 percent had heard of condoms. Fifty-eight percent knew of places to get condoms, and 24 percent mentioned the workplace as a site to get condoms. The most common term used for condom was condom (63 percent). Seven percent used the Luganda word kapiira. Other names given were boots, gumboots, durex, gloves, rubbers, socks and tubes.

Men were more likely than women to identify the condom when it was shown to them (79 versus 67 percent, chi square 9.5, $p < .01$), but both sexes were equally likely to have heard of condoms (91 percent of all persons). Men were more likely to know where to get condoms (67 versus 53 percent, chi square 9.3, $p < .01$).

Twenty percent had used a condom at some time in the past, and seven percent had used a condom in the last two months (Table 9). Men were slightly more likely to have ever used a condom (22 versus 18 percent), but the difference was not statistically significant (controlling for having at least one partner in the last two months).

Table 9. Condom awareness and use by site

Organization	A	B	C	D	E	TOTAL
Identifies condom	47.4	82.2	91.1	76.9	68.6	76.0
Heard of condoms	75.3	87.1	98.6	92.6	93.1	90.9
Knows places to get condoms	25.0	68.3	83.7	52.9	44.1	57.5
Mentions workplace as a source of condoms	0.0	34.7	65.3	8.5	1.0	23.8
Ever used a condom in last two months	9.6 3.6	11.1 7.9	38.0 17.0	17.6 2.1	14.7 5.9	19.7 7.4

The overall frequency of condom use was low. Five people (0.9 percent of those with at least one partner) reported that they always used a condom, and none of these reported more than one partner (Table 10). Of those with two or more partners, 81 percent never used condoms, 13 percent used condoms sometimes, and six percent used them always except with spouses.

Table 10. Frequency of Condom Use in the last two months by number of partners

	Number	% of group	% of total
No partners	96	100.0	15.4
One partner			
Always	5	1.4	0.8
Sometimes	17	4.7	2.7
Never	339	93.9	54.4
Subtotal	361	100.0	57.9
Two or more partners			
Always	0	0.0	0.0
Always except with spouses	10	6.0	1.6
Sometimes	22	13.3	3.5
Never	134	80.7	21.5
Subtotal	166	100.0	26.6

Condom use was associated with a number of variables. Ever using a condom and using a condom in the last two months had similar patterns of correlations with other variables (Table 11).

Table 11. Correlations of condom use with other variables.

	Ever use	Use in last two months
Age	-.09*	NS
Educational level	.25***	.16***
Number of partners	.22***	.17***
AIDS knowledge score	.15***	.13**
Length of incubation period	.18***	.12**
How long since heard of AIDS	.16***	.15**
Believes AIDS spread by clothing	-.10*	NS
Afraid of catching by working near someone	NS	NS
Workers with AIDS should be dismissed	-.14**	NS
Knows someone with AIDS	.08*	.10*
Cared for someone with AIDS	.08*	NS
Susceptible to getting AIDS	.18***	.15***
Believes can prevent AIDS	.08*	.09*
Mentions condoms as a way to prevent AIDS	.17***	.21***
Believes friends are using condoms	.13**	.11**
Believes men at work are using condoms	.20***	.19***
Believes women at work are using condoms	NS	NS
Use by workmates in last two months	.20***	.18***
Condom availability in worksite	.22***	.20***
Percentage of persons in worksite who attended talk about AIDS	NS	NS
Attended talk about AIDS in last month	NS	NS
Attended talk about AIDS in last month at site E	NS	.12**
Difficult to ask partner about condom use	-.37***	-.23***

Correlations based on entire sample, not corrected for age or partner status.

NS = not significant

* p < .05

** p < .01

*** p < .001

Because the variables in table 11 are frequently correlated with each other, it is difficult to make inferences on the basis of the correlations. For example, condom use is associated with AIDS knowledge score, but AIDS knowledge score is associated with educational level. Therefore the correlation of condom use with AIDS knowledge may be an artifact of the association with educational level.

The correlation pattern also varies when the sample is subdivided. Among men with two or more partners, young age is more highly correlated with condom use (Table 12). In a regression equation among this subpopulation, age, educational level, and number of partners account for 12 percent of the variation in condom use in the last two months. Condom availability in the worksite accounts for an additional five percent. To interpret this result, one can imagine that if the percentage of people reporting condoms available in the workplace rose from 20 to 30 percent, the percentage of people using a condom in the last two months would increase by three percent.

Table 12. Correlations between last two month condom use and other variables among men with multiple partners.

	r	significant when enter regression equation
Age	-.25	Yes
Educational level	.15	No
Number of partners	.24	Yes
Percentage reporting condom availability in worksite	.26	Yes
Attended talk in site B in last month	.31	Yes
AIDS knowledge score	.11	No
Susceptibility	.19	No
Length of incubation period	.16	No
Time since heard of AIDS	.17	No
Knows someone with AIDS	.17	No
Believes one can prevent AIDS	.16	No
Believes men at work are using condoms	.39	Yes
Mentions condoms as a way to prevent AIDS	.27	Yes
Difficult to ask partner about condom use	-.37	Yes

Subsample of men with 2 or more partners.

In the same equation, attending a training at site B in the last month predicts another six percent of the variation. Of the variables knowledge score, susceptibility, believing one can prevent AIDS, knowing the incubation period is long, length of time since hearing of AIDS, and knowing someone with AIDS, none are significant predictors of last two months condom use in this equation, although as a group they explain an additional six percent. Believing the men at work are using condoms, mentioning condoms as a way to prevent AIDS, and saying it is not difficult to ask a partner about condom use are each significant and explain an additional 12 percent of the variation. Together all of the variables account for 42 percent of the variation in last two month condom use, meaning that 58 percent is still unaccounted for.

What are the obstacles to condom use?

For those who had never used a condom, the most frequent reason given was that they trusted their partner (39 percent, Table 13). The next most frequent response was that condoms were unfamiliar (33 percent). This included people who were not aware of condoms as well as those who identified them but said they didn't know how to use them. Eleven percent said they didn't like condoms and eight percent believed condoms didn't work or were dangerous. Few responded that their partner objected (three percent) or that they wanted children (two percent).

Table 13. Obstacles to condom use by site

Organization	A	B	C	D	E	TOTAL
Reasons for not using condoms						
Unfamiliar	77.1	27.1	20.5	31.6	24.7	33.3
Not sexually active	5.7	2.4	1.1	2.6	21.0	5.7
Partner objects	0.0	1.2	3.4	2.6	6.2	2.6
Want children	0.0	3.5	3.4	0.0	2.5	1.8
Trust partner	14.3	60.0	55.7	41.4	23.5	39.0
Can't get	1.4	0.0	0.0	0.0	0.0	1.2
Expense	1.4	0.0	0.0	0.0	0.0	0.2
Don't like	4.2	12.9	20.5	8.6	13.6	11.4
Not safe (Dangerous, break, leak)	5.7	2.4	4.5	12.5	13.6	8.4
Difficult to ask partner	66.7	41.3	57.0	62.6	64.5	59.8
Would never want to use	53.6	57.6	48.9	58.4	39.4	52.2
All numbers are percentages						

Men were more likely to say that the reason they had never used a condom was that they trusted their partner (42 versus 30 percent, chi square 6.5, $p < .05$, Table 14). Women were more likely to say they were not having sex (13 versus two percent, chi square 23.6, $p < .0001$). There were no significant differences between the sexes with regard to other reasons for not using condoms.

Table 14. Reasons for not using condoms by sex

	Male	Female	Sign.
Trust partner	42.4	30.1	<.05
Not familiar	33.5	32.2	NS
Don't like	12.0	9.8	NS
Not having sex	2.3	13.3	<.0001
Partner objects	2.3	3.5	NS
Want children	2.0	1.4	NS
Not safe (break, leak, dangerous)	7.4	8.4	NS

Percent of those who had never used a condom

When asked what they would say if they wanted to use a condom with a partner, the majority (52 percent) said they would never want to use a condom. The percentage did not differ significantly by sex (men 55 percent, women 46 percent). Men were significantly more likely to respond that they could not ask a partner to use a condom (13 versus seven percent, chi square 4.2, $p < .05$). (Several of the men said they would use a condom without telling their partner and 52 percent of the men who said they could not ask had used a condom.) Women were more likely to say they would request condom use by bringing up the issue of birth control (nine versus four percent, chi square 4.1, $p < .05$).

Sixty percent said that asking a partner to use a condom would be difficult. A slightly higher percentage of women said it would be difficult (65 versus 59 percent) but the difference was not statistically significant.

Appendix A SUSCEPTIBILITY AND PREVENTION

Eighty-one percent reported that they talked to someone about AIDS. Most talked to friends (58 percent), co-workers (41 percent) and relatives (36 percent). Many also talked to their spouse or partner (30 percent of those with a partner). Fewer mentioned talking to their children (11 percent of those with children). Nine percent talked to neighbors and two percent talked to doctors or health workers. Less than one percent said they talked to a supervisor or workplace educator. Sixty-eight percent knew someone with AIDS personally.

Forty-one percent responded no when asked if they thought they could get AIDS (Table A1). Fifteen percent didn't know, 30 percent said it was possible but not likely, and 14 percent said it was very likely. Perceived susceptibility was correlated with the knowledge score ($r = .19, p < .001$).

Table A1. Susceptibility and Knowledge of Prevention by Site

Organization	A	B	C	D	E	TOTAL
Susceptibility						
No	40.2	39.8	34.5	43.5	45.0	40.6
Don't know	13.4	11.8	15.2	17.2	16.0	15.2
Not likely	25.6	34.4	40.7	28.0	20.0	30.4
Very likely	20.7	14.0	9.7	11.3	19.0	13.9
Can prevent AIDS (self)	71.8	92.1	84.9	94.1	87.3	87.9

All numbers are percentages

Of those who thought they could get AIDS or didn't know, the most common reasons given were that they didn't know what their partner did (29 percent) or that they could be injected or transfused (29 percent). Others said they might get it through sex (14 percent) or that anyone could get it (seven percent). Four percent referred to the incubation period, implying that behavior in the past put them at risk. Two percent felt that God was in control of whether they got AIDS and one percent said they might get it from casual contact.

Thirty-six percent of those who said they could get AIDS because they didn't trust their partner later said the reason they didn't use a condom was that they trusted their partner, illustrating

that the issue of perception of partner's behavior in relation to personal risk is complex. Women were more likely to say they could get AIDS because they didn't trust their partner's behavior (20 versus 12 percent, chi square 4.9, $p < .05$).

Of those who said they couldn't get AIDS, 41 percent said it was because they were faithful, 23 percent said they were careful or not "moving" around, eight percent said they were not having sex, six percent said they trusted their partner, and six percent said they knew how to prevent it.

However, those who felt they were not susceptible to getting AIDS were not different from the rest of the sample in reported behavior. The mean number of partners was the same (1.2) and the frequency of condom use in the last two months was lower (4.5 versus 7.6). Thirty-one percent reported more than one partner, nine percent of whom reported using a condom in the last two months. In contrast, 21 percent of those with more than one partner who said they could get AIDS reported condom use in the last two months. Condom use among those with more than one partner was lowest for those who said they didn't know if they could get AIDS (Table A2).

Table A2. Condom use in the last 2 months among persons with multiple partners by susceptibility

Can't get AIDS	8.3
Don't know	5.3
Not likely	25.0
Very likely	10.5
Total	13.8

Numbers are percentages, sample of those with 2 or more partners. N=162

A large majority (88 percent) felt that they could prevent themselves from getting AIDS. Those who believed that they could prevent getting AIDS had higher knowledge scores (mean 1.8 versus 1.4, two tailed t test 3.7, $p < .001$). They were also more likely to have used condoms in the last two months (8.4 versus 1.3 percent, chi square 4.6, $p < .05$). There was no difference between the sexes in perceived ability to prevent AIDS.

Those who did not believe they could prevent AIDS reported similar numbers of partners as those who said they could prevent it. When asked why they couldn't prevent getting AIDS, the most common response was that they didn't know what their partner did (16 persons). Thirteen said they were faithful and three said they were not at risk. Other responses were that they could get

it through injections or transfusions (three persons) or that most people have it already (three persons).

Appendix B PERCEPTION OF OTHERS BEHAVIOR

Each respondent was asked about their perceptions of the behavior of their friends, the men at the workplace, and the women at the workplace.

Women were more likely to believe that their friends and women at work were using condoms than men (Table B1). The percentage who thought that their friends, men at work, and women at work had more than one sexual partner was similar.

Table B1. Comparison of perceptions of others behavior by sex

	Men	Women	Sign.
Friends			
More than one sex partner	46.8	52.1	NS
Use condoms	31.8	49.4	<.001
Men at work			
More than one sex partner	40.7	35.5	NS
Use condoms	30.3	27.4	NS
Women at work			
More than one sex partner	38.5	40.9	NS
Use condoms	12.2	28.7	<.0001

Statistic: Chi square

Numbers are percentages, total sample.

The pattern of responses was similar for the sexes in ranking the responses. The highest percentage of yes responses to both questions was for friends, followed by members of the same sex at work, followed by members of the opposite sex at work.

There was an association between reported behavior and perception of others behavior. The frequency of reported condom use was higher for those who believed their friends or people in the workplace are using condoms (Table B2). The differences are statistically significant for men but not for women. In addition, people were more likely to report more than one sexual partner in the last two months if they believed their friends had more than one sexual partner.

Table B2. Condom use by perception of others behavior and sex

	Men		Women	
	Ever	Last 2 months	Ever	Last 2 months
Friends				
Use condoms	31.3*	13.6*	24.0	10.0
No or don't know	17.9	6.0	13.0	3.7
Men at work				
Use condoms	38.3*	18.6*	18.2	9.1
No or don't know	14.9	3.8	16.9	7.0
Women at work				
Use condoms	36.7*	14.0*	22.2	7.4
No or don't know	20.6	7.7	16.9	6.4

*Significant association between reported use and perception of others use: statistic: Chi square
 Numbers are percentages, sample based on those with at least one partner.