

**Understanding the slow pace of behavioral change in the face of HIV/AIDS in Uganda:
Cross-sectional evidence from Kampala city survey**

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Abstract

Uganda is often cited in recent literature as a success story in the control of HIV/AIDS in sub-Saharan Africa (WHO 2003). Despite significant strides registered in its efforts to enhance knowledge on HIV/AIDS, a significant knowledge-practice gap still exists. Attitudes, perceptions and beliefs held by individuals toward HIV/AIDS are an important element in the prevention and control of the epidemic. More recent studies have shown that the declining trend in HIV prevalence in Uganda is more consistent with changes in risk behavior than when compared to the natural epidemic progression. Using data from a cross sectional survey conducted in Kampala city in April 2003, we apply analysis procedures to examine whether respondent's characteristics were associated with the beliefs, perceptions and attitudes held towards HIV/AIDS care prevention and control. The study shows that though behavior change is lagging behind the HIV/AIDS awareness, individuals were limiting the number of sexual partners as a behavior strategy to avoid HIV/AIDS.

Background

Uganda had been cited as a success story in the control of HIV/AIDS. However, despite significant strides registered in its efforts to enhance knowledge on HIV/AIDS, a significant knowledge-practice gap still existed. Furthermore, it had been conjectured that introduction of high quality HIV/AIDS care through prophylaxis of opportunistic infections and anti-retroviral therapy as proposed by the Academic Alliance would reverse the achievements of behavioral interventions.

The magnitude of the knowledge-practice gap had been revealed by both national and localized research findings. The Uganda Demographic and Health Survey (1995 & 2000) established that close to universal awareness about HIV/AIDS had been achieved. Peer education and radio communication were the major sources of AIDS awareness in the country. Although behavior change was lagging behind the HIV/AIDS awareness, the survey showed that people were limiting the number of sexual partners as a behavior strategy to avoid HIV/AIDS. The survey indicated that 53 percent of women and 55 percent of males restricted their sexual activity to one partner and 11 percent males were using condoms. More recent studies had shown that the declining trend in HIV prevalence in Uganda was more consistent with changes in risk behavior than when compared with natural epidemic progression (Musinguzi et al., 1996; Kilian et. al. 1999).

No study had established the impact of OI prophylaxis and ART on behavior change. The proposed activities of the Academic Alliance therefore presented an excellent opportunity for assessing this impact and elaborating the specific factors that influence behavior change. The baseline survey was to identify indicators for monitoring behavior change in an HIV/AIDS treatment program. These indicators are to be used to institute a behavioral surveillance program. The survey was also to establish the baseline levels of knowledge, attitudes, beliefs and practices so that they can be monitored over the course of the program. Although previous interventions had been very successful in enhancing knowledge on HIV/AIDS, the baseline survey was to identify any existing knowledge gaps in the survey participants and this information is to be used to develop a new generation of messages specifically targeting areas where there are gaps.

Although many KABP surveys had been done on HIV/AIDS, none of these surveys had been conducted as part of a behavioral monitoring strategy for an HIV/AIDS care program. Moreover no previous study had investigated whether introduction of OI prophylaxis and ART led to complacency in behavior change. It was therefore important to conduct this study in order to establish baseline indicators for behavioral change associated with a care program and use these indicators to monitor behavior over time. The survey was also to establish baseline levels of knowledge, attitudes, beliefs and practices while identifying both the knowledge gap and the knowledge-practice gap.

This study was to contribute new knowledge in the area of behavior change during HIV/AIDS care programs and was to propose a comprehensive package of prevention services for HIV/AIDS care programs that would be useful to other similar programs worldwide. Any gaps identified in the knowledge of HIV/AIDS care, prevention and control will be used to develop a new generation of IEC messages. Since this survey was being conducted in preparation for an HIV/AIDS care program, an assessment of health seeking behavior for HIV/AIDS morbidity in terms of service availability and accessibility was to yield invaluable information for use by the Infectious Disease Institute.

The overall objective of the baseline survey was to establish monitoring indicators of behavior change in HIV prevention, and to generate credible evidence of HIV/AIDS related knowledge, attitudes and behaviors in the context of an HIV treatment program on which to develop HIV prevention and control interventions.

Data Collection Methods

The study was carried in all the five divisions of Kampala City namely: Central, Kawempe, Rubaga, Nakawa and Makindye. However, there was an emphasis on Kawempe, which is the locale of the Infectious Diseases Institute (IDI) and therefore a home to the large proportion of clients that would be served by the Institute. Kampala city has an area of 238 square kilometers and had an estimated population of 1,208,544 (UBOS, 2002). The study population for the KABP survey was all persons of 15-54 years who were resident in Kampala city.

The study was cross-sectional in design. The general population survey in the catchment area of the Infectious Diseases Institute was to provide information on the population that would benefit most from the enhanced care program.

The primary sampling method was stratified sampling where the stratum was the division. The stratum sample size was determined using proportionate allocation at division level. Simple random sampling was employed at three stages as follows: to select the study parishes from the respective strata parish-sampling frame, this was followed by random selection of villages (Local Council 1) from the selected parishes. Finally, simple random sampling was used for selecting the respondent from the household. The latter was the primary sampling unit.

Results

Background Characteristics of the Respondents

A total number of 1491 out of the expected 1500 respondents were interviewed. The majority were females (64%). The adolescents comprised 48% and over 65% of the respondents had attained secondary education and above. Regarding marital status, only 40% had never married. 75% of the respondents subscribed to the Christian faith as shown in Table 1.1

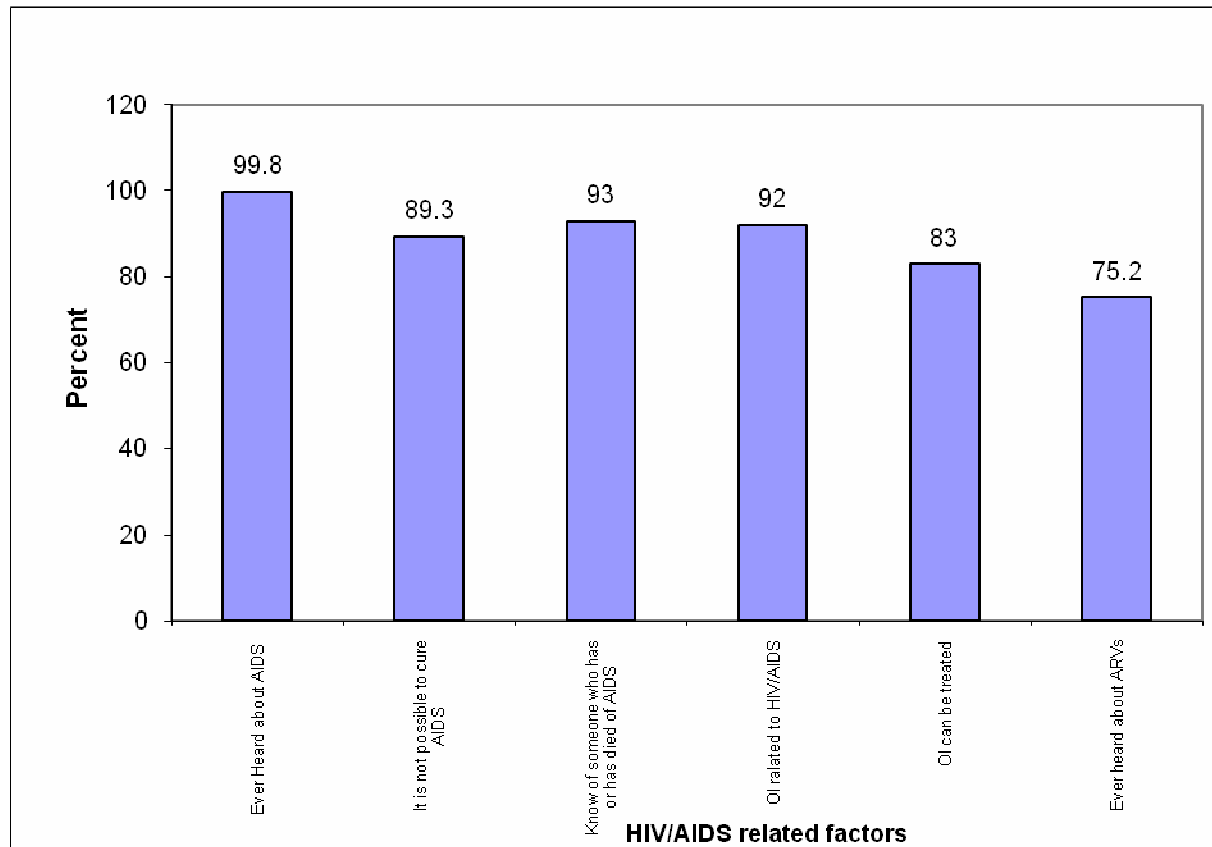
Table 1.2: Background Social demographic Characteristics by Sex

Background characteristic			
	Male (%)	Female (%)	Number
Age group			
15-24	34.1	65.9	713
25-34	36.4	63.6	517
35+	38.7	34.6	261
Division			
Nakawa	41.0	59.0	217
Makindye	35.6	64.4	278
Rubaga	33.6	66.4	286
Central	36.8	63.2	95
Kawempe	34.6	65.4	615
Education			
None	24.1	75.9	58
Primary	23.9	76.1	468
Secondary	37.2	62.8	662
Tertiary	52.8	47.2	303
Marital Status			
Currently Married	28.8	71.2	725
Never Married	50.0	50.0	594
Ever Married	15.1	84.9	172
Religion			
Catholic	36.0	64.0	508
Protestant	39.1	60.9	611
Muslim	29.5	70.5	325
Other	29.8	70.2	47
Employment			
Unemployed	40.9	59.1	416
Employed for cash	49.2	50.8	571
Employed not for cash	16.1	83.9	504

Knowledge about HIV/AIDS

The respondents' knowledge about HIV/AIDS was quite high as shown in Figure 1. As expected almost all respondents (99.8%) had heard about HIV/AIDS and there was no significant difference for most of the background characteristics. Only 11% thought that it is possible to cure AIDS. Respondents with lower education were least likely to know that there is no cure for HIV/AIDS ($p= 0.001$). There was also a significant difference between the marital status ($p= 0.003$) and also religious affiliation ($p= 0.000$) as shown in Figure 1

Figure 1: Respondents' knowledge about HIV/AIDS



Over 90% of the respondents knew of at least someone who has HIV or had died of AIDS. Concerning the knowledge about ARVs although over 70% of the respondents had heard about ARVs only 37% of these had knowledge of anyone on ARVs.

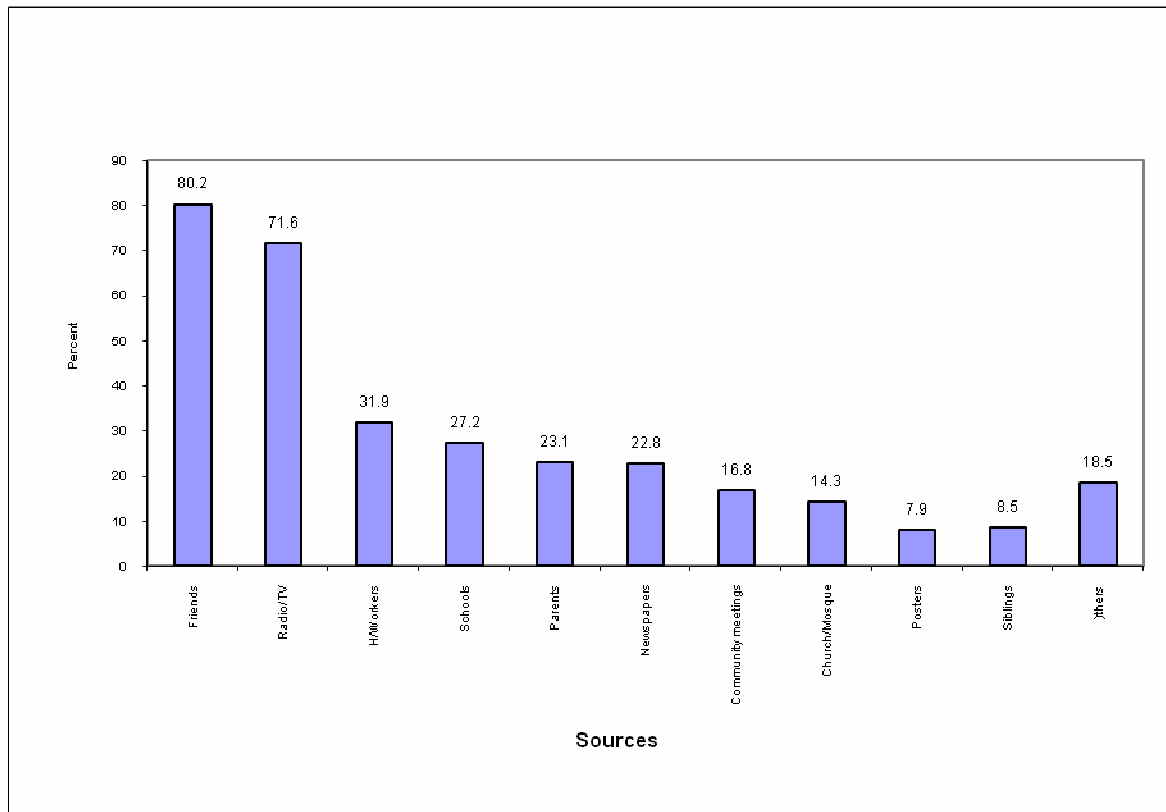
Concerning knowledge about opportunistic infections, 92% of the respondents were aware that such infections existed and the level of knowledge was positively associated with the level of education, ($p=0.001$).

Sources of information regarding HIV/AIDS

There were various sources of information about HIV/AIDS as shown in Figure 2. The top most common sources in order of popularity were: friends (80%), Electronic media (72%), Health workers (32%), schools (27%) and parents (23%). Parents and schools were particularly popular

among the 15-24 year-old respondents, while community meetings were popular amongst the >35 year olds. Print media especially newspapers were particularly popular amongst the males and among the educated.

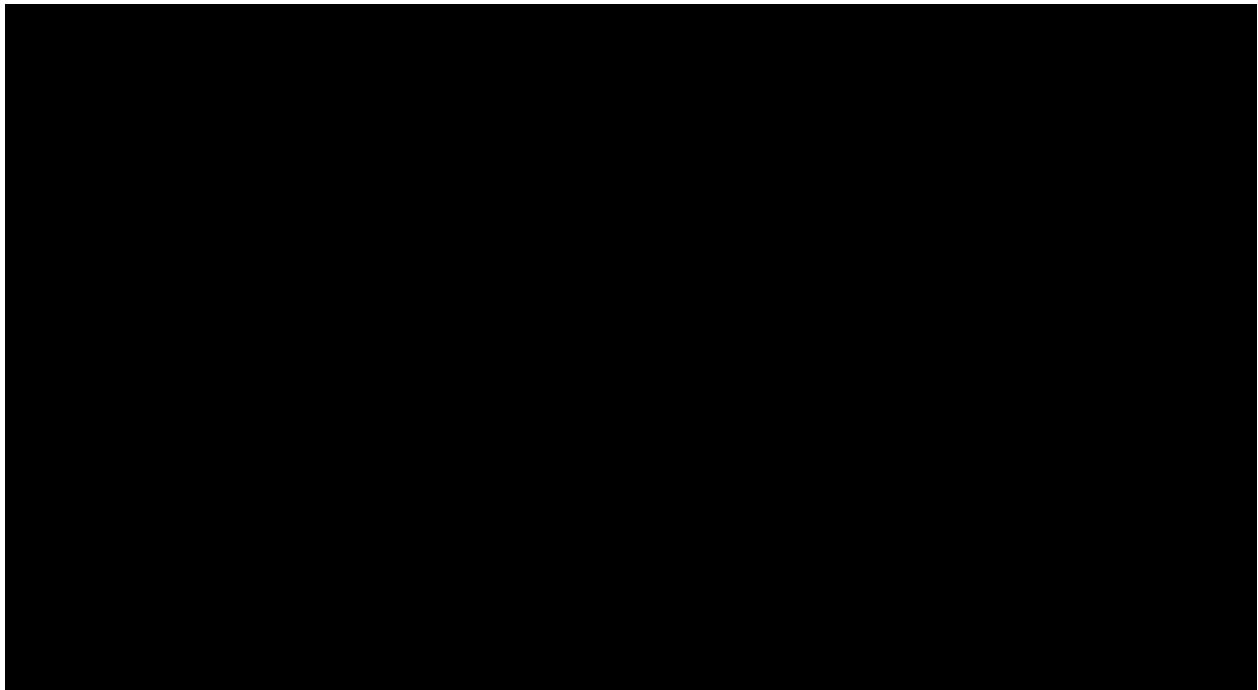
Figure 2: Sources of information about HIV/AIDS



Knowledge about the different ways through which HIV/AIDS could be avoided

Regarding knowledge on whether anything can be done to avoid HIV/AIDS, almost all, (100%) were in agreement. Amongst the ways that were mentioned, Abstinence, Being faithful and Condom use (ABC-phenomenon), were quite popular. Although knowledge for both abstinence and Condom use was over 75%, the one for being faithful stood at only 58%. Knowledge of prevention by avoiding blood transfusion and use of sterilized instruments were at 11% and 34% respectively as shown in Figure 3.

Figure 3: Knowledge on the ways to avoid HIV/AIDS



Practices Related to HIV/AIDS

The majority of respondents (92%) reported that they had ever had sexual intercourse. All the selected background characteristics, except for the gender, showed statistically significant differences ($p < 0.05$) with history of sexual intercourse. As expected, respondents of higher age were more likely to have had sexual intercourse than the younger group. Persons of lower education were more likely to have had sexual intercourse than respondents of higher education. More Moslems than Christians reported the history of sexual intercourse. The unemployed population was less likely to have had sexual intercourse.

The overall mean age at first intercourse was 17.2 years). Most of the respondents (74%) reported that they had ever used condoms. All the selected background variables, except for the division of residence, showed statistically significant differences ($p < 0.05$) with condom use. Younger persons were more likely to have ever used condoms than the older population. More males than females reported a history of condom use. Married people were less likely to have ever used the condom than the singles. More Christians than Moslems gave a history of condom use. Surprisingly, people who were unemployed were more likely to have ever used condoms than the employed group.

All the selected background variables, except for the division of residence, showed statistically significant associations ($p < 0.05$) with age of the most recent partner. Whereas most males (85%) would have sexual relations with the younger partners, almost all females (91%) had relations with partners of higher age. It is also worth noting that respondents of higher education, tended to have relations with older partners. Moslems were more likely to have had older sexual partners than respondents of other religions. Persons who were employed for cash were more likely to have had younger partners than the unemployed. All these patterns have a big bearing on HIV transmission.

Background variables of age, sex, educational level, marital status, religion and employment status showed significant variations in response for condom use with the most recent partner. The younger persons were more likely to have used condoms with the most recent partner than the older respondents. More males than females reported a history of condom use with the recent partner. Respondents of higher education were more likely to have used condoms with the recent partners than persons of lower education. More persons that were single reported condom use with the recent partner than the married respondents. The unemployed were more likely to have used the condom with the recent partner than employed people.

When respondents were asked whether they had taken alcohol (or their partners), the last time they had sexual intercourse, 18% were affirmative. There were significant differences in response for the characteristics of age, sex, marital status, religion and employment status. Respondents of higher age were more likely to have taken alcohol before the previous sexual intercourse. More females than males reported a history of taking alcohol before the previous sexual intercourse.

On the question whether respondents had sexual intercourse with someone else other than the regular partner in the previous 12 months, 13% were affirmative. There were significant differences in response for the background variables of sex, marital status and employment status. Males were more likely to have had sexual intercourse with someone else in the previous 12 months. This was also true for the respondents who had never married in comparison to the married persons. A higher proportion of employed persons reported intercourse with someone else in the previous 12 months.

The overall proportion of respondents who reported to have ever had sexual intercourse with a sex worker was 2.4%. There were significant variations in response for the background variables of sex and employment status. More males than females reported a history of sexual intercourse with sex workers. The employed respondents were more likely to have had intercourse with a sex worker than the unemployed.

About the source of condom for the previous sexual intercourse, the majority obtained them from shops (40%) and hospital/clinic (24%) Background characteristics of sex and educational level showed significant variations in response. Whereas 17% of the females got condoms from the

partner, almost none of the males obtained the condom from the female partner. The uneducated respondents were more likely to get the condom from the partner and hospitals/clinics than persons of higher education.

For sexual intercourse with the recent casual partner, 16% of the respondents reported not have used the condom. Background variables of educational level and religion showed significant differences in response with condom use. Whereas 91% of respondents with tertiary education reported using a condom with the previous sexual partner, 67% of persons with no education reported a history of condom use. Compared to members of other religious affiliations, Protestants were least likely to use condoms with the casual partner.

Out of 25 respondents that reported a history of intercourse with commercial sex worker, 5 of them reported not to have used condoms. Only marital status showed a statistically significant association condom use ($p=0.004$). Although fewer married respondents reported to have ever had sex with commercial sex workers, they were less likely to use condoms in case they did.

For condom use between husband and wife during the previous sexual intercourse, 11% of the respondents reported to have used condoms. There were significant differences in response for the background characteristics of division of residence and employment status. Nakawa division registered the highest proportion of condom use (21%) and lowest percentage (2%) was registered for central division. The unemployed respondents were more likely use condoms than the employed.

Concerning condom use for the previous sexual intercourse between steady boyfriends and girlfriends, 14% of the respondents reported not to have used condoms. Condom use between girlfriends and boyfriends showed no statistically significant difference for all background variables.

Of the 109 steady boyfriends and girlfriends that mentioned sexual intercourse in the previous 3 months, 49 (45%) reported using them consistently. No background variable that showed a statistically significant association with frequency of condom use.

On frequency of condom use with casual sex partners for the 3 months prior to the survey, out of 53 respondents that gave a history sexual intercourse with casual partners, 36 (68%) reported using condoms consistently. Significant differences were observed for education status ($p=0.001$) and religion ($p=0.010$). Respondents of higher education were more likely to use condoms consistently in the previous 3 months than persons of lower education. Compared to other religious affiliations, Catholics were least likely to use condoms consistently.

For the 29 respondents who gave a history of sexual intercourse with commercial sex works during the 3 months prior to the survey, 13 of them (45%) reported consistent use of condoms. Only gender showed a significant association ($p=0.021$) with frequency of condom use with

commercial sex workers. Although fewer females would have intercourse with commercial sex worker, none of them reported consistent condom use in the previous 3 months.

When the non-married respondents were asked whether they had practiced sexual intercourse with steady boyfriends or girl friends in the past 3 months, 28% were affirmative. This variable showed no significant difference in response for all the selected background characteristics.

Out of 473 non-married respondents that reported to have ever had sexual intercourse, 25 of them (5%) gave a history of casual sex in the 3 months prior to the survey. There were significant variations in response for the background variables of gender ($p=0.009$) and division of residence ($p=0.021$). Males were more likely to go for casual sex than females. Central division registered the highest proportion of casual sex.

Fifteen non-married respondents (3%) reported sexual intercourse with a commercial sex worker in the previous 3 months. Only the gender showed a significant association with sexual intercourse with a commercial sex worker. More males than females reported intercourse with sex workers in the 3 months prior to the survey.

Non-married respondents were asked whether they had practiced sexual intercourse with a person of the same sex in the 3 months prior to the survey. Four persons out of 468 respondents (1%) were affirmative. Background characteristics of division of residence and employment status were significantly associated with sexual intercourse with a person of the same sex. Central division population was more likely to have had sexual intercourse with persons of the same sex than respondents from other divisions. Respondents who were in the '*employed not for cash*' category were more likely to have intercourse with persons of the same sex than the unemployed.

On the question of the number of the sexual partners, 60 out of 977 respondents (6%) reported to have had sex in 3 months prior to the survey. There were significant differences in response for background variables of gender, marital status and employment status. Males compared to females, were more likely to have had more than one sexual partner in the previous 3 months. Respondents who were employed for cash were more likely to have had more than one sexual partner than the unemployed.

Out of 1,114 respondents that reported sexual intercourse in the 3 months prior to the study, 183 of them (16%) mentioned more than one sexual partner. Gender, marital status and employment status showed significant differences in response ($p<0.05$). A higher proportion of males (32%) reported more than one partner in the previous 12 months compared to females (8%). Non-married respondents were more likely to have had more than one partner than the married persons. Compared to the unemployed, a higher proportion of employed persons reported more than one partner.

For the 1344 respondents that were asked whether they had received money or gifts for sex in the 12 months prior to the survey, 66 of them (5%) were affirmative. This was significantly associated age and marital status. Younger respondents were more likely to have received money or gifts for sex. Compared to the married respondents, a higher proportion of non-married respondents gave a history of receiving money or gifts.

Eighty out of 1361 respondents (6%) gave a history of giving away money or gifts for sex in the 12 months prior to the survey. This was significantly associated with marital status, gender and employment status (0.05). Males were more likely to give away money or gifts for sex. More non-married respondents reported giving away money or gifts for sex than the married persons. A higher proportion of employed people mentioned giving away money or gifts for sex than the unemployed. Most of the respondents (81%) gave a history of sexual intercourse within a year of the survey. The most recent partner was either husband/wife (59%) or girlfriend/boyfriend (35%).

Conclusions

The main observation to be drawn from this study concerning attitudes, beliefs and perceptions of HIV/AIDS prevention in Uganda is that the majority of the study population had positive attitudes and perceptions toward the epidemic. There were to the contrary few individuals who significantly held negative views on HIV/AIDS prevention, care and control. Notably, young people and those with low education were more likely to hold the view that HIV efforts were useless as most people were already infected. Increase in education appears to be crucial in changing people's perceptions.

The key suggestions made for the improvement of positive attitudes toward HIV/AIDS prevention is an education strategy targeting the segments of the population that are particularly at risk and those that continue to hold negative beliefs

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