

LOW IMPACT OF A COMMUNITY-WIDE HIV TESTING AND COUNSELING PROGRAM ON SEXUAL BEHAVIOR IN RURAL UGANDA

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Study results on the assessment of a community-wide HIV counseling and testing program are presented. The aim of this study was to elucidate whether HIV counseling and testing was effective in reducing high risk sexual behavior of a rural population in Uganda. From a total of 2,267 persons of Kigoyera Parish, western Uganda, who were HIV tested and counseled, 495 persons were selected and interviewed about their sexual behavior. Persons who were HIV tested showed no difference in sexual behavior compared to those who were not tested (condom use 4.3% vs. 5.5%, mean number of sexual partner in the past three months 1.8 vs. 2.0). The conclusion is that only knowing the HIV serostatus is not enough to reduce high risk behavior. The study results also showed that there is a demand for HIV counseling services without being HIV tested.

One of the major benefits of HIV testing is thought to be the opportunity for individual counseling to promote the behavioral changes necessary to reduce HIV transmission, and to facilitate the referral of the HIV infected individual to health facilities for medical evaluation. The counseling process provides information before and after the HIV test is done (pre- and posttest counseling). This information relates to a variety of topics, such as the cause of AIDS, modes of transmission and how the risk of transmission can be reduced. The objective of this counseling is to induce in these individuals a reduction of high risk sexual behavior which will prevent HIV infections in themselves and in others. Research in the developed world and in developing countries has not clearly proven the effectiveness of HIV counseling and testing in reducing risk behavior (Norton, Miller, & Johnson, 1997).

Information about voluntary HIV counseling and testing programs comes mainly from developed countries. In some studies of specialized groups (e.g., homo-

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sexual men), it was found that voluntary HIV counseling and testing (CT) services induced a change from high risk to lower risk behavior (Godfried, 1988). Knowledge of the HIV serostatus was found to be an additional motivation for behavioral change to low risk practice (Godfried, 1988; DesJartais & Friedmann, 1988). But other authors raise questions about the management, costs and effectiveness of voluntary HIV CT services, even in most sophisticated programs, for example, the United States (Centers for Disease Control, 1994). A meta-analysis of 35 studies from developed countries showed mixed results: Some studies revealed some evidence that HIV CT services motivated to reduce high risk behavior, while others did not (Wolitsky, MacGowan, Higgins, & Jorgensen, 1997). In developing countries the role of HIV CT services in a comprehensive HIV/AIDS control program is regarded as even more questionable (Alwano-Edyegu, 1996). Campbell et al. (1997) raise serious concerns about HIV testing in developing countries, in regard to the costs for testing and the mixed results of behavioral change for those knowing their serostatus and receiving HIV CT services (Campbell, Marum, Alwano-Edyegu, Dillon, Moore & Gumisizira, 1997). Some authors even noted a higher risk for the spread of HIV by those who have learned that they are HIV positive (Otten, Zaidi, Wroten, Witte, & Peterman, 1993).

In countries where human rights are not respected, HIV testing is more likely to lead to breaches of confidentiality, discrimination, quarantine, and violence (Tomasevski, 1992) For example, a study in Kenya reported increased violence and loss of security for pregnant women who shared information about their positive HIV serostatus with their spouses (Temmermann, Ndinya-Achola, Ambani & Piot, 1995). Also, most women in this study did not share their HIV results with their partners: out of the 19 women who did inform their partners, 11 were replaced with another wife, seven were beaten and one committed suicide. Other studies showed similar adverse effects of HIV CT where HIV-infected persons informed their sexual partners of their serostatus which resulted in blame, physical violence, abandonment and destruction of marriages or personal relationships (Gostin, 1990). Protection from discrimination is of particular concern, because those at greatest risk of being HIV infected belong to groups already stigmatized by the society, for example, commercial sex workers, homosexuals, lesbians. Persons with HIV infection have experienced loss of employment, housing and health insurance and have, on occasion, been refused treatment by health care workers. In contrast with the doubtful benefits of HIV CT services, the social risks to the tested individual are real.

Partner notification can be a problem in HIV CT programs. Persons, who are HIV positive, are instructed how to notify their partners and to refer them to facilities where counseling and HIV testing is available. However, in a study from North Carolina, USA, only 7% of partners of infected HIV persons were informed about the HIV seropositivity of their spouses (Landis, 1992). In the Kenya study, only 27% of the HIV positive pregnant women informed their sexual partners that they were HIV infected (Temmermann et al., 1994). On the other side, sex partners of HIV infected persons who were notified (by patients or by provider) were generally receptive of being notified and were seeking HIV CT services (West & Stark, 1997).

STUDY BACKGROUND

We conducted a population-based study in a rural area of western Uganda, where a majority of the population participated in an HIV CT program. The aim of this

study was to evaluate the response of a rural community to a large scale HIV CT program and to examine whether participants in the HIV testing program reported a higher level of safe sex practices compared to non participants. The HIV testing program had already been carried out during an earlier study in Kigoyera, a rural parish in western Uganda. This earlier study was part of an ongoing onchocerciasis and HIV surveillance research program in Kabarole district. The study included the assessment of the HIV serostatus and of the incidence of HIV infection of Kigoyera residents.

The purpose of the HIV testing was to recruit study participants with a known HIV serostatus. Out of the total of 3,049 census-registered inhabitants over the age of 15 years in Kigoyera, 2,267 (74%) had participated in the HIV screening and counseling program (Fischer, Kipp, Kabwa, & Buettner, 1995). The counseling program consisted of pre- and posttest counseling. One counseling session lasted approximately 30 minutes. Content of the pretest counseling was chosen according to the Manual of the "Ugandan Support Organization for AIDS Patients" (TASO). Clients were informed about the personal implications of the HIV test, about safe sex practices, about other sexually transmitted diseases and about the importance of condom use. Condoms were made available during the pre- and posttest counseling sessions. Prevailing misconceptions about condom use were also explained and the correct information given. In the posttest counseling session, a personal risk reduction plan was developed by the counselor and the client, based on the individual needs of the client.

Persons who were found to be HIV infected were referred for further counseling and to a support group of individuals with HIV/AIDS in the district capital. Ongoing counseling services were not available in Kigoyera Parish during this time. The four counselors who offered these services were trained by TASO in a four week course and had to pass an examination at the end of it. All counselors had substantial working experience in HIV counseling prior to the study. The study which is presented here, was conducted in 1993, one year after the HIV CT program was done within the earlier study. The time lag between HIV testing and our response study was approximately one year.

METHODOLOGY

A two stage sampling procedure was used. From the 13 villages in Kigoyera, five villages were selected, using a simple random sampling without replacement. For every selected village, a list of all households was obtained by the village chief (each village had usually ca. 100 households) and 40 households were chosen from each village with simple random sampling. All persons from each selected household meeting the inclusion criteria were asked to participate. If a participant was not at home when the interviews were conducted, a second attempt was made to interview him or her, if he or she was not present the second time, this individual was excluded from the study.

Two outcome variables for measuring sexual behavior were selected: condom use and mean number of casual sexual partners in the past three months. Sample size calculation was based on the estimates of condom use. The prevalence for condom use was estimated at 12% according to information from the District Health Department in Fort Portal from similar rural areas in the district. An error margin of 3% was chosen. To allow for nonparticipation, a sample size of 495 was taken. Each

participant was interviewed, using a semistructured questionnaire with 42 closed and open-ended questions.

The research instruments were pretested in the neighboring villages of Kigoyera Parish which were not included in the study. The questions were coded, entered and analyzed, using the statistical package SPSSX. As some questions were open-ended, it was necessary to carry out further recoding. A code book was prepared. Data entry was checked for consistency. Data were analyzed with the Chi-square test and the Mantel Haenszel Chi-square test for trend. For significance tests, α was set at 5%.

RESULTS

Information from 469 participants was available from the interviews for final analysis. 26 persons did not participate in the study due to their unavailability or their refusal to take part. Participants in the face to face interviews had a mean age 31.7 years (SD 13.5 years), 204 (43.5%) were males and 265 (56.5%) females. The age distribution was as follows: 84 (17.9%) were below 20 years, 146 (31.1%) between 20–30 years, 118 (25.2%) between 30 and 40 years and 121 (25.8%) were above 40 years. 350 respondents (74.6%) were married, 74 (15.8%) were single and 83 (17.7%) were either divorced or widowed. 83 (17.7%) respondents reported living in polygamous marriage unions. Most of the participants were peasants (420, 89.6%), followed by students (28, 6%), traders (13, 2.8%) and others (8, 1.7%). In regard to the religious affiliation, 269 (57.4%) of the participants belonged to the catholic church, 156 (33.3%) to the Protestant church and 22 (4.7%) were categorized as others. Both groups, that is, users and non-users of the HIV testing program were similar in regard to demographic variables such as age, sex, and religious affiliation.

There was a clear association between educational level (years of schooling) and gender: males had a higher level of formal schooling than females (χ for trend 51.25, $p < .001$). Knowledge of AIDS was high: 358 (76, 3%) participants knew at least two modes of HIV transmission. AIDS knowledge was positively associated with educational level (χ for trend 43.19, $p < .001$). Persons with a higher educational level as well as persons being married and below age of 40 were more likely to take an HIV test (χ for trend 7.88, $p = .005$).

Most of the study participants (398 or 84.9%) reported that they had engaged in sexual intercourse during the year preceding the study. Nine persons out of the 469 study participants reported being HIV infected. This results in a self reported HIV infection rate of 1.6% for Kigoyera Parish. Out of the nine HIV infected participants, two were male and seven female. Five of the seven HIV positive women had become pregnant within a period of one year after they had learned that they were HIV infected.

83 participants (17.7%) reported having had more than one sexual partner in the past three months. Having more than one partner in the previous three months was associated with being male (χ 21.19, $p < .001$), but was independent of the marital status ($p = .229$). Condom use and number of sexual partners in both groups is shown in Table 1.

Condom use was low, with 15 respondents (4.3%) saying that they had sometimes used a condom. Unmarried males were more likely to have used condoms ($p = .0017$) compared to married males. There was a significant positive association between sexual risk behavior and the level of alcohol consumption ($p < .001$).

Table 1. Condom Use and Number of Sexual Partners in Participants and Nonparticipants of the HIV Counseling and Testing Program (with 95% Confidence Intervals)

	Participants in the HIV testing program (<i>n</i> = 343)	Nonparticipants in the HIV testing program (<i>n</i> = 126)
Condom use	15 (4.3%) (2.2–6.4)	7 (5.5%) (3.5–7.5)
Mean number of sexual partners in the past three months	1.8	2.0*

*difference not significant ($p = .538$), includes only study participants who reported multiple sexual partners.

343 respondents (73.1%) had been tested for HIV and received counseling. Of the remaining 126 respondents who had not been tested for HIV, 16 (12.7%) stated explicitly that they did not want to be HIV tested. Persons who were HIV tested and received pre- and posttest counseling did not differ in their reported sexual behavior as measured by condom use ($p = .334$) and number of sexual partners in the past three months ($p = .538$).

When respondents were asked why they took the HIV test the following answers were given.

Table 2. Reasons Given Why Respondents Took the HIV Test (*n* = 343, Multiple Responses Possible)

Reasons given	Number of respondents	Percentage
Wanted to participate in study	249	72.6
Curious to know HIV status	57	16.6
Planning for the future	13	3.8
Don't trust my spouse	6	1.7
Having chronic disease	4	1.2
Others	14	4.1

Half of those unwilling to have an HIV test thought the test was not necessary, while 25% said that they were confident they were HIV negative because they did not perceive themselves as being at risk of HIV infection.

Most respondents who had been tested (319 or 93%) felt that the pre- and posttest counseling was useful, and that they had learned more about HIV/AIDS and about safe sexual behavior to prevent HIV transmission. 21 (6.1%) respondents did not find the HIV counseling useful at all. The majority of respondents said that HIV testing and counseling should be regularly provided as part of the health care service delivery in proximity to their residence. 377 (80.4%) of all respondents felt that counseling should start early and that students aged 10 years or more should be included as well as all adults. 286 (83.4%) of the respondents tested found that practical advice was given during the counseling session.

Of the 343 respondents who had an HIV test, 133 (28.4%) did not request to know their HIV test result. As to why respondents did not return for receiving the HIV test results, the following reasons were given: not informed about the exact date when to come back (39.1%), sick (14.3%), visited relatives (8.3%), feared the result (1.5%), others (10.5%), no information (23.6%).

Of those who received their HIV test result, 107 (50.9%) reported that they had informed their spouse/partner of the test result, while 85 respondents (40.5%) said

that they had not informed their spouse/partner or anybody else. All nine respondents who said that they had been found HIV positive, reported that they have informed somebody about their HIV result. Seven of them had informed their spouse/partner, while two, who were not married, had informed a close friend.

In response to a question as to who else should be informed of the HIV test result, the majority of the respondents (244, 52%) suggested that no one else apart from the client should be informed. Other answers were as follows: inform spouse/partner (182, 38.8%), inform parents (41, 8.7%), inform close friends (29, 6.2%) and inform the general public (20, 4.3%). Most respondents who received their HIV test results and posttest counseling (181, 86.2%) felt that the client himself should be the one to inform any other persons, while the 37 (17.6%) thought this task should be performed by the HIV counselor. All respondents said that they believed the counselors did not disclose any information, including the HIV status, to others.

Respondents favored community health workers as counselors (51.5%), followed by religious leaders (21.1%), village leaders (17.3%), teachers (11.3%) and others (29.2%). However, 425 respondents (90.6%) emphasized that the counselors should not be residents in the area, but should come from outside. Responding to the question as to where counseling should be conducted in their communities, the majority (42.4%) suggested community centers, followed by homes (31.8%), trading centers (23.9%) and churches (24.9%). Most respondents (90.4%) felt that HIV counselors should have certain skills, should be trained and should pass an examination after the training session.

DISCUSSION

We examined the response of rural communities in an area in western Uganda to a large scale voluntary HIV CT program. Out of a total of 3,049 persons over the age of 15 years in the parish, 2,267 had participated in an HIV CT program that consisted of an HIV test and one session of pre- and posttest counseling. The sample in our study of 469 respondents who were interviewed was representative for the age distribution of Kigoyera Parish which was similar to the age distribution in the general population of Kigoyera (Fischer, Kipp, Bamuhiiga, Binta-Kahwa, Kiefer, & Buettner, 1993). The fact that fewer males than females participated in the interviews may be explained that younger males are usually more mobile and were less likely to be at home for the interviews. Both groups, users and non users of the HIV CT program, had similar demographic profiles and were comparable. Our random sample of the sexually active population in Kigoyera included 16% of the population over 15 years. Therefore, the results are likely to be representative of the population in Kigoyera Parish. However, as the educational status of the population in this area is below the district average and as seeking HIV testing and counseling may be associated with education, the results may not be representative of the entire Kabarole district and beyond.

In Kigoyera Parish, self reported HIV prevalence in the interviews was 2.6%. This is lower than the HIV prevalence measured earlier in the longitudinal study (onchocerciasis/HIV surveillance) where it was 3.9% (Fischer et al., 1995). This may be caused in part by the fact that 39% of the study participants did not come back for receiving their HIV testing result and therefore were unaware of their (possible positive) HIV serostatus. However, it was surprising to see that at least nine persons were revealing their positive HIV status in the face to face interviews. This gives us

some confidence that the relationship between the interviewers and the study participants was based on mutual trust and that the responses to other questions during the interviews were likely to be valid reflections of actual behavior.

No difference in self reported sexual behavior was observed between users and non users of the HIV CT program in Kigoyera Parish (see Table 1). We did not find any other published data from large-scale HIV CT services in eastern Africa with which to compare our results. Also, Killewo stated that the effectiveness of HIV CT services in regard to sexual behavior change has not been evaluated in eastern Africa (Killewo et al., 1998). One study from Gambia, West Africa, showed that HIV testing counseling and knowledge of the HIV serostatus did not modify the sexual behavior of prostitutes (Pickering, Quigley, Pepin, Todd, & Wilkins, 1993). Some studies from developed countries also show that HIV testing with counseling available only once may not be effective (Landis, Earp & Koch, 1992; Healton, Messeri, Abramson, Howard, Sorin & Bayer, 1991). In contrast two studies, one from Thailand and the other from the Democratic Republic of Congo (former Zaire), found that HIV testing and counseling had beneficial effects and induced behavioral change towards safer sex (Muller, Sarangbin, Ruxrungtham, Sittitrai, & Phanuphak, 1995; Kamenga et al., 1991). However, in these examples, clients were recruited from highly selected groups with a high risk of being HIV positive (e.g., discordant couples in the Congo study) and therefore, they possibly had a higher motivation to change their sexual behavior as compared to a general population that have a lower risk of HIV transmission and may be less motivated.

Our data support the notion that the role of community-wide voluntary HIV CT may be of questionable value in a population where the HIV prevalence is low. Some of the arguments brought in support of HIV CT services (e.g., early diagnosis of HIV infection with an opportunity of a timely treatment of the HIV infection), are of little importance in low income countries, where retroviral therapy of HIV infection is usually not available for the majority. In contrast to the low impact of HIV CT in Kabarole, there is a proven decline in the HIV prevalence due to behavioral change (Kilian et al., 1999). Findings from an ongoing surveillance program of sexual behavior in secondary school students in Kabarole district indicate that the decline in the HIV prevalence may be best explained by increased condom use (Morr, personal communication, 1998).

In Kigoyera Parish, the acceptance of HIV CT services was high, as shown by the participation of 74% of the population over the age of 15 years in this program. The client satisfaction rate of the HIV counseling and testing program was high as well with 93% of the participants reporting that they were satisfied with the way testing counseling was offered. Most participants expressed the need for HIV testing at the village level, as opposed to traveling 65 km to the district capital for HIV testing. They considered HIV counseling and testing as a valuable and an essential component of their health care delivery. This is similar to findings from a study in developing countries in sub-Saharan Africa (Abidjan, Kenya, Tanzania, Malawi, Zambia, and Zimbabwe) where HIV testing and counseling was found highly acceptable to pregnant women (Cartoux, Meda, Van de Perre, Newell, de Vincenzi, & Dabis, 1998). In spite of the low effectiveness of the HIV CT services in our study, it clearly shows that there is a high demand for HIV CT services in communities.

In spite of the high acceptance of this program, many persons (38.8%) who took the HIV test, did not come back for the result. It is lower than in North Carolina, where 46% of the participants in the HIV testing program did not come back for posttest counseling (Landis et al., 1992). Similar figures come from New York

State where one third of the participants did not return for their test results and posttest counseling (Healton, Messeri, Abramson, Howard, Sorin, & Bayer, 1996). In Kigoyera, a substantial number of participants said that they did not come back because they did not know when the posttest counseling was scheduled. This, however, was not a fault of the counseling since it was not always clear at the time of the pretest counseling when the HIV test results would be available. When this occurred, the counselors informed their clients that they would be contacted later to arrange a date for the posttest counseling session. However, some counselors told us that they could not trace all their clients for follow-up, therefore some of them may not have been contacted for the posttest counseling sessions. Despite the assurance that participation in HIV testing was voluntary, 74% of participants said that they underwent HIV testing, because they wanted to be part of the earlier, longitudinal study. Thus, participants may not have “really wanted” to be HIV tested, but may have felt some “pressure” to be HIV tested. This could be another reason for the low turn-up for the posttest counseling sessions, since some participants may not “really have wanted” to know their HIV status.

Another important finding from the Kigoyera experience is that HIV counselors were seen to respect the individual's confidentiality and did not release HIV related information to others. No case was reported where participation in the HIV CT program had adverse social effects on an individual participant. However, study participants clearly indicated that due to the sensitivity of the issues involved, HIV counselors should not reside in the area where they work. This limits options for HIV counseling in settings where community-based counselors are selected by the community and are living and working within the same community. (However, it is possible to organize the HIV/AIDS counseling services in a way that community health workers from neighboring areas could serve as counselors.) Important was the response that communities identified community health workers as preferred providers for counseling services. This is an encouraging finding in Kigoyera Parish and shows that community health workers are accepted health care providers in HIV/AIDS programs and HIV CT services.

Self-reported partner notification by participants who received their test results was 51% and seven out of the nine HIV infected persons reported their positive HIV status to their spouse/partner. The partner notification in Kigoyera is higher than findings from other studies. Low self reported partner notification rates were observed in North Carolina, where only 7% of homosexual or bisexual men informed at least one of their partners about their HIV status (Landis et al., 1992). One study found that even after receiving repeated counseling, 29% of HIV positive persons had not disclosed their HIV status to any present partner, and 30% to any past sex partner (West & Stark, 1997). In Kenya, partner notification was also lower (27%) in pregnant women (Temmermann et al., 1995). The relatively high partner notification rate we found in our study may be explained by the sensitivity of the question “Did you inform your sexual partner of your HIV serostatus?”. Participants may have felt shameful to answer this question with no and said yes instead or they wanted to please the interviewers, while in reality they had not informed their partners about their HIV status.

HIV test results were the only documented information on the quality of the HIV CT services delivered. HIV test results were considered as reliable and correct, because all HIV tests were confirmed by a second ELISA or by Western blot blood test in the national reference laboratory in Uganda (Uganda Virus Institute) and/or in a research institution in Germany. We do not know if the counseling provided was

delivered properly. The fact that 52 participants said that they did not come back for the test results because they did not know when these posttest sessions took place, may indicate some problems regarding the quality of the services. On the other side, all counselors were well trained by TASO (four week course) and had passed an examination. All of them had considerable working experience in HIV counseling. They were trained to follow the guidelines and algorithms as set up in the TASO counseling manual. Low quality of the counseling would have caused a decrease in the difference of the study outcome variables in users and non-users and would have resulted in underestimating the effectiveness of the testing program. Taking into account some of the responses of the study participants and the informal information from participants and community members gathered during the study, we believe that the quality of the counseling has not compromised the study in a substantial way. However, there is a clear need to examine in detail the process under which HIV counseling and testing is provided (Beardsell & Coyle, 1996).

We also compared data on condom use from Kabende, a neighboring parish with a similar geographic and socioeconomic profile and where no HIV counseling and testing is offered. Condom use rates were similarly low and ranged between 4% and 6%. These comparable figures of condom use between the intervention area (Kigoyera) and a control area (Kabende) also corroborate our finding that the HIV counseling and testing program in Kigoyera was not effective in changing sexual behavior.

STUDY LIMITATIONS

One of the major limitations of this study was that the intervention “HIV-testing vs. non HIV-testing” was not randomized to the study population. As the purpose of the earlier longitudinal study was recruitment of persons with known HIV serostatus and not evaluating the effect of the HIV testing program, randomization was not an issue. However, a randomized study design where HIV testing and counseling is compared to the usual level of care, would not be ethically acceptable. The design for our study was surely not ideal, but it was probably the best possible way to assess a large scale HIV counseling and testing.

The nonrandomized allocation of the intervention may have resulted in a self-selection bias and may have compromised the comparability of the intervention to the non-intervention group. Persons who felt themselves at greater risk of acquiring HIV, because of high risk practices, may not have participated in the intervention program. As these persons may be more likely to change sexual behavior, the effect of the intervention may have been underestimated. In addition, the fact that 133 participants did not come back for the HIV test results and did not receive posttest counseling which is an important part of the intervention, may have also weakened the intervention effects.

CONCLUSION

We conclude that knowing the HIV serostatus and receiving two counseling sessions (pre- and posttest) was not effective in reducing high risk sexual behavior in Kigoyera Parish. However, as the population of Kigoyera Parish has a low educational status, it may not be representative of Kabarole district and/or Uganda, the generalizability of our study findings beyond Kigoyera may be limited. More research is needed in Uganda before definite policy recommendations regarding the expansion

of HIV CT services can be made. Decisionmakers in HIV/AIDS programming should perhaps consider, if the available resources should not be directed to support cost-effective preventive efforts (such as condom promotion, peer education in adolescents, etc.) having proven results rather than directing resources to services with less proven results.

In spite of the above, the great demand for HIV CT services, as expressed by most study participants, is acknowledged and needs to be considered. The decision making process regarding if and what kind of HIV CT services are required, has to balance professional judgments (about the effectiveness and costs of HIV CT services and the level of HIV infection) with the community's demands and perceived needs. For Kabarole district we believe that a one time community-wide HIV CT service is not warranted. An alternative might be to develop a service model that provides counseling services without HIV testing. In young pregnant women living in urban areas of Kabarole District, a significant decline of the HIV prevalence from 33% to 9% has been observed, attributed to behavioral change, even though they did not know their HIV serostatus (Kilian et al., 1999). In our opinion knowing the HIV serostatus is not vital for the majority and thus HIV laboratory testing facilities should be only available in the major urban and semi-urban centers with regular quality assurance from the national reference laboratory. We advocate the establishment of small counseling centers linked to the district health facilities, where services are continuously available from trained community volunteers who are regularly supervised by professionals.

Given our experience that only 16% of the participants in the HIV CT services really wanted to know their HIV serostatus, and given that the participation in the HIV CT program was very high, and given that the majority of the participants requested counseling services, it would seem justifiable to provide widespread counseling, but not HIV testing. Perhaps the encouraging news is that if there was a delinking of HIV testing and HIV counseling, (so that HIV testing would be only provided where it was genuinely demanded), then the resources would be better spent and stretched further.

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