

USING LAY COUNSELLORS TO PROMOTE COMMUNITY-BASED VOLUNTARY COUNSELLING AND HIV TESTING IN RURAL NORTHERN GHANA: A BASELINE SURVEY ON COMMUNITY ACCEPTANCE AND STIGMA

F. BAIDEN*, G. AKANLU*, A. HODGSON*, P. AKWEONGO*,
C. DEBPUUR* AND F. BINKA†

**Navrongo Health Research Center, Ghana Health Service, Navrongo, UER, Ghana
and †Department of Epidemiology, School of Public Health, University of Ghana,
Legon, Ghana*

Summary. Access to voluntary counselling and HIV testing (VCT) remains limited in most parts of Ghana with rural populations being the least served. Services remain facility-based and employ the use of an ever-dwindling number of health workers as counsellors. This study assessed approval for the use of lay counsellors to promote community-based voluntary counselling and testing for HIV and the extent of HIV/AIDS-related stigma in the Kassena-Nankana district of rural northern Ghana. A cross-sectional questionnaire survey was conducted. Logistic regression was used to identify predictors of the tendency to stigmatize people living with HIV/AIDS (PLWHAs). Focus group discussions were held and analytical coding of the data performed. The majority (91·1%) of the 403 respondents indicated a desire to know their HIV status. Most (88·1%) respondents considered locations outside of the health facility as preferred places for VCT. The majority (98·7%) of respondents approved the use of lay counsellors. About a quarter (24%) of respondents believed that it was possible to acquire HIV through sharing a drinking cup with a PLWHA. About half (52·1%) of the respondents considered that a teacher with HIV/AIDS should not be allowed to teach, while 77·2% would not buy vegetables from a PLWHA. Respondents who believed that sharing a drinking cup with a PLWHA could transmit HIV infection (OR 2·50, 95%CI 1·52–4·11) and respondents without formal education (OR 2·94, 95%CI 1·38–6·27) were more likely to stigmatize PLWHAs. In contrast, respondents with knowledge of the availability of antiretroviral (ARV) drugs were less likely to do so (OR 0·40, 95%CI 0·22–0·73). Findings from the thirteen focus group discussions reinforced approval for community-based VCT and lay counsellors but revealed concerns about stigma and confidentiality. In conclusion, community-based

VCT and the use of lay counsellors may be acceptable options for promoting access. Interventional studies are required to assess feasibility and cost-effectiveness.

Introduction

The impact of HIV and AIDS in Africa makes it compelling for approaches that will curb spread and enhance care to be continually explored. Voluntary counselling and testing (VCT) for HIV remains the most widely accepted approach for promoting knowledge of serostatus. Research over the last decade has demonstrated the public health benefit of VCT in terms of reductions in risk behaviour and its cost-effectiveness (Weinhardt *et al.*, 1999; Voluntary HIV-1 Counselling and Testing Efficacy Study Group, 2000; Sweat *et al.*, 2000; Wolff *et al.*, 2005). The importance of VCT has brought about wider promotion and development of services. Universal availability and accessibility is now given priority in the most severely affected countries. This is because it forms the gateway to HIV/AIDS prevention, care, treatment and support interventions. There are examples of high-quality VCT services in low- and middle-income countries but most of these are located in urban centres, whereas populations in rural areas have generally limited access to VCT (UNAIDS, 2001; Wolff *et al.*, 2005).

Conventionally VCT has been clinic-based and this remains a major limitation to achieving the goal of universal access and acceptability (Fylkesnes & Siziya, 2004). The VCT programmes in most of sub-Saharan Africa are in need of evidence-based replicable models that would guarantee equitable access across all socioeconomic strata. Studies in Zambia, Uganda and South Africa have shown that community-based services as opposed to facility-based services have the potential to promote greater access (Matovu *et al.*, 2001; Fylkesnes & Siziya, 2004; Wolff *et al.*, 2005). These include the use of lay counsellors in contrast to health worker counsellors. Very few community-based VCT (CBVCT) programmes have been conducted in West Africa, where community perceptions and attitudes towards CBVCT may differ on account of the relatively lower HIV prevalence (Castle, 2003).

HIV/AIDS-related stigma and discrimination have been recognized as one of the main obstacles to the prevention, and treatment, of HIV and AIDS (Kalichman & Simbayi, 2004; Letamo, 2003). Studies conducted by the International Centers for Research on Women (ICRW, 2005) have found that HIV/AIDS-related stigma takes various forms in different communities. It may be physical, social, verbal or institutional. Stigma remains a major obstacle to the desire of many to patronize VCT services (ICRW, 2005). Any model proposed for promoting VCT must, of essence, incorporate strategies for reducing stigma. The design and focus of such strategies should be based on evidence gathered locally on underlying factors and determinants.

Ghana is a West African country with an estimated population of 20 million people, the majority of which live in rural communities. The first cases of HIV/AIDS were reported in the mid-80s. Since that time, there has been a steady increase in prevalence levels. The infection has spread to all parts of the country with, however, considerable variation in prevalence rates: prevalence levels in the southern parts of the country being generally higher than in the northern parts. The average national

prevalence is 3.2% (NACP, 2004). A prevalence of over 70% has been reported among commercial sex workers in Accra and Kumasi, the two most major cities (Asamoah-Adu *et al.*, 2001; Cote *et al.*, 2004). The *Ghana Strategic Framework for HIV/AIDS Control* is the official policy document guiding HIV/AIDS control. This was first developed in 2000 and is currently under revision. The document identified VCT as a priority strategy and set as a target the year 2005 for when VCT should be widely available and accessible throughout the country (GAC, 2000). Achieving this task is proving daunting. As of December 2004, there were only few centres in the country where VCT services could be accessed (NACP, 2004). Almost universally, VCT centres in the country are health facility-based and are constrained by the availability of health worker counsellors. The dwindling number of health workers, particularly as a result of the 'brain drain', is likely to render this approach ineffective and unsustainable.

In June 2004, the Navrongo Health Research Center proposed to conduct a three-cell quasi-experiment to assess the feasibility of using trained lay counsellors to promote CBVCT in the Kassena-Nankana district. In the proposed intervention, community-nominated lay counsellors were to be deployed in seven communities in the east of the district. Services were to be instituted at the Health Center in the east. In the south of the district, three community health officers were to be trained to provide community-based services, alongside a health worker stationed at the health centre in the south. The north of the district was to serve as comparison area. Here, services were going to be available only at the health centre and through a health worker.

As part of preparations towards the commencement of the study, a baseline survey was conducted to assess the level of acceptance of the use of lay counsellors, the use of community-based approaches, the extent of HIV/AIDS-related stigma, its determinants, and how it could affect CBVCT.

Methods

Study site

The Kassena-Nankana district is one of the 138 administrative districts in Ghana. It is situated in the north-eastern corner, close to the border with Burkina Faso, and covers a land area of 1675 km². It has an estimated population of 142,000, 22% of whom are women of childbearing age (Navrongo Demographic Surveillance System Report 2003). The district is essentially rural with most of the inhabitants engaged in small-scale farming. Navrongo is the district capital. It is located in the central area of the district and is of sub-urban character. The Navrongo Health Research Center maintains a demographic surveillance system within the district. Navrongo has been one of the sites in the Ghana National HIV Sentinel Surveillance survey since 2001. The average HIV prevalence rate is 3.9% (NACP, 2004).

Survey

Both quantitative and qualitative methods were used in the study. A questionnaire survey was conducted among a sample of inhabitants living within a kilometre radius of the residences of two of the seven lay counsellors, one of the three community

health officers (randomly selected in both cases) and the health centre in the north, which was purposefully selected because it was to be the comparison area in the proposed study. A kilometre radius was taken to minimize the confounding effect of distance in the evaluation of services at the respective areas.

The questionnaire enquired into the demographic background of respondents, their knowledge and attitudes towards HIV/AIDS, the acceptability of the use of lay counsellors, and the extent of stigma. Three questions were adapted from the UNAIDS Model Questionnaire (assessed at <http://www.unaids.org/publications/order.html>) to assess the tendency of respondents to stigmatize an individual with HIV/AIDS (PLWHA): 'Would you be willing to care for a family member with HIV/AIDS?'; 'Should a teacher with HIV/AIDS be allowed to continue to teach?'; and 'Would you buy vegetables from someone who has HIV/AIDS?' The questionnaire was translated and back-translated from the local dialect. It was pre-tested among a sample of respondents in the west of the district and modified to make it cultural-applicable. Administration of the questionnaires was done in the local dialect by four trained interviewers.

Additionally, thirteen focus group discussions (FGDs) were held. These consisted of five groups of male and four groups of female adolescents (aged 15–24) and two groups each of male and female adults (aged 25–65). Groups comprised 7–10 individuals. Discussants were chosen from among residents living in compounds within a kilometre radius of the residents of all seven lay counsellors, the four health facilities and all three community health officers. Two trained research assistants moderated the FGDs. A checklist of issues similar to those covered in the questionnaire survey served as a guide. Discussions were tape-recorded.

Participants in both surveys (questionnaire and FGDs) were chosen randomly using the database of the demographic surveillance system. Both surveys were conducted within the same period of time and no participant took part in both.

Data from the questionnaires were double-entered, cleaned and analysed using STATA Version 8.1. Descriptive analysis was done using frequency tables. In the analysis to identify the determinants of stigma, data from the three 'stigma-defining questions' were merged. 'Tendency to Stigmatize' was taken to be present when a respondent answered in the negative to at least one of the three questions. Univariate and multivariate analysis was conducted with 'tendency to stigmatize' as outcome of interest. Information on the demographic background of respondents, knowledge and attitudes towards HIV/AIDS, acceptance of CBVCT and the use of lay counsellors were exposure variables.

Recordings from the FGDs were transcribed in English and typed out. Analytical coding was done by breaking down the data into units and categorizing them, initially using grounded theory, and then putting emergent ideas and themes under new categories. Quotations are presented here with minor modifications to make for greater clarity.

The Institutional Review Board of the Navrongo Health Research Center approved the proposal for this study. Communal consent was also obtained from the chiefs and elders of the communities in which the study was undertaken. Verbal informed consent was taken from all respondents and discussants in the focus group discussions.

Results

There were 403 respondents in the questionnaire survey; 235 (58.3%) were females. The mean age was 27.9 years. Christians and traditionalists constituted 60.3% and 27.5% respectively. Most (37.7%) of the respondents had had no education at all, while only 15% had had education beyond the primary level. Thirty-nine per cent of respondents were married at the time of the survey. Radio and general community health educational programmes were the main sources of HIV/AIDS information for the majority of respondents. Although awareness of the main modes of HIV transmission was generally high, 15% of respondents were either unaware or unsure about the possibility of mother-to-child HIV transmission.

Willingness to get tested

The majority (91.1%) of respondents indicated a desire to know their HIV status. Most of the comments made during FGDs in this regard related to behaviour change and early access to care. The test for HIV was often referred to as the test for AIDS. Typical comments include:

I think a lot of people will come for the AIDS test so that they learn about ways to handle themselves, and in order that they do not become victims or sources of infection to others. [Adolescent Male]

I think many people would like to know their HIV status and would be willing to get tested. They, however, need to be morally encouraged and testing should be free. [Female Adolescent]

There are some people in this, our community, who are suspected to be living with the disease, AIDS. Don't you think that this will be an opportunity for them to determine whether they actually have AIDS or not? And also to enable them to be counselled as to how to take care of themselves and others? [Adult Male]

Respondents who considered that people in the community would not be unwilling to go for VCT gave reasons that were commonly related to stigma, fear and misconceptions about HIV transmission:

Some people would consider the way AIDS patients are treated in our homes and on that basis won't want to be tested. [Adolescent Female]

As we sit here, if the test kits are brought around and I know that I have AIDS, I won't do it. People will get to know and laugh at me. When I go to fetch water and others are also coming to fetch too, they will stop till I go away. [Adult Female]

As for me, if testing services are brought to my door, I will not test in this community. I would rather go to Navrongo [district capital, 10 km away] to do it. That way no one in this community would know about it. This will guarantee me peace of mind. The services should therefore be made available here and in Navrongo. [Adolescent Male]

Only 24.6% of respondents knew of the existence of HIV rapid kits. If a rapid test kit were made available, 89.3% of respondents indicated they would be willing to use it to know their HIV status. With the availability of rapid test kits, 88.1% of respondent considered places such as their homes (60.8%), any convenient place within the community (13.4%) and other locations outside of the health facility as ideal for VCT. A combination of the use of rapid test kits and the possibility to conduct the test at home was met with enthusiasm among the discussants in the FGDs:

Table 1. Univariate and multivariate analysis to identify the predictors of tendency to stigmatize HIV-positive people ($n=403$)

Characteristics	Number/total	OR	95%CI	Adjusted OR	95%CI
Demographic					
Sex					
Male	129/168	0.50	0.30–0.85	0.59	0.33–1.04
Female	204/235	1.0	—		
Age					
Adolescents (<24 years)	150/177	1.31	0.77–2.22		
≥24 years	183/226	1.0	—		
Educational level					
None	142/152	4.46	2.16–9.19	2.94	1.38 – 6.27
Primary and/or more	191/251	1.0	—		
Religion					
Christian	192/243	0.97	0.45–2.07		
Traditionalist	102/111	2.91	1.07–7.83	1.02	0.68–1.55
Other	39/49	1.0	—		
Knowledge and attitude towards HIV/AIDS and testing					
Believe one can get infected with HIV by sharing drinking cup with infected person					
Yes	93/97	7.28	2.50–21.22	2.50	1.52–4.11
Do not know	42/46	3.29	1.12–9.64		
No	198/260	1.00	—		
Desire to know HIV status					
Yes	304/367	1.16	0.49–2.78		
No	29/36	1.00	—		
Knowledge of availability of rapid HIV test kits					
Yes	85/99	1.37	0.73–2.59		
No	248/304	1.00	—		
Willingness to get tested with rapid test kit					
Yes	299/360	1.30	0.59–2.85		
No	34/43	1.00	—		
Location considered ideal for VCT using rapid test kit					
Home	208/245	2.31	1.12–4.76	1.37	0.95–1.98
Other locations outside of health facility	91/110	1.97	0.88–4.41		
Health facility	34/48	1.00	—		
Knowledge of the availability of ARVs					
Yes	146/197	0.29	0.16–0.52	0.40	0.22–0.73
No	187/206	1.0	—		

Table 1. Continued

Characteristics	Number/total	OR	95%CI	Adjusted OR	95%CI
Acceptance and characteristic of desired lay counsellor					
Acceptance of use of lay counsellors					
Yes	327/396	0.79	0.09–6.68		
No	6/7	1.0	—		
Lay counsellors be given rapid HIV test kits to do testing					
Yes	262/314	1.28	0.70–2.32		
No	71/89	1.0	—		
Sex of lay counsellor					
Same sex	109/124	1.07	0.36–3.17		
Indifferent	190/240	0.56	0.21–1.51		
Opposite sex	34/39	1.0	—		
Age of lay counsellor					
Older	140/169	0.65	0.31–1.35		
About same age	81/104	0.47	0.22–1.02		
Younger	23/29	0.52	0.17–1.54		
Indifferent	89/101	1.0	—		

Ah, home testing is the best. That's where nobody will feel shy to do it.

We did not know that the test could be carried out at home. If only there is home testing, then that would be more appropriate and confidential.

I think home-based testing is the ultimate idea since nobody will get to know of another person's status.

[For all three quotations above: Adolescent females]

Lay counsellors and community-based VCT

The overwhelming majority (98.7%) of respondents approved of the use of lay counsellors to promote CBVCT. However, a significantly ($p < 0.001$) smaller number (77.9%) agreed with the proposal to give rapid test kits to the lay counsellors:

The lay counsellor should undertake only counselling. The testing should be done by a health worker. [Adult Male]

Accessibility and socio-cultural familiarity were the main reasons advanced in favour of the use of lay counsellors. The issue of whether the lay counsellor should be a native of the community or not featured prominently in the discussions, albeit with varying opinions:

If a lay counsellor does the counselling, he is likely to be reached by a lot more people, compared to the health worker. A lay counsellor would also show greater commitment to reaching everyone in the community. A health worker is unlikely to do that. [Adolescent Male]

I want the person to come from the community because he will know the people very well, and know how to relate to them. If the person is not from the community the people would be reluctant to talk to him. [Adolescent Female]

It will be good if the person came from this community because that person will know the people individually, and how they behave emotionally. He would be in a better position to serve the people. [Adult Male]

There were apprehensions about giving HIV rapid test kits to lay counsellors. This emanated commonly from the fear of breaches in confidentiality, especially if the counsellor happened to be a native:

The health worker would be in a better position to discuss issues around HIV testing. The lay counsellors, particularly if he/she is a native, will not be able to keep secrets. [Adult Female]

If the one doing the test happens to be a native, he would virtually destroy the whole community. As we sit here, I can mention all the people here by names. If I happen to be the one doing the test, and it so happens anyone of you come for the test and it's positive, any where you see me chatting with friends, you would suspect that I am talking about the HIV status of clients. Even if that were not the case, you would be very hard to convince. To avoid things of this nature it is better to do away with native as far as HIV testing is concerned. [Male Adult]

The majority (58.1%) of respondents were indifferent about the sex of the counsellor they preferred. Among respondents for whom the sex of the counsellor mattered, there was a clear preference for same-sex counsellors. Regarding age, however, only 23.6% were indifferent about the age of their preferred counsellor. About a quarter (25.8%) of respondents preferred to have counsellors of about the same age, while 41.9% preferred counsellors who were older than them. This was consistent even among adolescent (age <20 years) respondents.

Only 48.9% of the respondents were aware of the availability of antiretroviral drugs (ARVs) in the country.

As a strategy to promote CBVCT, some discussants in the FGDs proposed the active involvement of chiefs and clan heads:

If the sectional heads get to be convinced of the benefits of VCT to the community as a whole, I believe they would in turn convince their people to come and get tested. [Adult Male]

Before such an activity is introduced into the community, the chief should be told, and his elders as well. Once they are convinced about the benefits to the community, they would meet the various clan heads and persuade them to convince their people about it. [Adult Male]

Stigma

About a quarter (24%) of respondents believed that it was possible to acquire HIV infection by sharing a drinking cup with an infected person. More than half (52.1%) of the respondents considered that a teacher with HIV/AIDS should not be allowed to continue to teach. An even greater number of respondents (77.2%) would not buy vegetables from someone living with HIV/AIDS. About 10.0% of respondents indicated their unwillingness to take care of PLWHAs. In all, 82.6% of respondents indicated at least one of the three stigmatizing attitudes.

In univariate analysis, females (OR 0.50, 95%CI 0.30–0.85), traditional religious believers (OR 2.91, 95%CI 1.07–8.73) and respondents with no formal education (OR 4.46, 95%CI 2.16–9.19) were significantly more likely to stigmatize HIV-infected individuals. Respondents who believed that the sharing of a drinking cup with an infected person could lead to infection (OR 7.28, 95%CI 2.50–21.22), and those who desired to have HIV testing done outside of the health centre

(OR 2.31, 95%CI 1.21–4.76), were more likely to stigmatize HIV-infected individuals. On the other hand, respondents who had knowledge of the availability of ARVs in the country were less likely to stigmatize PLWHAs than those who were unaware of their availability (OR 0.29, 95%CI 0.16–0.52). In multivariate analysis using logistic regression, belief that the sharing of a drinking cup could transmit HIV infection (OR 2.50, 95%CI 1.52–4.11), and the lack of formal education (OR 2.94, 95%CI 1.38–6.27), were found to be significant independent predictors of the tendency to stigmatize PLWHAs. In contrast, respondents who were aware of the availability of ARVs were less likely to stigmatize PLWHAs (OR 0.40, 95%CI 0.22–0.73) (Table 1).

In univariate analysis, adolescents were more likely than adults to stigmatize people living with HIV/AIDS. This was, however, not statistically significant (OR 1.31, 95%CI 0.77–2.22). However, adolescents with no formal education were twice as likely to stigmatize people living with HIV/AIDS than adolescents with some formal education (OR 2.26, 95%CI 1.28–3.99) (not shown in table).

Some comments in the FGDs revealed the extent and forms of stigma:

It will be up to those who will be offering the VCT to make sure that everyone who tests positive finds his or her way out of this community. If this is not done, infected individuals will try to spread it to all community members. [Adult Female]

When we hear someone has AIDS and that person arrives here, we will all run away. AIDS is a frightening thing to our people. [Adult Female]

Don't even think about it. I will not share food or drinking cup with the infected person. I don't believe it when they say I cannot get infected through those means. I will make sure that I provide him/her with a separate cup or drinking water. [Adolescent Female]

Discussion

This study has a number of limitations. In being cross-sectional, direction of causality can only be considered suggestive. There is also a limit to which stigma-related responses can be considered true, or biased by foreknowledge of what, in the opinion of the respondent, would be an appropriate response. The latter is, however, not necessarily biasing if it directly correlates reduction in stigmatizing attitudes.

The findings of the study suggest that CBVCT that employs the use of lay counsellors may be acceptable and feasible to implement in this district. There is recognition among respondents of the potential that CBVCT could offer in terms of increased opportunities for people to know their HIV serostatus. Appearing even more exciting to respondents is the utility offered with the use of the rapid test kits, and thus the possibility of home-based testing. Considerable apprehensions, however, exist about the possible breaches in confidentiality with CBVCT and the use of native lay counsellors. There is therefore a challenge in designing a CBVCT programme that strategically employs lay counsellors as a means to improve VCT access, and at the same time safeguards the confidentiality of the process. In studies conducted in Zambia, Uganda and South Africa, community- and home-based services have been well accepted by the populations. Apprehensions about breaches in confidentiality were not actualized (Matovu *et al.*, 2001; Fylkesnes & Siziya, 2004; Wolff *et al.*, 2005).

However, given the extent of community apprehensions, lay counsellors need to be constantly reminded of the effect that confidentiality breaches can have on the integrity of CBVCT.

Although a high proportion of respondents wanted to know their HIV status, considerable variation existed in how individuals wished to fulfil this desire. This includes the options of lay counsellors versus health workers, older versus similar-age counsellors, and community-based versus facility-based services. In the face of the ever-dwindling number of health staff, the successful engagement of lay counsellors in CBVCT programmes in communities such as the Kassena-Nankana district, would give to HIV/AIDS programme managers in Ghana and the sub-region an additional approach to ensuring equity of VCT access. It is, however, important that CBVCT be considered as an add-on approach, i.e. run alongside facility services, since individuals would be motivated in diverse ways to prefer one option to another. The public health approach to broadening access to VCT should aim at creating as many opportunities for testing as possible (Wolff *et al.*, 2005). The existing paradigm that considers HIV counselling and testing the preserve of health workers is a one-model-fits-all approach that is clearly out of tune with the technology for HIV testing and the urgency of the epidemic. At the individual level, counsellors should explore thoroughly the social background of clients to assess how disclosure of HIV status for the purpose of accessing care could impact on individual risk of stigma and discrimination, i.e. a client-centred approach.

There is some evidence from FGD responses to suggest that the established model that makes counselling and testing inseparable imposes some limitations. Some would like to see lay counsellors as just counsellors and not users of the test kit. That way, one may choose to be counselled in the community by the lay counsellor but go to the health facility to get tested. For highly motivated and already counselled clients, the use of the test kits by themselves and in private should be an option, i.e. self-testing. The present state of technology in HIV testing makes such preference possible and intervention studies should explore effectiveness. It obviates the problem of breaches of confidentiality (Spielberg *et al.*, 2004).

In this study it was found that individuals with no formal education, and those who believed that sharing a drinking cup with an HIV-infected person could lead to transmission of HIV, were more likely to stigmatize PLWHAs. Similar findings were made in a study in Botswana (Letamo, 2003), underscoring the potential effect that lack of knowledge and misconceptions about the mode of HIV transmission could have on CBVCT promotion. It also highlights the apparent association between misconception about modes of HIV transmission and vulnerability to infection. Considered positively, however, the finding offers the possibility of designing focused interventions to reduce the level of stigma in the community (Parker & Aggleton, 2003). Participatory education programmes have been proposed (Castle, 2003) and suggestions from the FGDs to involve community opinion leaders in the promotion of CBVCT is worthy of consideration. Community groups should also be encouraged to develop appropriate HIV/AIDS folklore, drama and other such forms of entertainment that are likely to attract the less educated in society.

In Ghana, as in many other sub-Saharan African countries, the behaviours of the current cohort of adolescents will strongly influence the course of the HIV/AIDS

epidemic (Karim *et al.*, 2003). Adolescents therefore constitute an important target group for VCT programmes. By virtue of peer influence, adolescents are also very sensitive to stigma. Any tendency on the part of adolescents to stigmatize infected peers or others in the community will have the potential to adversely affect CBVCT programmes. The finding that adolescents with no formal education were more likely to be stigmatizing in their attitudes points to the need to target out-of-school youth with stigma-reduction interventions. It is important that CBVCT programmes provide youth-friendly options. Peer-counselling programmes should take into account the gender of counsellors as discussions in the FGDs pointed to some concerns in this regard.

The findings suggest considerable multiplicity in what could constitute barriers to VCT access. Clearly, geographical access is only one, which even when overcome through the use of lay counsellors, leaves others such as age, education, socio-economic status and the availability of rapid testing to be considered. Appearing to underpin all these, however, are the issues of fear of breaches in confidentiality, stigma and discrimination. Rural areas with smaller communities and lesser anonymity may be particularly prone to breaches of confidentiality, legitimately increasing fears and costs of stigmatization from a positive test (Hutchinson & Mahlalela, 2006). Some of the accounts in the FGDs demonstrate the dire forms that stigma and discrimination take in this district.

This study found an association between awareness of ARV availability and the lesser tendency to stigmatize PLWHAs. There perhaps may exist a synergistic relationship between access to ARVs and VCT. While increased availability of ARVs is likely to reduce stigma and promote access to VCT, increased access to VCT would also make possible early access to care, including ARVs. It thus appears that making ARVs available in the Kassena-Nankana district could be one strategic approach to reducing the stigma associated with the disease. Since this study was conducted, the national ARV roll-out programme, which used to be 800 km away, has come as close as 20 km and is soon to be instituted in the Kassena-Nankana district. It is hypothesized that, as the advantages of ARVs become obvious in communities such as the Kassena-Nankana district, a less stigmatized image of the disease would emerge, and demand for CBVCT would be sustained to make it the norm rather than exception.

A public health–community partnership is needed to tackle the problem of HIV-related stigma. It is assuring to note increasing evidence of the successful use of lay counsellors in CBVCT and care of PLWHAs, including the supervision of adherence to ARVs. Pilot projects in either of these regards have been undertaken with considerable success in Uganda (Wolf *et al.*, 2005), Zimbabwe (Shetty *et al.*, 2005; Weidle *et al.*, 2006), Malawi (Zachariah *et al.*, 2006) and Ghana (Akweongo, 2006).

Acknowledgments

The authors would like to acknowledge all respondents in the survey, the chiefs and people of the Kassena-Nankana district and colleague staff at the Navrongo Health Research Center, who contributed in diverse ways to the conduct of the survey

and the production of this manuscript. They also acknowledge the contribution of Dr Natasha Palmer for her invaluable comments on the draft proposal for the conduct of the survey and main trial. The study was funded with a grant from the Health Equity Program of the INDEPTH Network. The network played no role in the production of the manuscript and can take no responsibility for comments expressed in it.

References

- Akweongo, P.** (2006) Taking VCT to hard to reach areas: Does the use of community lay counsellors improve access? Presentation at the 6th *INDEPTH Network Annual General and Scientific Meeting*, Ouagadougou, Burkina Faso.
- Asamoah-Adu, C., Khonde, N., Avorkliah, M., Bekoe, V., Alary, M., Mondor, M., Frost, E., Deceunninck, G., Asamoah-Adu, A. & Pepin, J.** (2001) HIV infection among sex workers in Accra: need to target new recruits entering trade. *Journal of Acquired Immune Deficiency Syndrome* **28**, 358–366.
- Castle, S.** (2003) Doubting the existence of AIDS: a barrier to voluntary HIV testing and counseling in urban Mali. *Health Policy and Planning* **18**, 146–155.
- Cote, A. M., Sobela, F., Dzokoto, A., Nzambi, K., Asamoah-Adu, C., Labbe, A. C. et al.** (2004) Transactional sex is the driving force in the dynamics of HIV in Accra, Ghana. *AIDS* **18**, 917–925.
- Fylkesnes, K. & Siziya, S.** (2004) A randomized trial on acceptability of voluntary HIV counseling and testing. *Tropical Medicine and International Health* **9**, 566–572.
- GAC** (2000) *Ghana Strategic Framework for HIV/AIDS Control 2001–2005*. Ghana AIDS Commission, Accra, Ghana.
- Hutchinson, P. L. & Mahlalela, X.** (2006) Utilization of voluntary counselling and testing services in the Eastern Cape, South Africa. *AIDS Care* **18**, 446–455.
- ICRW** (2005) *Common at its Core: HIV-Related Stigma Across Contexts*. International Centers for Research on Women, Washington DC.
- Kalichman, S. C. & Simbayi, L.** (2004) Traditional beliefs about the cause of AIDS and AIDS-related stigma in South Africa. *AIDS Care* **16**, 572–580.
- Karim, A. M., Magnani, R. J., Morgan, G. T. & Bond, K. C.** (2003) Reproductive health risk and protective factors among unmarried youth in Ghana. *International Family Planning Perspective* **29**, 14–24.
- Letamo, G.** (2003) Prevalence of, and factors associated with HIV/AIDS-related stigma and discriminatory attitudes in Botswana. *Journal Health Population and Nutrition* **21**, 347–357.
- Matovu, J. B., Kigozi, G., Nalugoda, F., Wabwire-Mangen, F., & Gray, R. H.** (2001) The Rakai Project counseling programme experience. *Tropical Medicine and International Health* **7**, 1064–1067.
- NACP** (2004) *National HIV/AIDS Sentinel Survey Report*. National AIDS Control Program, Accra, Ghana.
- Parker, R. & Aggleton, P.** (2003) HIV and AIDS-related stigma and discrimination: a conceptual framework and implications for action. *Social Science and Medicine* **57**, 13–24.
- Shetty, A. K., Mhazo, M., Moyo, S., Von Lieven, A., Mateta, P., Katzenstein, D. A. et al.** (2005) The feasibility of voluntary counselling and HIV testing for pregnant women using community volunteers in Zimbabwe. *International Journal of STD and AIDS* **16**, 755–759.
- Spielberg, F., Branson, B. M., Goldbaum, G. M., Lockhart, D., Kurth, A., Rossini, A. & Wood, R. W.** (2004) Self-testing for HIV: a new option for HIV prevention? *Lancet of Infectious Diseases* **4**, 640–646.

- Sweat, M., Gregorich, S., Sangiwa, G., Furlonge, C., Balmer, D., Kamenga, C., Grinstead O. & Coates, T. (2000) Cost-effectiveness of voluntary HIV-1 counseling and testing in reducing sexual transmission of HIV-1 in Kenya and Tanzania. *Lancet* **356**, 113–121.
- UNAIDS (2001) *Report on the Global HIV/AIDS Epidemic*. Joint United Nations Program on AIDS, New York.
- Voluntary HIV-1 Counselling and Testing Efficacy Study Group (2000) Efficacy of voluntary HIV-1 counseling and testing in individuals and couples in Kenya, Tanzania and Trinidad: a randomized trial. *Lancet* **356**, 103–112.
- Weidle, P. J., Wamai, N., Solberg, P., Liechty, C., Sendagala, S., Were, W. *et al.* (2006) Adherence to antiretroviral therapy in a home-based AIDS care programme in rural Uganda. *Lancet* **368**, 1587–1594.
- Weinhardt, L. S., Carey, M. P., Johnson, B. T. & Bickham, N. L. (1999) Effects of HIV counseling and testing on sexual risk behavior: a meta-analytic review of published research, 1985–1997. *American Journal of Public Health* **89**, 1397–1405.
- Wolff, B., Nyanzi, B., Katongle, G., Ssesanga, D., Wari, A. R. & Whitworth, J. (2005) Evaluation of a home-based voluntary counseling and testing interventions in rural Uganda. *Health Policy and Planning* **20**, 109–116.
- Zachariah, R., Teck, R., Buhendwa, L., Fitzerland, M., Labana, S., Chinji, C., Humblet, P. & Harries, A. D. (2006) Community support is associated with better antiretroviral treatment outcomes in a resource-limited rural district in Malawi. *Transactions of the Royal Society of Tropical Medicine and Hygiene* doi:10.1016/j.trstmh.2006-05-010.