

HIV/AIDS, change in sexual behaviour and community attitudes in Uganda *



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Abstract

The spread of HIV/AIDS is mostly through sexual intercourse and is largely influenced by behaviour and attitude. Data based on a sample of 1797 households are used to study changes in sexual behaviour and attitudes towards sickness and death in Ugandan communities, which were due to the realization that too many deaths were occurring in the community. Positive behaviour and attitudes include willingness to use condoms and go for HIV tests. Reasons for willingness and reluctance to test for HIV status are discussed. Changes of behaviour and attitude are significantly related to age, sex, education, ethnic group and number of AIDS patients and deaths known to a respondent.

HIV/AIDS has been known now for almost two decades worldwide and Uganda was one of the first countries where AIDS patients were documented (USA Center for Disease Control 1981; Serwadda et al. 1985). Unfortunately in all this time, it has not been possible to develop a cure or a vaccine for the disease (Livingston 1992). Although some drugs have been said to reduce the virus load, and in some cases practically clear the blood of viral particles for some time, these are very expensive and unlikely to be available in the developing countries which have the majority of HIV/AIDS cases (*New Vision* 1996). The only hope of lessening the epidemic, therefore, lies with prevention of infection.

HIV is transmitted through blood and other body fluids, mainly sexual fluids and to a lesser extent breastmilk. Heterosexual spread alone accounts for about 71 per cent of the cases worldwide, homosexual interactions 15 per cent, medical injections and drug abuse 7 per cent, and blood transfusion 5 per cent (Goncalves 1994). The rest of the cases are from vertical transmission. Transmission through blood and blood products has already been addressed by providing screening facilities in most blood banks.

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Given that Uganda and other countries in sub-Saharan Africa fall under Pattern II of the epidemic in which transmission is primarily through sexual activity, prevention efforts

through health promotion and health education must be geared towards changing sexual behaviour and making it less risky (Livingston 1992). Patterns of sexual behaviour, such as partner selection and culturally determined sexual practices like 'dry sex' and refusal to use condoms are the primary determinants of the spread of HIV/AIDS in sub-Saharan Africa. Sexual mixing between high risk groups and the rest of the population, concurrent multiple partnerships, and lack of peer support for condom use are other risky practices that have been identified (National Research Council 1996). This has led some researchers to refer to AIDS as a sexual rather than medical problem (Carswell et al. 1986). It is not just the virus that is creating problems, but human beings also.

Behavioural change, however, is not easy to achieve. Several models have been used to explain behavioural change in relation to disease before and since the advent of HIV/AIDS. The development of most of these models has been based on experiences in the developed countries and may not apply in the developing countries with their different cultures and outlooks. However, some of the theories can be extended to HIV/AIDS in sub-Saharan Africa. Two of these which seem to be most applicable are the Health Belief Model, and the AIDS Risk Reduction Model (Lindan et al. 1991; Pollak 1992). The Health Belief Model assumes that the individual's attitude plays an important role in the prevention of a disease, especially his or her perception of susceptibility to the disease, seriousness of the disease, benefits of health action, and barriers to health action; and this attitude is modified by demographic and psychosociological factors (Pollak 1992). According to this model, sufficient knowledge of the disease is essential but not the only prerequisite to behaviour change. The AIDS Risk Reduction Model and some other models include some of the above factors like knowledge of disease transmission, belief in the severity of the disease, and perceived risk of becoming infected. They also include peer support for safer behaviour, self efficacy or belief in one's ability to avoid disease, and skills in communicating and enacting safer behaviour (Lindan et al. 1991; Livingston 1992).

Social and behavioural research is therefore needed to develop more effective and culturally acceptable preventive strategies (National Research Council 1996). This paper presents a study of attitudes of people in different districts of Uganda towards illness and death, and how the attitudes have been affected by the HIV/AIDS epidemic. Changes to less risky behaviour are also examined.

Method

The data used are from a multi-phase study entitled 'Evolution of household composition and family structure under conditions of high mortality in Uganda'. This study was carried out in three phases, the first being a review of ethnographic materials on the populations of six districts in Uganda: Hoima, Iganga, Kabale, Masaka, Mbale and Mbarara. These six districts are home to six large Ugandan ethnic groups, the Bagisu in Mbale, the Baganda in Masaka, the Basoga in Iganga, the Banyankore in Mbarara, the Bakiga in Kabale and the Banyoro in Hoima. In the first phase of the study information was collected from elders and young people through focus-group discussions and an individual elder's questionnaire was administered (Ntozi and Mukiza-Gapere 1995). The second phase was a baseline household survey in the same districts to document recent changes in family structure and household composition; it was conducted in 1992.

Phase 2 of the study used a structured questionnaire with eight sections. Information collected was on the background characteristics of the household; contribution of members to the welfare of their households; mortality since the household was formed; orphanhood and care-taking arrangements; migration and behaviour patterns of widows and widowers; current patient care in the household; attitude towards illness and death in the community; and

fertility. This paper presents and discusses the results of Phase 2 from the sections on background characteristics and attitudes towards death and illness in the community.

A mixture of purposive and random sampling was used to pick a total of 1797 households consisting of urban and rural samples. The smallest unit of local government, referred to as the Local Council One (LC1), which can be considered equivalent to a village, was used as the primary sampling unit. From each LC1, households which had experienced mortality since their formation were picked and surveyed. The head of the household was the respondent, and if the head was away, a responsible person in the household gave the information.

Interviews were carried out by trained interviewers from Makerere University. Subsequently, data were entered using Epi info version 5.1, at the Institute of Statistics and Applied Economics, Makerere University, and SPSS PC was used for data processing and analysis.

Results

The distribution of respondents by socio-demographic variables is shown in Table 1. The majority of respondents were males (1158) as these are most likely to be the household heads. There were few respondents (1.5%) below 20 years. Above 20 years the respondents were fairly evenly distributed across the age groups with a high percentage (29.3%) above 60 years. Of the respondents 28.6 per cent had never received any formal education, and 21 per cent had received post-primary education. The six ethnic groups of Bagisu, Basoga, Baganda, Banyankore, Bakiga and Banyoro are fairly evenly distributed in the sample, as are the six districts. A look at occupation shows that the majority of the respondents (63%) are subsistence farmers with the rest distributed among several jobs including technicians and manual labourers (12.6%), traders and businessmen and women (11.2%), and formal employees (8.1%).

Table 2 shows that all the respondents had known someone who had died of AIDS, and also at present knew at least one person sick with AIDS. Respondents were also asked what they felt about death and how different this was from what they had felt three years previously. Most of the respondents said they felt sad (52.3%), 35.6 per cent felt too many people were dying while 12.1 per cent felt death was normal. At the time of the study 85.6 per cent felt differently about death, compared to three years previously. In response to a question on whether they had noted any changes in people's behaviour which could be attributed to the AIDS epidemic, 50.7 per cent of the respondents said they had noted great change, 22.5 per cent had noted some change, and 26.8 per cent reported they had noticed no changes. Another question posed was whether the respondent would be willing to have an HIV test if facilities were made available. Most (78.7%) replied that they would be willing to go for the test. Reasons for having or not having the test varied, with almost three-quarters wanting to ascertain their status and plan accordingly, and others saying knowing their status was not useful and would only make them worry if found HIV-positive (11.7%). A small proportion (7.8%) said they saw no need to test for HIV as they knew they were not infected. The remaining 6.1 per cent gave a variety of answers that could not be shown individually.

Table 1
Socio-demographic characteristics of respondents

Variable	N	%
Sex		
Male	1158	65.8

Female	603	34.2
Age		
<20	26	1.5
20-29	190	10.9
30-39	361	20.6
40-49	324	18.5
50-59	336	19.2
60+	512	29.3
Level of education		
None	501	28.6
Primary	883	50.4
Secondary	310	17.7
Post-secondary	58	3.3
Ethnic group		
Bagisu	271	15.1
Basoga	286	16.0
Baganda	296	16.5
Banyankore	230	12.9
Bakiga	273	15.3
Banyoro	300	16.8
Others	133	7.4
Occupation		
Subsistence farmers	1127	63.0
Technical-manual	225	12.6
Formal employment	145	8.1
Trading-business	200	11.2
Others	92	5.1
District		
Mbale	317	17.7
Iganga	311	17.4
Masaka	293	16.4
Mbarara	273	15.3
Kabale	282	15.8
Hoima	313	17.5

Table 2
Attitudes and behaviour change (N=1789)

Variable	%
Feel about death	
Normal	12.1
Sad-bad	52.3
Too many people are dying	35.6
Is this different from what you felt three years ago?	
Yes	85.6

No	14.4
Why is it different?	
Too much death	82.8
Normal to die	15.0
Worried	2.1
People you know who have died of AIDS	
1-5	35.1
6-10	57.5
11-15	7.0
16-20	9.8
21+	20.6
People you know sick with AIDS	
1-5	63.9
6-10	16.3
11-15	2.3
16-20	3.2
21+	14.3
Changes in behaviour you have noticed due to AIDS	
Great change	50.7
Some change	22.5
No change	26.8
Would you be willing to go for an HIV test?	
Yes	78.7
No	21.3
Reason for testing or not	
Ascertain HIV status	74.5
Results cause worry	11.7
Do not have HIV	7.8
Others	6.1

Tables 3-8 present the results of bivariate analysis of the respondents' attitudes towards illness, death and HIV/AIDS by their socio-demographic characteristics. Table 3 shows that sex, highest level of education attained, and ethnic group of the respondent were significantly associated with the attitude towards death ($p=.025$, $.015$, $.000$ respectively). Having known someone sick or dead of AIDS ($p=.001$, and $.005$) was also significantly associated with the respondent's attitude towards death. The age of the respondent ($p=.068$), and the occupation (not shown on table) were not significantly associated with attitude towards death. Occupation was not significantly associated with any of the attitudes or changes in behaviour, and is not subsequently referred to. Females, the better educated, and Baganda and Banyoro tended to have the attitude that the situation was bad and that too many people were dying. The attitude towards death tended to desperation as the number of people known sick or dead of AIDS increased.

Table 3
Differentials in attitude towards death by socio-demographic characteristics (N=1789)

Variable	Attitude (%)			(p)df
	Normal	Sad-bad	Too many people die	
Sex				

Male	13.4	52.5	34.1	(.025) ₂
Female	9.4	52.3	38.4	
Age				
<20	7.7	65.4	26.9	(.068) ₁₀
20-29	13.3	58.5	28.2	
30-39	13.7	54.6	31.7	
40-49	13.4	48.4	38.2	
50-59	9.0	53.9	37.0	
60+	11.8	48.7	39.4	
Education				
None	11.7	48.6	39.7	(.015) ₆
Primary	11.4	53.4	35.2	
Secondary	12.8	57.7	29.5	
Post-secondary	20.7	37.9	41.4	
Ethnicity				
Bagisu	18.3	39.9	41.8	(.000) ₁₂
Basoga	12.4	68.8	18.8	
Baganda	5.8	60.4	33.8	
Banyankore	15.3	47.6	37.1	
Bakiga	14.8	13.3	71.9	
Banyoro	6.0	78.6	15.4	
Others	16.0	51.9	32.1	
People known sick with AIDS				
1-5	13.9	50.3	35.8	(.001) ₈
6-10	16.4	57.9	25.7	
11-15	8.3	45.8	45.8	
16-20	2.9	50.0	47.1	
21+	5.3	65.6	29.1	
People known dead of AIDS				
1-5	12.4	53.9	33.8	(.005)
6-10	13.4	45.3	41.2	
11-15	16.2	42.3	41.4	
16-20	12.3	51.6	36.1	
21+	9.4	59.9	30.7	

Table 4 shows differentials in change of attitude towards death by socio-demographic characteristics. The majority of the respondents believed that a change of attitude towards death had taken place and some variables still showed significant association. These were sex and ethnicity ($p=.025$, $.000$ respectively). The males, Baganda and Bagisu reported more than others that there had been a change.

Table 4
Differentials in change of attitude towards death by socio-demographic characteristics (N=1789).

Variable	Has there been a change of attitude? (%)		(p) _{df}
	Yes	No	
Sex			
Male	86.9	13.1	(.025) ₁
Female	82.9	17.1	

Age			
<20	80.8	19.2	(.264) ₅
20-29	87.4	12.6	
30-39	87.0	13.0	
40-49	84.6	15.4	
50-59	88.7	11.3	
60+	83.4	16.6	
Education			
None	82.4	17.6	(.094) ₃
Primary	86.5	13.5	
Secondary	86.5	13.5	
Post-secondary	91.4	8.6	
Ethnicity			
Bagisu	95.6	4.4	(.000) ₆
Basoga	82.9	17.1	
Baganda	92.2	7.8	
Banyankore	85.2	14.8	
Bakiga	83.9	16.1	
Banyoro	75.7	24.3	
Others	82.7	17.3	
People known sick with AIDS			
1-5	87.6	12.4	(.443) ₄
6-10	90.8	9.2	
11-15	79.2	20.8	
16-20	88.2	11.8	
21+	90.1	9.9	
People known dead of AIDS			
1-5	86.0	14.0	(.790) ₄
6-10	86.2	13.8	
11-15	86.7	13.3	
16-20	87.3	12.7	
21+	88.8	11.2	

Reason for change of attitude was cross-tabulated against socio-demographic characteristics as seen in Table 5. Ethnicity was the only variable which showed significant association($p=.002$). The Banyankore, and the respondents from the various unspecified

Table 5
Differentials in reason for change of attitude towards death by socio-demographic characteristics (N-1789).

Variable	Reason for change of attitude (%)			(p) _{df}
	Worried	Normal	Too much death	
Sex				
Male	1.9	14.5	83.6	(.797) ₂
Female	2.2	15.4	82.4	
Age				
<20	7.7	15.4	76.9	(.060) ₁₀
20-29	0.5	17.9	81.6	

30-39	3.4	17.6	79.0	
40-49	1.6	13.2	85.2	
50-59	2.1	14.8	83.1	
60+	1.4	12.8	85.8	
Education				
None	1.6	16.3	82.1	(.078) ₆
Primary	1.8	13.8	84.3	
Secondary	2.6	13.3	85.1	
Post-secondary	5.4	25.0	69.6	
Ethnicity				
Bagisu	3.4	14.9	81.7	(.002) ₁₂
Basoga	2.1	17.7	80.1	
Baganda	2.4	11.5	86.1	
Banyankore	3.1	18.9	78.0	
Bakiga	0.4	16.0	83.6	
Banyoro	0.3	10.7	88.9	
Others	5.3	18.2	76.5	
People known sick with AIDS				
1-5	1.3	15.5	83.2	(.112) ₈
6-10	2.3	19.8	77.9	
11-15	0.0	25.0	75.0	
16-20	2.9	5.9	91.2	
21+	4.0	11.9	84.1	
People known dead of AIDS				
1-5	1.6	15.7	82.7	(.290) ₈
6-10	2.3	15.8	81.9	
11-15	1.8	17.0	81.3	
16-20	2.6	14.7	82.7	
21+	3.3	10.0	86.7	

groups referred to as 'others', answered that death was normal more than respondents from other ethnic groups. There was no significant association between numbers known to be sick or dead of AIDS and the degree of alarm about too many deaths.

The answers to a question on whether people had abandoned their risky sexual behaviour in response to a lot of deaths in the community are in Table 6. It was reported by at least 45 per cent of the respondents that there was great change for the better. However

Table 6
Differentials in change of behaviour noted by socio-demographic characteristics (N-1789)

Variable	Change of behaviour noted (%)			(p) _{df}
	Great	Some	None	
Sex				
Male	53.7	21.5	24.8	(.004) ₂
Female	45.3	24.1	30.6	
Age				
<20	50.0	26.9	23.1	(.510) ₁₀
20-29	55.1	21.3	23.6	
30-39	54.7	19.2	26.2	
40-49	50.5	22.7	26.8	

50-59	53.1	21.7	25.2	
60+	46.2	25.1	28.7	
Education				
None	45.8	24.0	30.1	(.005) ₆
Primary	50.6	22.3	27.0	
Secondary	57.8	18.6	23.6	
Post-secondary	62.3	28.3	9.4	
Ethnicity				
Bagisu	66.8	16.8	16.4	(.000) ₁₂
Basoga	49.8	27.1	23.1	
Baganda	47.9	31.3	20.8	
Banyankore	47.5	17.5	35.0	
Bakiga	50.0	25.7	24.3	
Banyoro	43.1	12.7	44.2	
Others	49.6	28.7	21.7	
People known sick with AIDS				
1-5	51.9	22.4	25.7	(.202) ₈
6-10	52.7	23.1	24.3	
11-15	58.3	20.8	20.8	
16-20	51.5	18.2	30.3	
21+	52.8	26.4	20.8	
People known dead of AIDS				
1-5	53.0	19.7	27.3	(.925) ₈
6-10	53.6	22.0	24.4	
11-15	45.5	28.2	26.4	
16-20	50.7	22.4	27.0	
21+	47.6	28.1	24.3	

about a quarter of the respondents believed that no changes in sexual behaviour had recently occurred. The reports vary significantly with sex, education and the ethnic group of the respondent. Again there was no significant association between the number of people known by the respondent to be sick or dead from AIDS, and change of behaviour noted.

Table 7
Differentials in willingness to go for HIV testing by socio-demographic characteristics (N=1789)

Variable	Willing to go for test (%)		(p) _{df}
	Yes	No	
Sex			
Male	82.3	17.7	(.000) ₁
Female	71.3	28.7	
Age			
<20	73.1	26.9	(.000) ₅
20-29	84.7	15.3	
30-39	85.3	14.7	
40-49	80.6	19.4	
50-59	79.2	20.8	
60+	70.8	29.2	
Education			
None	70.9	29.1	(.000) ₃

Primary	82.4	17.6	
Secondary	78.7	21.3	
Post-secondary	86.2	13.8	
Ethnicity			
Bagisu	86.3	13.7	(.000) ₆
Basoga	83.6	16.4	
Baganda	69.9	30.1	
Banyankore	82.1	17.9	
Bakiga	65.9	34.1	
Banyoro	80.7	19.3	
Others	88.7	11.3	
People known sick with AIDS			
1-5	82.1	17.9	(.606) ₄
6-10	79.8	20.2	
11-15	79.2	20.8	
16-20	73.5	26.5	
21+	84.1	15.9	
People known dead of AIDS			
1-5	80.1	19.9	(.205) ₄
6-10	82.8	17.2	
11-15	80.5	19.5	
16-20	78.3	21.7	
21+	75.8	24.2	

The sex, age, level of education and ethnic group of the respondents were found to be significantly associated with whether they were willing to go for an HIV test (Table 7). Male respondents ($p=.000$), those aged between 20 and 49 years ($p=.000$), and the relatively well educated ($p=.000$), were more willing than other categories to have an HIV test. Baganda and Bakiga were significantly less agreeable to an HIV test than the other ethnic groups. The number of people known sick or dead of AIDS was not significantly associated with willingness to take the test.

Differentials were also computed by reasons for refusing or agreeing to go for an HIV test by socio-demographic characteristics. Sex, age, level of education, ethnic group and number of people known by the respondent who had died of AIDS were found to be significantly associated with the reason to have or not to have the test. More male respondents were willing to test to ascertain their HIV status (78.2% males, 66.8% females) whereas more females thought testing would only cause them worries (13.9% females, 10.7% males) and that they did not have HIV (11.4 %, 6.0%). The elderly (above 49 years) were less likely to say that results would worry them, but more of them thought they were unlikely to have HIV. The more educated were willing to ascertain their HIV status, but they were more apprehensive of the results than others. Basoga, Banyankore, Bagisu and Basoga wanted to ascertain their status more than other groups. Those who knew more than 15 people who had died of AIDS were less willing to know their HIV status, and said they did not have HIV.

The three attitude-behavioural variables — why there was a different attitude towards death now compared to three years previously, whether a respondent would be willing to go for an HIV test, and the reason for having or not having the test — were not significantly related to any of the socio-demographic characteristics at this level.

The attitude of the respondent towards death at the time of the study, and the changes in behaviour noted by the respondent were significantly related to some of the socio-demographic characteristics of the respondent.

The number of people known sick with AIDS was significantly associated with the attitude of the respondent at second-order level. At third-order level, several combinations were significantly related with the attitude of the respondent: ethnic group and sex of the respondent; the age and highest level of education attained; level of education and sex of the respondent; sex of the respondent and the number of people known to the respondent who had died of AIDS; the number of people known to the respondent who had died and those known to be sick with AIDS. There is no clear trend or specific socio-demographic characteristic that seems to particularly influence the attitude of the respondent more than the rest.

Regarding the change of behaviour noted by the respondents as a variable, ethnic group, age and level of education are separately significantly related to it at the second-order level. At third-order level, the variable is significantly related to a combination of ethnic group with age, level of education, number of people the respondent knew who had died of AIDS, and number of AIDS patients known by the respondent. Other combinations of variables significantly related to change of behaviour noted are age with sex, sex with number of people known dead of AIDS, and education with the number of people known who had died of AIDS.

Table 8
Differentials in reason for HIV test by socio-demographic characteristics (N=1789)

Variable	Reason for HIV test (%)				(p)df
	Ascertain HIV status	Results cause worry	Do not have HIV	Other reason	
Sex					
Male	78.2	10.7	6.0	5.1	(.000) ₃
Female	66.8	13.9	11.4	7.9	
Age					
<20	73.1	15.4	11.5	0.0	(.000) ₁₅
20-29	83.0	12.2	3.2	1.6	
30-39	81.2	13.9	1.9	3.0	
40-49	75.9	14.7	5.6	3.8	
50-59	74.8	9.3	11.7	4.2	
60+	65.9	9.8	11.8	12.5	
Education					
None	65.8	12.5	11.9	9.9	(.000) ₉
Primary	78.8	9.8	7.0	4.5	
Secondary	74.8	14.9	5.2	5.2	
Post-secondary	79.3	17.2	1.7	1.7	
Ethnicity					
Bagisu	79.0	15.4	2.2	3.4	(.000) ₁₈
Basoga	80.2	12.7	3.9	3.2	
Baganda	66.2	15.9	13.9	4.1	
Banyankore	79.8	9.2	7.9	3.1	
Bakiga	61.5	11.9	13.3	13.3	

Banyoro	79.0	5.3	6.7	9.0	
Others	78.2	11.3	4.5	6.0	
People known sick with AIDS					
1-5	75.5	14.0	6.2	4.3	(.805) ₁₂
6-10	78.0	9.8	8.1	4.0	
11-15	79.2	8.3	8.3	4.2	
16-20	75.8	15.2	9.1	0.0	
21+	73.3	14.0	10.0	2.7	
People known dead of AIDS					
1-5	76.7	10.8	5.9	6.6	(.052) ₁₂
6-10	76.7	13.0	7.3	3.0	
11-15	77.0	8.0	6.2	8.8	
16-20	72.0	12.7	9.6	5.7	
21+	72.6	13.1	10.4	4.0	

Multivariate analysis was carried out using a hierarchical log-linear model. This model was preferred to others because of the categorical nature of the data, and some of the dependent variables had more than two categories. The results of the model showing significant associations are in Table 9.

Table 9
Results of multivariate analysis (hierarchical log-linear)- significant tests of partial associations with change of attitude towards death and change of risky behaviour

Variable combination	DF	Partial Chi ²	Prob	Iter
Change of attitude towards death				
Attitude with Ethnic group with Sex	4	13.124	.0107	18
Attitude with Age with Education	30	46.089	.0305	17
Attitude with Education with Sex	6	19.900	.0029	16
Attitude with Sex with Known dead of AIDS	12	27.163	.0073	13
Attitude with Known dead of AIDS with Known sick with AIDS	8	16.139	.0404	19
Attitude with Known sick with AIDS	4	12.100	.0166	7
Change of risky behaviour				
Change noted with Ethnic group with Age	20	33.800	.0275	19
Change noted with Age with Sex	10	18.537	.0466	20
Change noted with Ethnic group with Education	12	34.543	.0006	20
Change noted with Ethnic group with Known dead of AIDS	8	40.226	.0000	12
Change noted with Education with Known dead of AIDS	4	16.957	.0020	20
Change noted with Sex with Known dead of AIDS	12	23.141	.0266	20
Change noted with Ethnic group with Known sick with AIDS	8	26.185	.0010	19

Change noted with Ethnic group	4	14.844	.0050	6
Change noted with Education	6	13.441	.0365	7
Change noted with Age	10	19.445	.0350	6

Discussion

The study of the respondents, who are predominantly male subsistence farmers with little education, gave some remarkable findings. It is notable that in this study all the respondents knew someone sick with AIDS and had known at least one person who had died of AIDS. This implies high rates of AIDS prevalence in the study areas and generally in the Ugandan population. Secondly the findings are a reflection of the high levels of awareness of the disease, which coupled with the government's dedication to a policy of openness about HIV/AIDS, has encouraged a free flow of sufficient information about HIV/AIDS to Ugandans. High levels of information on HIV/AIDS have been documented by several researchers in Uganda including Konde-Lule, Musagara and Musgrave (1993), who reported that in focus-group discussions in Rakai district, most respondents had good knowledge of AIDS transmission, symptoms and prevention. However, high levels of knowledge did not initially induce a proportionate increase in behaviour change (Anderson et al. 1990; Muller et al. 1992; Bagarukayo et al. 1993:4-7). The underreaction of the public towards the dangers of HIV/AIDS has also been observed in other African countries (Lindan et al. 1991; Caldwell, Orubuloye and Caldwell 1992; Muller et al. 1992; Scott and Mercer 1994).

Nevertheless, according to the results presented above, it seems that a change in attitude is beginning to emerge and perhaps leading to behaviour change. This is supported by the decrease in prevalence rates as noted by the Ugandan Ministry of Health in these areas (STD/ACP 1996). The apparent attitude and behavioural change may be due to the frequent exposure of the community to AIDS patients and appreciation of the suffering of the patients and that of their families (Konde-Lule and Sebina 1994). Such a reaction is consistent with some of the theories mentioned above. The theories include one by Reboulot (1992), that it is when the individual has been exposed to a patient of HIV/AIDS that prevention seeking behaviour will start to take place. A related theory is that when the family, extended or nuclear, and friends have gone through the financial and psychological pressures of watching a loved one battle with the incurable disease, then the disease is no longer a myth, but a reality (Hassig et al. 1990; Muller and Abbas 1990; Seeley, Kengeya-Kayondo and Mulder 1992). Health education interventions in Kenya, Zimbabwe and Uganda based on this hypothesis have helped to create considerable awareness in the public (Manasy 1990 a,b). The narration of an AIDS patient's experience by the famous Ugandan musician Philly Lutaaya in order to educate the Ugandan public was based on this hypothesis.

It is evident from Tables 2 and 3 that all the respondents knew of someone sick with AIDS, and had known someone who died of AIDS. Many of them, irrespective of age, sex, education and ethnicity, felt sad about the deaths and considered the number of people dying to be too high. The more people known to be sick or dead of AIDS, the more sad and alarmed were the respondents. Consequently Table 4 shows that regardless of socio-demographic characteristics, most respondents had noticed attitude change in the community towards death. The reason for the change of attitude was the realization that too many deaths were occurring in the community.

Furthermore the findings in Table 5 reflect some element of peer promotion efforts. In the populations where a lot of AIDS deaths and suffering have been witnessed, for a male to have many sexual partners no longer brings prestige or makes him look tough and manly (Hawkins 1992). Keeping faithful to your spouse in order to keep your family free of the disease is becoming increasingly praiseworthy. In the focus-group discussions in Rakai district, it was

noted that the youths and barmaids were willing to use condoms in future sexual encounters in order to prevent HIV infection (Konde-Lule et al. 1993). This can easily start new ways of doing things which are acceptable to peers.

Table 6 shows that the respondents had noticed a change of behaviour in the society. Over 70 per cent of the respondents reported some or great change of behaviour. The males and the educated believed more strongly than others that there was change of behaviour, perhaps because they are better informed. However, there are no significant variations in reporting change of behaviour by numbers of AIDS patients and deaths known by respondent.

Another positive development is the high proportion of the respondents who said they would be willing to have HIV tests if facilitated. It has been reported that individuals who are willing to go for HIV tests tend to change to less risky behaviour relating to acquisition of HIV (Muller et al. 1992). This could also be taken as an indication that the population is ready for behaviour change to prevent HIV/AIDS.

There was variation, however, in willingness to test for HIV. Table 8 shows that the males, the educated, Bagisu, Basoga, Banyankore and Banyoro are more willing to go for HIV tests than other groups in the study. While those willing to test wanted to ascertain their HIV status, the unwilling respondents feared being worried by the results of the test.

About 12 per cent of the respondents reported that they would not take the test because being found positive would worry them since the disease is not curable. The individuals in this case, and some communities and governments, believe the situation is hopeless and wait for fate to take its course (Ankrah 1991; Caldwell et al. 1992). More females than males have this attitude, with the argument that even if they are faithful, their husbands who in most cases have other partners, will infect them. Similarly the men in some focus-group discussions have complained that their wives could infect them even if the men were faithful. This implies cases of irresponsible behaviour, as spouses do not trust each other thus preventing initiation of behaviour changes (McGrath et al. 1992; Konde-Lule et al. 1993).

Another observation is that some of the respondents thought they were not at risk. Table 8 shows that about eight per cent of the respondents said that they did not want to go for HIV tests because they did not have HIV. It is important to note that most of this group were in age groups below 20 and above 50. Those who were over 50 could have been sexually inactive with slight chance of being HIV-infected. However, given that adolescents are highly sexually active, those below 20 years did not understand the implication of their responses or deliberately gave false responses. Either response makes this young group a continual source of infection for the rest of the community, as they have poor risk-assessment. Unfortunately, a similar attitude was reported in a study in south-west Uganda, where only 1.3 per cent of respondents answered that they saw AIDS as a risk to themselves, 3 per cent thought it was a risk to their community, and 53 per cent said it was a risk to Uganda as a whole (Anderson et al. 1990; Overby and Kegeles 1994).

It is important to note that over 70 per cent of the respondents, all of whom were aware of the AIDS epidemic, were willing to go for HIV testing to know their serostatus. This is a bold decision signifying a major change of attitude. Perhaps those willing to test want to seek early treatment if found seropositive and to stop infection of their partners. Such an attitude would be positive to public health.

Remarkable findings relate to the variations of the attitudes and changes in behaviour by ethnic group and level of education. Bivariate analysis shows that educated respondents had experienced significantly more changes in attitudes and behaviour than the less educated. Also the better educated tended to be more explicit in stating reasons for changes taking place, which is consistent with other studies showing that the educated tend to be better informed about HIV/AIDS and therefore more likely to change and have a more tolerant attitude towards AIDS patients (Anderson et al. 1990).

In the hierarchical log-linear model, change of attitude towards death is significantly related to a combination of variables including age, sex, education, ethnic group and number of AIDS patients and deaths known to the respondent. Sex appears in the combination of significant variables more frequently than others implying that it is perhaps the most important variable. This observation confirms the bivariate analysis results. The next most frequent variables are level of education and the number of people known to have died of AIDS.

Regarding the results of hierarchical log-linear analysis about the change of behaviour in the community, the significantly related variables were age, sex, education, ethnic group and number of known AIDS patients and deaths. Ethnic group interacts with all other variables together with change of behaviour, implying that it is the most important determinant of change of behaviour. The finding which is consistent with the results of bivariate analysis may be related to the cultural and sexual practices specific to the ethnic groups which are undergoing change at different speeds. For instance while the sexual practice of Banyankore men sharing wives may be disappearing, the Bagisu circumcision ceremonies (*Imbalu*) are not decreasing. It is also possible that the ethnic variations are due to the level of exposure to the suffering of persons with AIDS in each ethnic group.

Not surprising is the result that the number of AIDS deaths known to a respondent may be influencing the change of behaviour. This observation agrees with the hypothesis that human beings need the rude shock of many deaths in order to awaken their senses and change their behaviour (Reboulot 1992).

As in bivariate analysis, the multivariate model shows that sex and education influence change of behaviour in the era of AIDS. This is perhaps because the males and the educated have more access to information that enables them to change their behaviour before females and the uneducated do so.

Furthermore age is showed by Table 9 to be influencing change of behaviour at the second and third-order levels. From the bivariate analysis (Table 6), great change is mostly taking place in the age groups of 20-39 years which are most affected by the disease. This result again is most probably due to the impact of the rude shock on those most affected, forcing them to change their behaviour.

Conclusions and recommendations

Though the progress towards change of attitude and behaviour has been slow, it seems to be in the right direction. This study has indicated some change towards positive attitudes and behaviour in different areas of Uganda and across the various groups in the sample. However, it has been said that maintenance of safer sex strategies once initiated can be more difficult (Ekstrand 1992). This is even more difficult in the case of HIV/AIDS as results of 'good behaviour' may not be immediately evident.

Some recommendations therefore can be made. Efforts towards effective information, education and communication about HIV/AIDS should continue and should be through different channels such as radio, television, newspapers, peer groups and drama so as to capture different audiences. People with AIDS should be facilitated to tell more people about their experiences with AIDS. Local communities should also be encouraged to participate in preparing and delivering the educational materials. Males should be encouraged to change their attitudes towards multiple sex partners. Communication between the sexes and particularly between spouses should be promoted so as to decrease misunderstanding and misinformation. Enhancing the status of women remains a big challenge to HIV/AIDS program managers because a large number of women still cannot afford to say 'no' to sex offers.

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