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HIV/AIDS Education: What African Youth Say is Effective

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ABSTRACT

This study on HIV/AIDS-education programs was conducted with the Uganda Ministry of Education and Sports in a national sample of 76 secondary schools in Uganda. Participants included secondary students (N = 883) who critiqued their formal and informal school curricula and offered youth perspectives regarding what teaching mediums and programs of HIV/AIDS prevention are most effective. Results indicated that HIV/AIDS education is not taught in their respective school curricula. Students report on informal ways that are helpful in learning about AIDS, recommend changes to their school's curriculum, and report that reactions from various groups in their lives to HIV/AIDS education in their school would be positive. This study provides students, parents of students, educators, social workers, and policymakers with insights on how to better develop, update, and improve HIV/AIDS programs.

After two decades of HIV and AIDS in sub-Saharan Africa (SSA), communities are striving for ways to overcome the impact of HIV/AIDS on families. Education systems in many countries have become a primary medium for combating this epidemic. Efforts on all fronts are necessary to prepare children for an oftentimes daunting future. Partnership and communication on the part of all involved in the local social environment are necessary to comprehensively fight the AIDS pandemic (Ford, Odallo, & Chorlton, 2003). More than 11 million children in SSA have lost one or both parents to HIV/AIDS, and more than 34 million have been orphaned due to all causes including AIDS, war, and poverty (UNAIDS/UNICEF/USAID, 2004). The extended family traditionally took in orphans in Africa and still provides for more than 90% of orphaned children (UNICEF, 2003), but with the death of so many adults, the extended family system is overburdened (Bhargava & Bigombe, 2003; Foster, 2000). Teachers, school counselors, and dormitory parents often take on quasi-parental roles in terms of building character, advocating values, and providing sex education.

Ministries of education and community-based programs struggle to find the most effective ways to integrate HIV/AIDS-prevention strategies in their respective programs. Obstacles to this integration include a lack of resources; untrained and under qualified community workers, school counselors, and teachers; diverse ethnic groups within each country; cultural barriers; religious differences; stigma and discrimination; and a lack of sufficient HIV/AIDS knowledge (Bennell, Hyde, & Swainson, 2002; Farmer, 2003; Kelly, 2000; Mannah, 2002; Nsubuga & Jacob, 2006; Obbo, 1995; Olson & Wilkins, 2006). Even if

government leaders are aware of effective HIV/AIDS-prevention strategies, limited national resources often make implementation of the knowledge, strategies, and program recommendations improbable or at best a long-term process.

Another obstacle to the implementation of effective education programs throughout SSA is the limited research on HIV/AIDS-education and -prevention programs. Evaluations of current programs and efforts are necessary to successfully develop and implement HIV/AIDS-education programs in various national and regional contexts. Not only must programs be sensitive to the cultural differences that exist between SSA countries, practices need to be regionalized within each nation based on societal norms, ethnic groups, languages, and religions. Although several studies have been conducted evaluating education programs in SSA (Blanc, 2000; Evian, Ijsselmuiden, Padayachee, & Hurwitz, 1990; Fawole, Asuzu, Oduntan, & Brieger, 1999; Fitzgerald et al., 1999; Fylkesnes et al., 1997; Hargreaves & Glynn, 2002; Harvey, Stuart, & Swan, 2000; Kilian et al., 1999; Klepp, Ndeki, Leshabari, Hannan, & Lyimo, 1997; Klepp et al., 1994; Kuhn, Steinberg, & Mathews, 1994; Visser, 1996), little exists on evaluating the effectiveness and impact of national curricula at the primary and secondary levels (Barnett, de Koning, & Francis, 1995; Kelly, 2001; Mirembe, 2002). Furthermore, nothing evaluates the response of schools to HIV/AIDS. As part of an ongoing study with the Uganda Ministry of Education and Sports (MOES, 2002), this study helps fill this research void by examining the national HIV/AIDS-education curriculum in Ugandan secondary schools.

In this article, we focus on responses from youth regarding (1) ways to help them learn about HIV/AIDS, (2) reactions of various groups (such as parents and the community) to HIV/AIDS education, and (3) recommended changes to current efforts being made by the student's schools. Findings from Ugandan youth suggest that there are many needs to be met by families, schools, and communities have an important role in supporting the next generation and stopping HIV/AIDS.

Background

Sub-Saharan Africa is plagued with 64.5% of the estimated HIV infection cases worldwide (UNAIDS/WHO, 2004), and the AIDS epidemic impacts individuals in every nation, community, and family. Though projections throughout much of this region are bleak, two national success stories have surfaced. Uganda and Senegal are recognized not only for curbing the epidemic but reversing the overall infection rates of their adult populations (Jacob, Smith, Hite, & Cheng, 2004). Although sexual behavioral changes have been documented as essential in reversing the infection rate in Uganda (UNAIDS, 1998), other social determinants, including the impact of education, have been less substantiated.

Several studies suggest that one important medium for helping students learn about HIV/AIDS is the school system (Hyde, Ekatan, Kiage, & Barasa, 2002; Jacob, Morisky, Hite, & Nsubuga, 2006; Kelly, 2000). Yet questions remain as to other factors that have contributed to Uganda's declining AIDS prevalence (Macintyre, Brown, & Sosler, 2001). Uganda's Ministry of Education and Sports has set broad national guidelines that encourage schools to prepare youth with knowledge and values sensitive to their cultural background and religious beliefs, as well as career-oriented skills. The role schools play as agents of educating children and youth in SSA about sexual relationships and sexually transmitted disease (STD) prevention is astounding. As a result of the universal primary education (UPE) movement, which was implemented by the Ugandan government in 1997, most children attend primary school.

Another important aspect of helping students learn about HIV/AIDS consists of community-based education programs. Many organizations in Uganda bring HIV/AIDS education to children, parents, and families. For example, an organization called PLAN and the Ministry of Health trained 200 informal counseling assistants to support orphans and their families (Oktech, 2004). The Uganda AIDS Control Project funds community-based programs nationwide, but it has found that intended education support has not been received uniformly (Valadez, Kaweesa, & Mukaire, 2004).

Family support and informal education at home is another critical element in the success of a child's life (Fischer, 2003). However, the role of educating children regarding sex and other sensitive issues is often performed by extended family members and others such as schoolteachers and counselors. Some SSA cultures advocate talking to a nonparental adult (such as a paternal aunt) about sex. Many extended family parental figures are not educated regarding modes of HIV/AIDS transmission, and parents may view discussing such topics with children as taboo. Children in SSA face particular challenges, because many have lost parents to disease and may not have the parental attention and support that was available to children in the past. One in four households in Uganda foster at least one orphan (Ministry of Gender, Labour and Social Development, 2004). Additionally, many children live with parents or guardians who are HIV positive, which may introduce chronic sorrow, stress, stigma, and difficulty for infected adults (Antle, Wells, Goldie, DeMatteo, & King, 2001). Women face depression and grief, have difficulty telling their children that they are HIV positive, and are concerned about the future guardianship of their children (Faithful, 1997). Additionally, many Ugandan schools are boarding schools where students reside for 10 months out of the year. Thus the traditional mode of educating children and youth shifts to the school, which becomes the child's family and social sphere.

Each youth faces a diverse compilation of family, community, and school efforts regarding HIV/AIDS education; and each effort is important in educating each youth regarding AIDS. Teens worldwide rely on a complex network of nonparental relatives and peers for communication about sexuality (Kelly, 2001; Mirembe, 2002; Olowo-Freers & Barton, 1992; Pistella & Bonati, 1998), stressing the importance of providing comprehensive programs and resources to adult leaders as well as all youth.

This school community is often a positive force, as values and knowledge are taught to students who may lack a traditional familial support system (Graham & Graham, 2000; Henslin, 1992; Janssens, 1993; Wolfe, 1998). School counselors in Uganda are primarily senior teachers who advise students on their personal and scholastic lives, who also participate as teachers and administrators in the school system. Within this community, peers also become a familial support, but at times peer influence can become negative. For example, young women are often coerced into sexual relationships, rendering them generally more vulnerable than their male counterparts (DiClemente, Crosby, & Wingood, 2002; World Bank, 2000).

An important aspect of any AIDS-education program is providing what youth genuinely need. Community workers and social work students often lack the education necessary to work with HIV-infected populations (Silberman, 1995), and community-intervention programs need feedback from local participants regarding what should be taught and how it should be taught in the local context. The primary purpose of this article is to provide an analysis of student perspectives on HIV/AIDS-education programs. We hope that by giving a voice to their views, an outlet will be opened that can inform and assist those serving families and communities affected by HIV/AIDS.

Our main intention in this article is to answer the following questions from Ugandan youth: Does the school community offer sufficient HIV/AIDS instruction to students? What are ways to help youth better understand and learn more about HIV/AIDS? How do parents, the community, administrators, teachers, and other students react to HIV/AIDS/STD education? What recommendations do students have for improving HIV/AIDS education?

Methods

School Selection Process

Seventy-six schools were randomly sampled from the list of 748 government and 1,200 registered private secondary schools (MOES, 2002). Table 1 shows frequencies of schools selected based on geography, urbanicity, and school type stratifications. The first stratification was according to geographic region, to ensure that our sample represented each of the four key regions in Uganda—the Central, Eastern, Northern, and Western Regions. We then stratified according to urbanicity, so that approximately half of the schools sampled were from urban and the other half from rural locations. Finally, we stratified the school sample according to school type, so that half of the sample was public and the remaining ones private schools. We define the term *private* as any nongovernment-supported school in Uganda. *Public* schools refer to government-aided schools (Holsinger, Jacob, & Mugimu, 2004).

TABLE 1. *Demographic Characteristics of 76 Randomly Selected Secondary Schools in Uganda*

DEMOGRAPHIC	FREQUENCY	PERCENTAGE
Urbanicity		
Urban	42	55.3
Rural	34	44.7
Geographic Region		
Central	26	34.2
Eastern	18	23.7
Northern	14	18.4
Western	18	23.7
Governance		
Government	38	50.0
Private	38	50.0

Study Participants

After schools were selected, contact was made with head teachers to provide an overview and introduce the study. During this initial meeting with head teachers, they signed a consent form for their school to participate in the study. Student participants ($N = 883$, with a 96.8% response rate at baseline) were then randomly selected from the master enrollment lists at the sample schools. Students were stratified according to gender and grade level as shown in Table 2. Grade-level stratification ensured that an equal number of participants would be selected from each form or "grade level" (one female and one male from each form). Eight single-sex schools were selected in our sample, rendering gender stratification impossible in these schools (three male schools and five female schools). In these instances, 12 students of the same gender were included. Consent for students to participate was obtained, including parental consent for students under age 18. Age distribution showed that youth ranged from 12 to 26 years, with roughly 59% of the students in our sample 17 years or younger. The study consisted of a pre- and post-questionnaire, as well as an HIV/AIDS intervention in 26 of the schools. While the focus of this article is on what is and should be formally and informally taught in Ugandan secondary schools, the authors have outlined the intervention and follow-up findings in other publications (see Jacob et al., 2006).

Advisory Committee

Understanding the need to draw from local expertise, a team of national and regional educators, policymakers, nongovernmental organization (NGO) administrators, students, social workers, and religious leaders was formed to consult with our research team throughout the planning,

Table 2. *Demographic Characteristics of 883 Secondary Students in Uganda*

Demographic	Frequency	Percentage
Gender		
Female	443	50.2
Male	440	49.8
Age		
12–14	112	12.7
15–17	409	46.3
18–20	332	37.6
21–26	30	3.4
Religion*		
Roman Catholic	297	36.9
Church of Uganda	257	32.0
Christian Other	136	16.9
Muslim	107	13.3
Other	7	0.9
Urbanicity		
Urban	488	55.3
Rural	395	44.7
Geographic Region		
Central	299	33.9
Eastern	212	24.0
Northern	156	17.7
Western	216	24.4
Governance		
Government	466	52.8
Private	417	47.2

*Religion responses obtained from post questionnaire (N=804)

implementation, and evaluation stages of this study. National and regional leaders from the Catholic, Muslim, and Protestant faiths joined our advisory committee and offered helpful advice on how to proceed in a culturally sensitive manner. Meeting regularly with this advisory committee helped provide socially relevant perspectives with the variety of cultures, geographic regions, ethnic groups, and religious denominations within which we were working.

Instruments

Based on WHO/UNESCO's *School Health Education to Prevent AIDS and STD—A Resource Package for Curriculum Planners* evaluation instruments (WHO/UNESCO, 1999), the questionnaires and qualitative interview instruments we used in this study addressed issues associated with student knowledge, attitudes, skills, and intentions. Grounded in the same theoretical framework as the behavioral changes for interventions (BCI) model, instruments were developed to guide the implementation of interventions. The BCI model is closely related to the Theory of Reasoned Action (Ajzen, 1985; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975; Terry, Gallios, & McCamish, 1993) and the information-motivation-behavioral skills model (Fisher & Fisher, 1992). The predecessors of this model include the acquisition of knowledge, attitude development, skills development, and motivational support.

All instruments were pilot-tested with randomly selected students, teachers, and administrators at a local secondary school, which was not included in the study sample. Following the recommendations of these participants, we refined and improved the instruments so that constructs were more aligned with what was culturally relevant in the Ugandan context (Green & Kreuter, 2004).

Only a portion of the questions asked to participants from the questionnaire are discussed in this article, all of which relate directly to student perspectives regarding HIV/AIDS education in school or community programs (see Tables 3 and 4). One set of questions looks at student recommendations regarding how they can best learn about HIV/AIDS. Several open-ended questions addressed the possible inclusion of HIV/AIDS instruction in the formal school curriculum. Last, students had a section of questions that asked how the community, parents, students, teachers, and administrators would react to HIV/AIDS/STD education being taught in their school. Additionally, we conducted a series of in-depth (N=50), semistructured interviews from the list of randomly selected students (N = 883). This qualitative data supplemented findings from the questionnaires, thereby increasing the internal validity of our research findings (Brewer & Hunter, 1989; Hammersley, 1992; Hoyle, Harris, & Judd, 2002).

Results

Including the intervention and control schools, 883 students participated in the initial questionnaire. Qualitative interviews supported questionnaire findings, as students answered similarly and demonstrated an understanding of the questions. Of the students who participated in the questionnaire, 58% said that their school *does not* teach about HIV/AIDS in the school curriculum (see Table 3). Others said that their school does teach about HIV/AIDS (36.2%) and some said that they did not know (5.8%).

Turning to youth awareness, 46.4% of respondents felt that students *do not* have a good understanding of how to protect themselves against HIV/AIDS. In qualitative responses from the interviews, youth expanded on this answer, as one student commented that "some students have no parents to talk to them about AIDS." A 19-year-old male student commented that "some believe that whether you protect or not you die." Over half of the students (53.1%) replied that students *do* have a good understanding of how to protect themselves against HIV/AIDS. One student with this perspective commented in an interview that "students see many people suffering from AIDS so they don't want to be in the same situation," showing the serious impact AIDS has in the daily lives of students. A significant difference existed between student responses according to their age group ($t = 5.24$, $df = 877$, $p < .01$). The youngest students—in the 12 to 14 age range—were more likely to report that students have a good understanding of how to protect themselves against HIV/AIDS. Alternatively, older students were more likely to report

TABLE 3. *Responses of Secondary Students in Uganda Regarding HIV/AIDS Education*

QUESTION	RESPONSE	FREQUENCY	PERCENTAGE
Does your school teach about HIV/AIDS in the school curriculum/syllabus?	Yes	320	36.2
	No	512	58.0
	Don't know	51	5.8
Do you feel students have a good understanding of how to protect themselves against HIV/AIDS?	Yes	469	53.1
	No	410	46.4
	No response	4	0.5
What other areas besides the formal syllabus/curriculum help students learn about HIV/AIDS?	Media	788	89.2
	Drama	753	85.3
	Youth Groups	723	81.9
	PTA	661	74.9
	Music	588	66.6
	Dance	227	25.7
What are some ways to help students learn more about HIV/AIDS?	School	389	44.1
	Mass Media	181	20.5
	PWA	73	8.3
	Club/Youth Group	69	7.8
	Drama	55	6.2
	Parents/Elders Teach	48	5.4
	Other	65	7.4
	No response	3	0.3
Would you recommend any changes to the school curriculum/ syllabus to help better educate students about HIV/AIDS?	Yes	705	79.8
	No	176	19.9
	No response	2	0.3
If yes, what would you change?	More in School	286	40.6
	Taught Separate	131	18.6
	Drama	41	5.8
	Club/Youth Group	9	1.3
	Other	238	33.7

that students do not have a good understanding of how to protect themselves.

Additional Ways to Help Students Learn About HIV/AIDS

Students were asked whether or not certain areas besides the formal curriculum help students learn about HIV/AIDS. These responses are important for all educational programs that seek to help youth. In order of preference, students checked "yes" to the following informal ways to help students learn about HIV/AIDS: mass media (television, videos, advertising, radio, billboards, etc.) (89.2%), drama (85.3%), youth groups (81.9%), Parent Teacher Associations (74.9%), music (66.6%), and dance (25.7%). An overwhelming majority of students agreed that the informal methods mentioned help students learn about HIV/AIDS, except for dance, where 73.5% of students answered that it does not help students learn about HIV/AIDS.

In the interviews, students answered similarly and expounded on their opinions. Regarding favoring the mass media, a 15-year-old female student explained that "on TV you can see some people who are infected and you see how they are suffering. After looking at such people suffering, you can not engage yourself in such activities." Likewise, about drama, a male student explained that "through plays people can see how people who are affected with the virus suffer," and a female student said that "drama also helps because you can act about the dangers of AIDS, or you can act about someone who has died of AIDS." Turning to clubs/youth groups, a boy in Form 5 explained that

> Youth groups are very good because [students] can gather together and discuss more about AIDS and create solutions or methods how they can prevent it and how they can keep themselves from that disease. Youth groups are very good and are required to be made in our society and schools so that youth can know about the disease and how to prevent it.

Parent Teacher Associations were also favored by students, as a girl in Form 5 responded, "with Parent Teacher Association these people can come together, they have their knowledge and can organize a person to pass information on to students. If parents work hand-in-hand with teachers and produce information about HIV/AIDS and spread it to the student it can help." However, some

students disagreed about Parent Teacher Association's effectiveness, as expressed by one 17-year-old male youth: "They force students to abstain from sex. People abstain from sex on their own will." Regarding music, a female student explained that music is helpful "because there are some songs about HIV/AIDS and people can get to know them." Some students disagree, as a student did who said "music no, because during music you cannot control people from sex." Others said that specific songs are helpful, as explained by a 17-year-old male student, "for example, Philly Bongole Lutaya sang about HIV/AIDS and said, 'Today it is me, tomorrow it is somebody else.' This makes us to learn about HIV/AIDS." That all of these categories were overwhelmingly supported by students as HIV/AIDS-teaching methods shows the possibility and necessity of multiple AIDS-education approaches.

Dance was the one category most rejected by students as a medium for teaching students about HIV/AIDS. A 13-year-old boy pointed out that "people will just be getting entertained but not learning. People just want to dance every now and then, so I say in dance you cannot learn how to prevent HIV/AIDS." Another youth, a 15-year-old girl, said no to dance "because it involves some temptations whereby one can get involved and tempted into playing [or having] sex." Likewise, a female student summarized the opinions of most students by saying "you can't watch a dance and get the information about [AIDS]."

Participants were then asked to give additional ways to help youth learn more about HIV/AIDS. These responses were coded to separate out meaningful categories. All (N=880) but 3 students replied to this open-ended question, and 31% (N=274) gave multiple responses. When students gave multiple responses, the first answer, or the one they focused on primarily in the case of a long response, was coded as their answer. The primary response given was that schools are the best place for helping students learn more about HIV/AIDS (44.1%). Student answers in this category focused on the formal curriculum, seminars, textbooks, and counseling from teachers. As an example of this response, a female student said schools should be "teaching them about AIDS, counseling them. Sharing experiences of other people (if not the teacher) during lessons." Another student said his peers can learn "by giving books to schools concerning HIV and by sending people to teach anything concerning AIDS." It appears that youth strongly support both informal learning mediums about HIV/AIDS and schools as the best environment for AIDS education. Many of the previous discussed mediums (e.g., mass media, drama, and youth groups) are a part of the schooling experience. These methods could also be used by families and communities.

Mass media, which includes television, radio, newspapers, magazines, films, songs, and advertisements, was the second most cited response (20.5%). A 20-year-old male student said youth learn best "by talking to them through radio programs and introducing *Straight Talk* [local newspaper] to students."[1] A girl age 15 added that youth learn "by encouraging them to watch movies about HIV because here they learn to avoid the dangers of HIV and what it causes to life." People living with AIDS (PWA), which included having people with AIDS visit, give speeches to schools, or having students visit AIDS patients, was also a response (8.3%) as a way for students to learn more, as a male student felt that "students who have not been infected should tour places like TASO and see how painful it is."[2] Students also listed clubs and youth groups (7.8%) and drama (6.2%) as ways to help students learn more about HIV/AIDS. A 16-year-old boy said students learn "through clubs that help teach about HIV/AIDS. Through personal thinking," and a 16-year-old girl responded that "we can help [students] by making them active in music and drama and possibly sighting poems about AIDS." Having parents and elders teach students was another response (5.4%), and a female student shared that "parents should talk to their children about AIDS, especially the fathers who always shy away. AIDS awareness should be taught as early as the primary grade levels, so young children should grow up knowing the dangers." A male student pointed to the importance of "parents being free to their students, that's to say educating and giving vivid examples." Sixty-five students (7.4%) gave an answer that did not fit into one of the six categories identified in Table 3 or gave an answer that reflected a misunderstanding of the question. Students had a wide variety of responses, and more than 99% responded with ideas about ways students can be taught about HIV/AIDS, reflecting a wealth of ideas on how to best inform and protect students.

Reactions to HIV/AIDS Education

Most youths said that reactions to HIV/AIDS education in the schools would be "very positive" from administrators (74.4%), teachers (69.8%), parents (68.3%), students (63.8%), and the community (59.6%), as portrayed in Table 4. The next most frequent response from students was that the reactions would be "positive," of students (25.5%), the community (25.3%), parents (20.3%), teachers (20%), and administrators (16.8%). These responses reveal that though all groups were seen as responding positively, administrators were seen as responding the most positively, and the community was seen as responding the least positively. Some students felt that reactions would be negative or very negative from the community (9.3% "negative," 5.8% "very negative"), parents (6.5%, 4.9%), students (5.9%, 4.8%), teachers (5.1%, 5.1%), and administrators (4.2%, 4.6%).

Responses from student interviews offer an expanded picture of student's responses in the questionnaire. Similar to many students, one girl commented that administrators would react "very positive because they know students are the leaders of tomorrow." Regarding teachers, students commented similarly, and one student said teachers will

react "very positively because they want their children to stay free from AIDS." Turning to the reactions of parents, a male student said parents will react "positively because they know that AIDS is a dangerous disease. They may support the program because even some of them are victims," again showing the reality of HIV/AIDS in the lives of Uganda's students. Also, a 17-year-old female student commented that "some parents don't have time to talk to their children when they are at home. They assume each and every thing will be taught to them while at school," revealing the important role education plays in the lives of many students. Last, turning to the community's response, most students agreed with a 17-year-old female, who said "the local community will react very positively because they also don't want to see people dying." These responses reveal an optimistic perspective from students that adults in their lives care about AIDS education and want it taught in schools.

Expanding on the position of students who felt reactions from certain groups would be "negative" or "very negative," a boy in Form 5 remarked that communities would react "negatively because some communities are not educated, they don't know about HIV/AIDS. It takes time to advise them what is going to be taught about HIV/AIDS. They may not support the method." Perhaps this is the reason the community is perceived by students as the group with the least positive reaction to AIDS education, because of a lower educational level than that found among the teachers and administrators in their schools. Nonetheless, most students felt that the community would react positively to HIV/AIDS education.

TABLE 4. *Responses of Secondary Students in Uganda Regarding Community Reactions to HIV/AIDS Education*

QUESTION*	RESPONSE	FREQUENCY	PERCENTAGE
Administrators	Very Positively	657	74.4
	Positively	148	16.8
	Negatively	37	4.2
	Very Negatively	41	4.6
Teachers	Very Positively	616	69.8
	Positively	177	20.0
	Negatively	45	5.1
	Very Negatively	45	5.1
Parents	Very Positively	603	68.3
	Positively	179	20.3
	Negatively	58	6.5
	Very Negatively	43	4.9
Students	Very Positively	563	63.8
	Positively	226	25.5
	Negatively	52	5.9
	Very Negatively	42	4.8
Community	Very Positively	526	59.6
	Positively	224	25.3
	Negatively	82	9.3
	Very Negatively	51	5.8

*How would the following react to HIV/AIDS/STD education being taught in your school?

Recommended Changes to School-Based HIV/AIDS Education

Though just over one-third of youths responded that their school teaches about HIV/AIDS in the curriculum, 79.8% answered "yes" when asked if they would recommend changes to the school curriculum to help better educate students about HIV/AIDS. When asked what changes they would recommend, 19.9% said they would recommend no change, and less than 1% gave no reply. Among the students who recommended changes, the primary recommendation was for more education in school (40.6%), which includes teaching HIV/AIDS in multiple classes, holding seminars, using books, having more HIV/AIDS education in the syllabus, and showing videos. One student said "more emphasis could be put in educating students about HIV/AIDS at least at the beginning of the month and end because this affects our lives too much." Pointing to the need for openness, a student said that schools should "change the way the syllabus is taught because when teachers are teaching they talk in hidden language where students don't understand easily." Many replied similarly to a student who said, "they should teach us how to prevent AIDS and how it is spread." Most students want an increase in the amount of HIV/AIDS education they receive, whether that means to begin teaching about AIDS or increase the amount of time spent on HIV/AIDS education. It would appear that increases or introduction of any HIV/AIDS-education programs would be welcomed by these students.

Coded as an independent response, 18.6% of students said specifically that HIV/AIDS should be taught as a separate or compulsory subject in school. An example of this response includes a male student who said, "I would change the study of some minor subjects which aren't very useful to HIV/AIDS study since it is important to have life to live." Another male student, age 20, said, "If there is a syllabus on HIV/AIDS at all schools, no student will be infected with the disease." Some students recommended drama (5.8%), and one female student said, "I would form an HIV/AIDS club and stage dramas and poems about AIDS," and a few pointed to clubs (1.3%). Many other suggestions for improvement were given, which we grouped into an "other" category. From some of these responses, such as "I will change my way of living by saying no to sex," and "I love carefully and go [frequently for a] blood test," it appears that these students thought the question referred to recommended changes they could make in their own lives.

Student Intervention Recommendations

Group interventions were conducted at 26 of the participating schools. These were participatory discussions on HIV/AIDS myths, modes of transmission, and prevention strategies. An important component of the intervention with students was coming up with actions that youth could integrate into their lives. One of the actions that group leaders encouraged the students to find and commit to was a way to make a difference in their school community. Students were to pick something they could do, as a group, to help raise HIV/AIDS awareness. Group leaders had no preset agenda and encouraged students to be creative in thinking of an action they could carry out and attach ownership to. At the end of the discussion, one idea was chosen by the group, and all members committed to participate and make their chosen action happen.

As their chosen action, many students felt that forming or joining an existing club would be a successful way to involve others and raise HIV/AIDS awareness. As the intervention was one time in a focus group setting, many students stated they wanted to keep talking about issues raised and learn more on their own. Part of the intervention also entailed encouraging students to meet as a group and continue learning about HIV/AIDS, and many students wanted to form a club anyway, as a catalyst for instigating change in their school. Putting together and performing a drama for the school or for the community was another popular action goal that three student groups decided on. Students showed enthusiasm for dramas as a medium of schoolwide HIV/AIDS instruction, as well as a way to encourage individual learning about prevention and treatment of the disease. Some groups decided to show films, give speeches, or organize seminars of PWA to speak to the student body. One group came up with the idea of presenting an essay question about AIDS to the student body each week at a schoolwide assembly. Each student would answer the question, and the best essay would be awarded a prize by the head teacher. The students hoped to address poorly understood topics and create interest in the school. In one school, students wanted to have a day devoted to speeches and classes about AIDS, and another group decided to put awareness posters around the school that would encourage youth to think seriously about how AIDS affects them.

Discussion and Implications

Youth questionnaire and interview responses and their suggestions in the intervention reveal poignant personal feelings about HIV/AIDS-education programs and offer strong recommendations for needs in community and school programs. Responses suggest that more AIDS education is needed and offer many ideas of how AIDS education can occur to better respond to the needs of African youth. Each section of questions will be discussed.

Over half of the youth respondents felt that students generally know how to protect themselves from acquiring HIV and AIDS. Many more felt that additional HIV/AIDS education is needed, and that their school is not doing enough to achieve this end. Many students also felt that their peers do not have a sufficient understanding of how to protect themselves. It is often difficult to recognize the dangers associated with the disease as the incubation period from first infection of HIV to developing symptoms of AIDS could take 10 years or more. Reasons for this change may also be caused by witnessing many of their peers testing HIV-positive or developing symptoms of AIDS. This reveals a greater need for AIDS education at earlier ages, as younger children and youth may be overconfident.

Regarding additional ways to learn about HIV/AIDS, youth felt that most mediums were helpful. Dance was perceived negatively as a means that did little to help youth learn about the disease and was more commonly viewed as a medium that often titillates the senses and encourages high-risk behavior. By the term *dance* we do not necessarily refer to traditional dances or those that may accompany HIV/AIDS-related dramas, but rather we mean dance that is commonly associated with school activities on Friday nights, at night clubs, and is based around modern, usually Western music. Thus dance is viewed more as a pastime than a medium of HIV/AIDS education; dance is also generally perceived as a means of encouraging sexual behavior among students. Based on this definition and on our findings, we argue that dance should not be promoted as a primary medium of HIV/AIDS education.

In open-ended responses, youth favored teaching through schools, the mass media, learning from PWA, participating in clubs or youth groups, enacting drama, and learning from parents and elders. The best way to ensure that children and youth know how to protect themselves is to implement a multipronged HIV/AIDS-education strategy including sex education at home and in extended families, in the community, in the mass media, and at school. Adopting this multipronged education approach allows children and youth, who may not have access to one or more of these mediums, access to life saving HIV/AIDS information. As the vast majority of students do not have access to a television or books at home, newspapers and other mass media outlets at school can be a helpful way of diversifying the transfer of information and ensuring that each student learns in his or her own way how to be protected from HIV/AIDS. Also, many parents and community members have little or no education about HIV/AIDS. Schools and programs can take measures to involve students' immediate and extended families in AIDS-awareness programs. Presentations by PWA and youth groups, as well as dramas, take place within school or community

programs. Because of the lack of mass media availability to all regions of the country (especially in the rural and hinterland regions) and a lack of adequate knowledge among many adults, schools are most likely the best medium to provide HIV/AIDS education to students, and possibly to parents as well. Schools must be supported through the government, local NGOs, international organizations, and community programs, and can use the mass media, PWA presentations, youth groups, drama, parent and community involvement, and music as dynamic ways to teach students about HIV and AIDS. Additionally, students can be involved in formulating AIDS-education programs and offer their input in how to make these programs effective in their unique school environments.

One finding that is inconsistent with the current literature about most appropriate mediums of HIV/AIDS education is the emphasis placed on drama (see, Harvey et al., 2000; Shaeffer, 1994). The Ugandan government has encouraged drama as a way to teach students about HIV/AIDS (Malinga, 2000; Okware, Opio, Musinguzi, & Waibale, 2001). Though students agree that drama is an effective HIV/AIDS-education medium of instruction, it was not regarded as one of the top mediums chosen by students in our national sample. Thus, although drama is still useful as one way to help build HIV/AIDS awareness, it should not be relied on as the primary or only medium of teaching students about HIV/AIDS.

Youth feedback on the reactions of parents, community members, and school regarding HIV/AIDS education being taught in their schools was overwhelmingly positive. The positive reactions in every group suggest a strong commitment to health and life on the part of adults for their children, and show that HIV/AIDS education would be generally well received by each group involved. Having support from these groups will create a safe environment for children and youth to learn about AIDS, ask questions, and bring the knowledge they gain to their families, communities, and peers.

Given that over half of participants said that their school does not teach about HIV/AIDS, and 80% of students said they would recommend changes regarding AIDS education, it is clear that students are not satisfied with the amount of HIV/AIDS education they are receiving. As their recommendation for change, most suggested that HIV/AIDS needs to be taught more in schools, and some felt that it should be taught as a separate class or through other areas such as drama and clubs. Although it may not be feasible for every school to establish a separate class on HIV/AIDS, schools need to address the epidemic openly and frequently with their students. Governmental support is imperative, as schools need current and accurate educational materials and program ideas. Teachers and administrators need to be adequately trained themselves prior to teaching HIV/AIDS subject matter to their students. Parental and community support is critical in supporting the education delivered by the schools. Schools need to be held accountable to ensure that HIV/AIDS education is taught, and incentives are necessary, as teachers and administrators already feel overloaded with the pressure to prepare students for exams in a tight schedule and budget. Communities can supplement what is done in the schools by supporting additional programs and conducting HIV/AIDS-education programs with the same methods and ideas that students have suggested. Further research and discussion with youth, families, schools, and community programs is necessary to best understand how to serve these populations and encourage HIV/AIDS education. Research examining self-efficacy, behavior change, and additional barriers that potentially affect those who have access to HIV/AIDS education is also necessary. It appears that youth are invaluable resources to help develop HIV/AIDS education, and their ideas should be recognized and used by their school as well as by community programs and governments.

Conclusion

Government leaders, educators, and practitioners in SSA countries are trying to make a difference in the behavior and attitudes of children through education. These prevention efforts lie at the core of stopping the AIDS epidemic in the coming decades, through rebuilding family systems and strengthening a new generation that will be able to work in the community and care for their children. Today's African students have seen the devastating affects of AIDS on their families and communities. They need knowledge and skills of how to protect themselves, as well as a supportive environment where others around them agree to talk about sensitive topics and confront misconceptions. Programs and schools can offer the education and support that children need, but must be sensitive to the means and methods of learning that students feel are effective.

From this national sample of secondary students in Uganda, we have obtained general findings of youth perspectives on HIV/AIDS education. These findings demonstrate the ability students have in offering relevant ideas to the AIDS-education dilemma facing Uganda and many SSA nations today. Their responses also show the seriousness with which Ugandan students face the HIV/AIDS epidemic. It is not a distant problem for them, but something that currently affects their family, friends, and themselves. Students can protect themselves and serve as a valuable resource in educating their peers and families.

All members of the social environment who interact with HIV/AIDS patients and affected families can contribute to protecting the future generation from AIDS. The ideas and opinions of these youth can guide the formulation and implementation of community and school AIDS-education programs. Because hundreds of thousands of

students attend boarding schools 10 out of 12 months of the year, schools in many ways take the place of families in Ugandan society. No wonder the majority of students responded that including HIV/AIDS education as part of the formal school curriculum will help students learn more about the preventing the disease. Although alternative mediums of instruction, such as the mass media, drama, and youth groups, are helping to reach the large number of secondary school students, it is not enough. Reaching out to youth through schools is an essential element in battling the AIDS epidemic in Uganda.

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Endnotes

[1] *Straight Talk* is a national HIV/AIDS-based newspaper that is distributed to all secondary schools in Uganda every two weeks. It is an important and innovative means of mass media dissemination that many respondents in our study noted as an important way to learn about HIV/AIDS.

[2] The AIDS Support Organisation (TASO) is SSA's largest indigenously operated nongovernmental organization providing care, counseling, and support to people with AIDS and their families. A large part of TASO's operations is to train AIDS counselors, community workers, peer educators, and medical staff (UNAIDS, 2001).