# Preparing Teachers as HIV/AIDS Prevention Leaders in Malawi: Evidence from Focus Groups

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### Abstract

Although many countries offer school-based HIV/AIDS prevention programs, little is known about how teachers feel about being part of these programs. This paper presents the views of primary school teachers in Malawi regarding their potential role in HIV/AIDS prevention. Data come from two focus groups with 12 male and 12 female primary school teachers attending a teacher training college for certification. Teachers were deeply concerned about the impact of the epidemic on themselves, their families, and the nation. Teachers expressed willingness to be HIV/AIDS prevention leaders for young people and for their communities. However, they identified many personal and system barriers, including: risky personal behaviors which made some teachers poor role models; negative societal attitudes of stigmatization, denial, and reluctance to discuss sex with young people; and inadequate teacher training and ongoing support. Recommendations include: providing behavioral change intervention to reduce personal HIV/AIDS risks of teachers, enhancing the importance of school-based HIV/AIDS prevention through strategies such as making HIV/AIDS prevention part of the examined curriculum, expanding training and ongoing support for teachers regarding participatory teaching strategies as well as content, and involving both teachers and communities in the development and implementation of HIV/AIDS programs in schools, and with students.

Key Words: HIV/AIDS, Elementary School Teachers, Health Programs, Prevention, Teachers Attitudes

## Introduction

The HIV/AIDS pandemic is a global health issue that threatens to erode advances in health and development. The problem is especially acute in sub-Saharan Africa, where over 60% of all persons living with HIV/AIDS reside (1). In Malawi and neighboring countries, adult prevalence is over 14% (2). HIV/AIDS prevention for young people is especially critical, because many young people become infected during adolescence as they begin to engage in risky behaviors (2). In many countries, schools offer a major venue for HIV/AIDS prevention. A network of schools is already in place and most young people attend at least primary school. Most countries mandate some type of HIV prevention curriculum in school and expect teachers to lead in HIV/AIDS prevention programs outside of school as volunteers. However, few studies have explored how teachers view their role in HIVAIDS prevention (3-6). This paper presents the views of primary school teachers in Malawi about the HIV/AIDS epidemic, risks of HIV infection for themselves and their students, and teachers' potential role in HIV/AIDS prevention.

Previous research regarding primary school teachers as HIV/AIDS prevention leaders has had somewhat contradictory results. Teachers in many African countries have expressed commitment to HIV/AIDS prevention messages in school (5-7), as have teachers in other parts of the world (8-12). Also, a large study in Zimbabwe (13) and several studies outside Africa (14-17) have shown that training programs can improve teachers' knowledge, attitudes, and readiness to offer HIV/AIDS prevention programs to their students. However, other recent studies have found that many teachers in African countries simply fail to teach required or recommended HIV/AIDS prevention programs (4, 12, 18). For example, a recent survey in South Africa found that less than 60% of primary school teachers for Grades 3-4 taught the required HIV/AIDS prevention curriculum (4). Also, studies in Africa and the US have found that elementary school teachers were less knowledgeable, less comfortable. and less committed to teaching HIVAIDS prevention than secondary school teachers (4, 9, 10, 19). This is problematic because HIV/AIDS prevention is needed in primary schools before young people become sexually active. In Malawi, for example, the age at first sex varies from 12 to 15 years, so that primary school HIV/AIDS prevention programs are needed to reach young people well before they become sexually active (20). Also, at least in African countries, many children do not attend secondary school.

Evidence from six studies of school-based HIV/AIDS prevention programs led by teachers in African countries also present a mixed picture (7, 21-26). Three of these studies were in primary schools. Two were after-school programs; one had formal sessions (25) while the other was a Health Club (26). Three interventions were structured sessions during school hours, and the final study examined a teacherplanned program of special activities during school, such as a teach-in. All six studies had strong quasiexperimental evaluations with pre and post tests, a control group, and large samples. Four studies had positive effects on knowledge, attitudes, behavioral intentions, and/or behaviors. The other two studies had either no effect (7) or mixed results, with positive outcomes only for students who were not sexually active at pretest (25). Similar teacher-led school based programs have also had positive effects in other countries (12, 15, 27).

Positive results from four out of six studies suggest that teachers can provide HIV/AIDS prevention programs to students effectively. Schoolbased HIV/AIDS prevention programs have also been successful in other countries (15, 27-30). However, these results must be viewed with caution because only two of the successful African studies included behavioral outcomes (21, 26), while the two less effective programs examined behaviors. Thus, success may partly reflect a failure to examine more difficult-to-change behavioral outcomes, although changing students' knowledge, attitudes and behavioral intentions also is important. An important common feature of the programs with positive outcomes was a more participatory approach. Successful programs had significant teacher involvement in planning the intervention, consultation with the parents and/or community, or both of these. The importance of ongoing support for teachers also was highlighted by these studies. Successful programs identified teacher support from each other or program staff as a factor in their success (21, 22, 26), while the least successful program mentioned lack of adequate support as an issue contributing to poor outcomes (7).

The barriers to implementation identified in these studies show why ongoing support for teachers and involvement are so important. Barriers included: knowledge gaps, fear of negative reactions from parents and the community, a lack of guidelines and resources, lack of time for HIV/AIDS prevention, exclusion of HIV/AIDS prevention content from examinations that are used to judge teacher and student performance, discomfort in using active learning techniques such as role plays, and student absenteeism. An excellent process evaluation by Kinsman (7) highlights how multiple barriers interact

to limit teacher effectiveness, leading to a lack of positive outcomes from this program. They found that teachers did not implement the curriculum consistently and omitted key elements such as condom use and role plays. Thus, the "intervention" group did not receive the intervention as intended. Lack of confidence in unfamiliar methods such as role plays, fear of negative community response to condom discussions, lack of identified time for the intervention, and exclusion of program content from examinations combined to discourage teachers from implementing the program. This large program was not able to provide adequate support to help teachers implement the program and overcome these barriers.

Similar themes are evident in other studies even though outcomes were more positive. Harvey (21) discussed how their teacher-developed program did not continue despite its success. The program required too much time and energy, some teachers were uncomfortable with the content and found the program disruptive, and the school gained a negative community reputation as the "AIDS school." Studies in other countries have identified similar barriers, including: personal concerns and fears of parental reactions regarding discussion of sexuality and HIV/AIDS prevention with students, teacher knowledge gaps, a lack of guidelines and resources, and discomfort in using active learning techniques such as role plays (8, 12, 15, 18, 31, 32). Additional insight regarding barriers to school-based HIV/AIDS prevention comes from a student peer-leader program in a secondary school in an urban township in South Africa that was never fully successful in its implementation. Campbell and MacPhail (33) identify reasons for this program's failure similar to the barriers identified in teacher-led programs. Like teachers, the student peer leaders were uncomfortable with active learning strategies, and there was a misfit between the peer leader approach and the regulated, teacher-controlled school environment. Also, many students had negative attitudes toward the program that related to the broader context of high unemployment and poverty, little opportunity for communication between the sexes, and poor adult role models of partner relations and communication.

In summary, previous research suggests that primary school teachers can be HIV/AIDS prevention leaders but they need considerable support to be effective. In order to design effective HIV/AIDS prevention programs, it is important to understand how primary school teachers themselves feel about what they are increasingly asked to do and what support they need to be effective.

### **Methods**

The data reported here were parts of a larger study to adapt a peer group intervention developed in Botswana for Malawi (34, 35). We intended to pilot the intervention at primary school teacher training colleges, so we conducted focus groups at one of these colleges to determine how teachers felt about being HIV/AIDS prevention leaders and what they needed to be effective. Focus groups were also conducted in other settings, but this paper addresses only the views expressed by teachers.

### Site and Sample

Two focus group discussions were conducted at a teacher training college in the central region of Malawi. All participants were primary school teachers attending a distance learning certification program. They had returned to the college for a six-week review and examinations after completing internships in primary schools throughout the central region. The participants had completed secondary school and spoke English fluently. The college's Principal invited specific students to participate. They were outstanding students with good English skills. Thus, they were not representative of the student body.

One group consisted of 12 males and the other included 12 females. We decided to conduct groups with males and females separately because of the strong cultural norms against discussion of sexual issues in mixed gender groups. In particular, the Malawi members of the research team felt that it would be very difficult for women to speak freely in the presence of men. Focus group methodology is built upon the principle that each focus group should be as homogeneous as possible in key characteristics related to the topic of investigation (36). When men and women have very different roles and privileges in sexual relationships, it is important to have groups separated by gender.

### Interview Guide:

A semi-structured interview guide was used to elicit discussion in the focus groups. We asked teachers their views about major health problems in Malawi and the impacts of the HIV/AIDS epidemic on the community and persons living with HIV/AIDS. We then asked what they had heard about HIV/AIDS and from what sources, and what they believed to be true or had doubts about. Then we discussed the sexual risky behaviors of teachers and young people. We ended by asking about current teaching of sex education and HIV/AIDS prevention for young people in schools and in the community and what should be done to improve education about

HIV/AIDS prevention. The questions in the guide were based upon the conceptual model that guided the intervention. We emphasized attitudes, knowledge, and behaviors that we hoped to change in the intervention, or that we needed to understand in order to understand the context of HIV/AIDS prevention for teachers in Malawi. Some questions were taken directly from the qualitative interviews used in Botswana by K. Norr in the initial development of the intervention. Others were developed through discussion of the research team regarding important cultural themes related to HIV/AIDS prevention in Malawi, some of which the team had encountered in previous studies. S. Kachingwe's prior experiences as a consultant for the Ministry of Education regarding the HIV curriculum were particularly useful.

### **Procedure and Analysis**

We first trained the focus group facilitators by conducting a 'mock focus group' pilot, with ourselves and other faculty as the participants. Some refinements of the focus group guide were made after the training to improve the flow of questions. The focus group guide is available from the corresponding author on request.

The two focus group discussions were conducted in English in empty classrooms at the end of classes for that day. Focus group facilitators were experienced faculty from Kamuzu College of Nursing, and gender of the facilitators was matched to the group composition. The discussions were tape recorded and transcribed verbatim, supplemented by notes regarding the discussion and setting.

At the time this analysis was done, the team did not have access to a qualitative coding program. We managed coding and retrieval of quotations by code using the "tables" function of a word processing program. The text was put into a table format, and codes were put in columns next to the text which then allowed the text to be sorted by themes.

Content analysis identified the themes discussed below related to perceptions about HIV/AIDS and the role of primary school teachers in HIV/AIDS prevention. The Malawian and US team of co-investigators worked collaboratively to achieve interpretation that integrated the perspectives of those within and outside the cultural context of Malawi. The first three authors read each transcript in its entirety and separately identified major themes. A theme was a perspective that was widely shared among the focus group participants (expressed by several persons or with strong expressions of agreement from the group) and important as denoted by generating extended discussion. Where there were differing perspectives within or between the

groups, we reported both and noted whether one was more widespread than the other. The analysis was primarily descriptive and themes remain close to the data. We then met as a team and discussed the themes and their cultural meaning. Thus, we used a cross-cultural consensus approach to achieving valid meaning. We then had another member of the team (J. Norr) code independently and the inter-coder reliability agreement was 85%.

## **Results**

### The Impact of the HIV/AIDS Epidemic

We began the focus group by asking about the major health problems in Malawi. One focus group immediately identified the HIV/AIDS epidemic as the most serious health problem in Malawi, while the other group first listed malaria and tuberculosis, as well as a variety of other conditions but not HIV and AIDS. However, when the group that had not mentioned HIV/AIDS as a major health problem was asked what they had heard about HIV/AIDS, they immediately responded that AIDS was a "killer" and there was no cure. Thus, both groups appeared to view HIV/AIDS as a significant health problem in Malawi.

The teachers were very concerned about their own fate and about the impact of HIV/AIDS on families and the Malawi nation. They worried about getting HIV/AIDS. They feared that they were too young to die, that their partners too would be infected, and that early death would be a loss to their families and the nation. Everyone knew people who had died of AIDS. Teachers worried about the impact of the epidemic in the villages. One teacher observed, "If you can go to the village, you will find that only the old people ... and the grandchildren are there, the old people are the ones taking care of their grandchildren." Teachers also worried about the impact of the epidemic for the nation. As one put it, "This will affect the development of the country – it (development) will not proceed because of all these deaths." The teachers are especially concerned about children who are left as orphans. One teacher commented:

I am worried for the kids who are left behind if both parents died .... Who would look after the children because relatives, they don't care about those children. The relatives will take away the property. The relatives don't care about those kids.

# What Teachers Have Heard and Believe About HIV/AIDS

Sources of Information: The teachers described hearing many HIV/AIDS messages through many different channels, including radio programs, magazines, newspapers, books at school, at the hospital or clinic, posters around their community, church, dramas and songs in the villages, and messages from various non-governmental organizations. Most people agreed that they trusted all of these sources about equally because they all gave the same information. However, a few felt more confident about information from the hospital staff "because the hospital personnel have a lot of experience in handling HIV/AIDS patients."

HIV/AIDS as an Illness: Teachers had extensive knowledge about HIV and AIDS as an illness, including an understanding of what HIV does to the body and the difference between HIV and AIDS. Both groups described how HIV destroys the immune system and then the person becomes ill. As one teacher said, "Since AIDS destroys the immune system, a person can get any disease." They differentiated between HIV and AIDS. As one person put it, "When you have HIV you are not sick. When you have AIDS you are sick." They also agreed that the course of the disease is not the same for everyone. One teacher said, "If you are at least physically fit...it takes years before showing signs of the illness." The women's group provided a much more extensive description of the symptoms of AIDS than the men's group. Only the women's group gave descriptions of what happens to infants who are affected through the mother, agreeing that such infants usually have stunted growth, poor appetite, malnutrition, and repeated episodes of illness, usually leading to early death.

The teachers also discussed the widespread negative reactions to HIV/AIDS that are prevalent in Malawi and that encourage concealment of the illness. One participant observed that, "If a person dies of HIV/AIDS, the relatives don't want to admit that he or she has died of HIV/AIDS; instead they blame it on witchcraft." The teachers felt more openness and less stigmatization would help prevention. They said that people should be told in the hospital when their relatives have AIDS, and that it should be announced at funerals. One teacher said, "We need to accept people with AIDS. We need to help them not feel sorry for themselves ...[and] tell them to refrain from sex, from giving the virus to someone else."

**HIV Transmission:** The teachers had a good understanding that sexual transmission is the major way that HIV is spread in Malawi. People who have more than one partner are likely to get HIV

because, as one teacher put it, "It's like one is at the center of the universe with a lot of planets surrounding her or him so that if you have one partner and that one has another partner and so on, not all the partners could be HIV negative, hence they have an increased chance of getting HIV/AIDS." Teachers also were familiar with the risks of blood transfusion, punctures and cuts, and other less common means of transmission.

The teachers expressed some uncertainty about the risk of transmission from caring for persons living with AIDS, but these doubts seemed related to the multiple factors involved rather than inadequate knowledge. Thus, one said, "It depends. I think here if someone has sores on the arms, the bare hands, and is not using gloves, he or she touches a patient with HIV/AIDS with bare hands, the chances are 50-50 that they will get HIV/AIDS." Another person pointed out that a person with HIV/AIDS may also have infections such as TB that can be easily transmitted to a caregiver. They also felt that health workers were at high risk because they were exposed too much in their work every day.

However, the teachers also had a number of misconceptions about HIV transmission. For example, one teacher asked, "Is it possible to get it from mosquitoes – is it possible?" The women's group asked if it was true that women would be protected by menstruation because the monthly blood flow would get rid of the HIV, while another woman said she had heard that menstruation made women more vulnerable to HIV infection. The possibility that people with type 'O' blood would be protected from HIV was also brought up. They also discussed that African traditional healers claim to know how to treat and 'cure' AIDS, expressing some uncertainty about whether this might be true.

**Prevention:** The teachers all agree that abstaining from sex and being faithful are key prevention measures, but they also feel that many people will not do these. One important reason is fatalism; many people in Malawi feel that fighting against HIV/AIDS is hopeless. As one teacher said, "Others say all diseases were meant for the people – we should not fear it." However, the teachers thems elves did not express feelings of hopelessness or fatalism.

Teachers also recognize the many motives people have for engaging in risky sex. For both men and women, abstaining and being faithful are difficult because of the desire for sexual satisfaction, especially if the current relationship is unsatisfying sexually or filled with conflict. As one woman said, "If you have married a man who doesn't satisfy you and ...you meet a man who satisfies you...you say,... 'Oh, there are some sweet things in this world' and so

you have to consider him." For men, teachers also identified a desire for variety and the pressure to assert manhood through having multiple partners. Teachers also thought that some women have multiple partners due to the need or desire to obtain cash or favors, especially if their husband does not give them enough money and they find someone else who will.

Teachers expressed concern about condoms as an HIV prevention measure. Many said that condoms reduced sexual pleasure and were to be used only for family planning. They felt that condoms were available and affordable for teachers, but not necessarily for people in the community. The teachers lacked accurate knowledge about condoms as an HIV prevention measure. Many teachers expressed uncertainty about the degree of effectiveness of condoms. Rumors have spread in Malawi that condoms have pores that allow the HIV virus to go through. Teachers have heard these statements and are not sure whether to believe them. One teacher said, "We hear these condoms, they have got small holes in them – and we don't know how big the sperm or the virus is, but maybe it can penetrate through the small holes – we are not sure." The male teachers expressed some uncertainties about how to use condoms correctly, but the female students said that they did know how to use condoms.

### Sexual Risky Behaviors of Teachers

The teachers recognized that they are like the general public in that teachers also have difficulty abstaining and being faithful. Both the men and the women said that husbands more often have another partner than wives. Some thought that teachers were less likely to have multiple partners because "Teachers, with their small amount of salaries, they can't afford to be womanizers – they just don't have the income so they can't." But others disagreed, saying, "There are some things that a man can do as a womanizer, no matter if he's poor or rich... especially teachers in the villages; they are the bosses there."

An additional problem confronting these teachers-in-training was the time spent at the college separated from their usual partners. Most of the teachers are already married when they come into the program. Some expressed concerns about whether their partner was being faithful while they were separated. As one put it, "Of course we can discuss with our partners, but you are here, they are there, they do this and that but you don't know." Also, some of the teachers, especially those who are not married, may have a partner at home and a short-term relationship at the college. As one teacher said, "That lady may have one partner at school and one at home...so when she goes back home this relationship

ends." However, they think that the number of teachers who have multiple partners at the college is small.

# Special HIV/AIDS Prevention Needs of Young People

All the teachers identified HIV/AIDS prevention for young people as an especially important national priority. One said, "I am concerned about the new generation – most of them will be affected." Another teacher pointed out, "If children who are supposed to be the future leaders of the nation are HIV positive, who will lead the nation in the future?"

The primary school teachers also felt strongly that HIV/AIDS prevention must begin early, at least by primary school. One teacher said that they should be taught about HIV/AIDS prevention "as soon as they can understand." Others agreed that adults need to start telling young people about HIV/AIDS prevention "as children – 10 years old" or "while they are still growing." One teacher said, "If we can be straight to the kids – then they will not have to worry about that disease." Teachers advocated early HIV/AIDS prevention education because they observed signs of early sexual activity among young people. The focus groups agreed that some girls start having sexual relations any time after the age of ten, and that boys may start by age 14. In secondary school, young girls may engage in more risky behaviors than they do when they are older. One teacher said that, "At secondary school they can have maybe six boyfriends in four years." The teachers report that young people have met and have sex "at school, in the bush, at houses." Another adds, "They might invite their boyfriends at night without the parent knowing." This is made easier by the common rural practice of having a separate sleeping hut for adolescent girls or boys, near the main house, so that these older children do not see their parents' sexual activities. One teacher added that in some tribes the parents cannot interfere because it is traditional that young people who have been through initiation can have sexual relations.

Most teachers agreed that sex education outside the schools related to HIV/AIDS is inadequate to protect young people. As in most African societies, sexuality is traditionally not discussed except in initiation ceremonies conducted by elders selected by the community. Talk about sexuality outside of initiation is strongly disapproved of, especially talk between parents and children. In modern times, initiation ceremonies are no longer universal, and boys especially often attend no initiation. Moreover, the focus of sexual instruction in initiation has not incorporated explicit HIV/AIDS

prevention messages. Because of the lack of formal sex education, teachers agree that most young people learn about sex through 'the radio' or 'practice' with each other.

#### Teachers as HIV/AIDS Prevention Educators

Teachers felt that they could play an important role in HIV/AIDS prevention, both in the schools and in their communities. One said, "As teachers we can manage." Another added, "In each and every area there is a teacher." They wanted training "because we are the people who are going to pass the message on." One said, "We can work on the anti-AIDS clubs" (after-school groups for schoolchildren). Another pointed out, "We are teachers – we are models to those pupils."

# Barriers Inhibiting Teachers as HIVAIDS Educators

An HIV/AIDS prevention curriculum has been introduced into all the schools, and teachers are mandated to cover this material. However, teachers reported that this material was covered in only a very superficial way or even omitted. As they put it, "It's already there" but "It is not strongly practiced, not actively."

These primary school teachers identified many system barriers and personal barriers to fulfillment of their potential as HIV/AIDS prevention leaders. Personal barriers included risky personal behaviors, discomfort in discussing HIV, and lack of knowledge. As already discussed, the participants noted that personal risky behaviors were an issue for teachers, both putting them at risk personally and undermining their value as role models. Most teachers agreed that they feel uncomfortable in discussing HIV/AIDS prevention materials. One important source of personal discomfort is the traditional cultural values that prohibit discussion of sexuality, especially by parents or elders like teachers. These attitudes persist despite their recognition that in the presence of the HIV/AIDS epidemic such discussions are vitally important. As one said, "The teachers are reluctant." They also recognized that some teachers have personal characteristics such as shyness that make it harder to discuss the HIV/AIDS curriculum. An additional barrier was their lack of an adequate knowledge base. Although the teachers had reasonably accurate knowledge about HIV and AIDS, they also had many questions and incorrect beliefs, as discussed above.

System barriers included: widespread stigmatization and denial surrounding HIV and AIDS; lack of emphasis on the HIV/AIDS prevention curriculum; lack of training and materials in rural areas; perceived constraints on explicit education

such as condom demonstration; and uncertainty about community; parental and church support. The stigma and silence surrounding HIV and AIDS in Malawi added to the teachers' discomfort when discussing these topics with their students. Several pointed out that people in Malawi are still in denial about HIV/AIDS. One teacher said, "Culture prohibits us from revealing it (HIV infection)." For example, "If a person dies of HIV/AIDS, the relatives don't want to admit it that he has died of AIDS. Instead they blame it on witchcraft." In this context, open discussion about HIV and AIDS is hindered for schoolteachers like everyone else. Teachers felt strongly that this denial needed to change so that, "People should be very free to talk about it."

Teachers observed that "The Ministry of Education should emphasize, stress more on HIV/AIDS in the school curriculum, the importance of it." The HIV/AIDS prevention curriculum is "just a topic on health education", not a central focus of the health program. They felt strongly that the HIV/AIDS curriculum would remain underemphasized as long as it was not tested on examinations. Teachers and schools are evaluated in large part on results, so teachers tended to focus classroom time on exam subjects. They felt the Ministry sends an unspoken message that this material is not as important as those parts of the curriculum that are examined, "So we relax." Even the preparation at the Teacher Training College put relatively little emphasis on preparing teachers in the HIV/AIDS prevention curriculum. The teachers also felt that there were many restrictions on what HIV/AIDS information they could discuss in the classroom. They believed that in teaching Standards 1-4, teachers "cannot mention about sex." Another teacher stated that "They just started teaching how to use a condom – but it can't be demonstrated. Now if it can be opened they can know better – just to tell the children the truth." Teachers argued strongly that these restrictions should be lifted.

### Mobilizing Teachers for HIV/AIDS Prevention

Teachers had many suggestions for improving the HIV/AIDS education. They emphasized active learning for primary school students. One teacher suggested role-plays, while another recommended, "Children should be taken to visit people with HIV/AIDS to help them". Another added, "We know actually that there are people in the villages who suffer from AIDS and we can take those children and take them to visit those people and help them." They wanted improvements in the materials, including visual aids, because "visual aids should be used to teach pupils and people." Teachers especially

wanted materials "with simple content" that would be easier for their students to understand.

The teachers also emphasized the importance of a strong training program to enable them to teach HIV/AIDS prevention effectively. One teacher argued, "Workshops should be held for the teachers so that they understand how to use the books with HIV/AIDS information." However, "They are only given books, and don't know how to use." One teacher suggested, "Resource persons should be used to teach children on HIV/AIDS if the teachers are shy. And in school, you know some are shy, they cannot talk themselves. If you have one particular teacher who can express all this, you can use her for all the classes, use one particular teacher."

# **Discussion**

These focus group discussions with primary school teachers in Malawi are highly encouraging because they showed a strong commitment to being HIV/AIDS prevention leaders and they had innovative ideas about how to accomplish this. However, they also recognized that most primary school teachers in Malawi today are not implementing the HIV/AIDS prevention curriculum effectively. The barriers they identified are relevant for improving school-based HIV/AIDS prevention programs in both developed and resource-poor countries.

The first barrier relates to teachers' personal risky behaviors, a factor identified in only one previous published study (37). In that study teachers acknowledged that some teachers even asked their own students for sexual favors. While the high cost of teachers' HIV/AIDS related illness and premature death is well recognized (38), the impact of teachers' personal behaviors on their capacity to be HIV/AIDS prevention leaders has not been examined in previous research. However, the importance of role models in fostering desired behavior changes is an important component of Bandura's theory of social-cognitive learning, where role models are expected to strengthen self-efficacy (39). A recent review article of youth risky behaviors found that positive adult role models related to less risky behaviors (40). Providing effective HIV/AIDS prevention programs for teachers themselves will extend teachers' lives and allow them to be effective role models.

A second set of barriers relate to difficulties within the educational system, including: insufficient emphasis on the importance of the HIV/AIDS prevention curriculum, lack of clarity regarding what should be taught, inadequate training and ongoing

support, and lack of appropriate materials. Teachers in Malawi felt that stronger support was needed from the Ministry of Education. A major factor for them was the failure to include the HIV/AIDS prevention curriculum in the mandatory examinations that are very important for the evaluation of teacher and student performance. They felt this sent a strong unspoken message that this material was less important than other subjects. Consequently, many teachers felt that it was acceptable to avoid an activity they were already reluctant to undertake, and they correctly perceived that they would not be penalized for failing to do so. Several studies in other parts of Africa, including Zimbabwe, Uganda and South Africa, also mentioned that although HIV/AIDS prevention programs were mandated they were not included in examinations (4, 7, 13). In each case, teachers commented that the lack of examination gave them the sense that HIV/AIDS prevention teaching was not a high priority and that it was acceptable to omit it. Our participants also thought there were many restrictions for primary school teachers in Malawi, although the Ministry of Education stated that no formal restrictions were in place. Clarification is needed regarding what HIV prevention topics and activities are allowed in the classroom in Malawi, and perhaps in other countries as well.

Another barrier in the educational system is the lack of preparation and ongoing support for teachers. Support for teachers also was associated with effectiveness of HIV/AIDS education in previous studies. Teachers need not only didactic training but also skill-building for active learning strategies such as role-plays, demonstrations, and facilitation of discussion. The experience of Kinsman et al. (37) in Uganda, where a pilot with ample support and supervision for teachers was highly successful but the scaled-up program was not, provides important documentation of the need for ongoing support to ensure that HIV/AIDS prevention programs are successful. Prior research has shown that teachers with more specific HIV/AIDS knowledge were more willing to teach sex education (9), and that training programs have been effective in getting teachers to implement new programs for HIV/AIDS prevention and other types of health promotion (14). Kealey et al. (16) argue that teacher training should be reconceptualized as a behavioral change process, with strong emphasis on teacher motivation and partnership. This approach, which they used successfully in training teachers to implement a smoking cessation program, would seem ideal for preparing teachers as HIV/AIDS prevention leaders.

Society-wide attitudes related to HIV prevention present a third set of barriers that need to be addressed in order to promote effective HIV/AIDS prevention education by teachers. These attitudes include stigma and denial associated with HIV/AIDS and ambivalence about teaching young people about sexuality. Issues surrounding the teaching of sexuality in schools have been identified as a barrier in many countries, especially in pluralistic societies with differing values, despite the evidence that comprehensive sex education clearly has not promoted and may even delay early sexual activity (41). Societal attitudes affect teachers' personal willingness to discuss HIV/AIDS prevention with their students and make them uneasy about potential community opposition. Many of the attitudinal barriers that affect teachers also affect administrators and may be reflected in the mixed messages teachers feel they are being sent when HIV/AIDS prevention programs are mandated but not part of examinations.

Discussion about safer sex with young people may be especially problematic in Malawi and other African countries, where most HIV transmission is through heterosexual contact but where discussion of sexual issues between adults and young people has been culturally restricted. Establishment of dialogue with community members and especially parents is important to ensure that what is taught is locally acceptable and that teachers feel more comfortable in discussing these issues. Involving communities in determining what and how to teach about sexual transmission and prevention in the school curriculum may provide the support teachers need to be effective HIV/AIDS prevention leaders. Most successful school-based HIV/AIDS prevention programs reported previously for African countries engaged the teachers and/or the community in developing as well as implementing the programs. A possible reason why this strategy was associated with success is that dialogue allows consensusbuilding and therefore greater teacher comfort with the program. A community council to develop community consensus regarding the content of HIV/AIDS prevention and sexuality is one potential way to promote attitudinal change, as recommended by Munodawafa (5) in his study in Zimbabwe. Community dialogue also is a potential strategy for fostering more open discussion of HIV/AIDS and less stigmatization and denial throughout the society.

The generalizability of this study is limited because only two focus group discussions were conducted in only one region of Malawi. The participants were exemplary students who had completed secondary school, while other primary school teachers have not. Thus, participants may have been more informed about HIV/AIDS and may have

had more liberal views of sex education than other primary school teachers. Another limitation was the fact that the focus groups were all male or all female. Since there were only two groups it cannot be determined whether differences between the groups reflect gender differences or other factors or how the discussions might have differed in mixed-gender groups. The main difference between the groups was the much more extended discussion of the progression of AIDS-related illnesses by the women's group, which may relate to the expectation that women should care for the ill in many cultures.

Despite these limitations, the high degree of consensus among participants regarding these issues suggests that their views were not unusual. The views of focus group participants also were highly congruent with views expressed informally by faculty at the colleges. These primary school teachers came from all over the central region and had their teaching internship experiences in rural and urban areas in the region.

Providing effective HIV/AIDS prevention programs for young people is an urgent global health priority. While children below age 10 are nearly universally free of HIV infection, many become infected during adolescence and early adulthood. Girls are especially vulnerable because of forced sex and a pattern of relationships with older men who may already be infected. In Malawi, for example, 18% of pregnant women age 15-24 attending antenatal clinics were already HIV positive in 2003 (2). Primary school programs offer a potentially efficacious and cost-effective way to provide HIV/AIDS prevention for nearly all young people, especially in resource-poor countries such as Malawi. Teachers' positions as community leaders make them uniquely able to act as opinion leaders and role models in rural communities regarding HIV/AIDS prevention.

To take advantage of the willingness of teachers to be HIV/AIDS prevention leaders, a strongly supportive environment is needed that includes: behavior change interventions for personal risk reduction for teachers, more visible support for school-based HIV/AIDS prevention programs through strategies such as examinations that make teachers and students accountable, ongoing training and support for new teaching techniques as well as content, and building of community and teacher consensus regarding the importance and content of teacher-led HIV/AIDS prevention programs. These results have been shared with the Ministry of Education and the National AIDS Commission in Malawi, and they are using the results to improve programs for teachers. The success of these efforts are shown by an independent evaluation in 2005 (42), which found that 80% of Malawi's teachers have received training and are now teaching the full life skills curriculum, which includes HIV/AIDS prevention.

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