Limiting the Spread of HIV/AIDS in
Sierra Leone: Opportunities for Intervention

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The global pandemic of HIV/AIDS is at catastrophic levels in sub-Saharan Africa, while the need for research and treatment initiatives throughout the developing world remains critical. The West African country of Sierra Leone is representative of both of these facts. The purposes of this study were to assess the HIV-related knowledge, attitudes, and behaviors of adult Sierra Leoneans to determine what type of HIV prevention efforts are needed in this population and to determine how such efforts could be developed and implemented. Interviews with 487 adults residing in the capital city of Freetown, Sierra Leone, and in the Northern Province of that country revealed HIV/AIDS-related knowledge, attitudes, and behaviors that reflect the impact of culture and tradition on the spread of HIV/AIDS. The challenges for HIV prevention raised through this study indicate the need to examine in greater depth the culturally specific use of traditional healers and traditional theater as channels of information that could serve to make HIV prevention initiatives more effective in Sierra Leone.

Key words: HIV/AIDS, Africa, Sierra Leone

The heterosexual spread of HIV fuels the AIDS pandemic in many areas of the world, while the information and skills that enable men and women to make informed choices regarding sexual behavior remain as a critical need in many regions. The World Health Organization (WHO) estimated there were more than 34 million people living with HIV/AIDS as of the year 2000, with nearly 5½ million new cases of HIV infection having been reported in 1999 (UNAIDS/WHO, 2000). Since the onset of the HIV/AIDS epidemic, the virus has infected more than 47 million people worldwide and has resulted in nearly 19 million deaths (UNAIDS/WHO, 2000).

As of the year 2000, more than 70% of all HIV/AIDS cases were found in sub-Saharan Africa (UNAIDS/WHO, 2000). This figure contributes to data indicating that more than 95% of all HIV/AIDS cases and 95% of AIDS deaths occur in the developing world, mostly among young adults and increasingly among women (UNAIDS/WHO, 2000). This data reinforces the critical need for research and treatment initiatives throughout the developing world, particularly in areas of sub-Saharan Africa.

In Sierra Leone, a country of approximately 5,000,000 people in sub-Saharan West Africa, a lack of large-scale seroprevalence studies combined with continuing population shifts make it difficult to ascertain the actual, current rate of HIV infection. The most
recent estimates from 1994 indicated HIV infection in Sierra Leone at almost 3% of the adult population aged 15 to 49 (Global AIDS Policy Coalition, 1996). Relatively small studies conducted early in the epidemic in Sierra Leone found seroprevalence rates of 27.5% among commercial sex workers, 7.1% among blood donors, 4.5% among patients with sexually transmitted diseases (STDs), and 2% among pregnant women (Kosia, Kargbo, & Makiu, 1989; Kosia, Kargbo, & Thorlie, 1989; Makiu, Kosia, & Mansaray, 1992).

Knowledge, attitudes, and behaviors that influence the spread of HIV among the general population of Sierra Leone are poorly understood. In addition, adolescents aged 13 to 19 were identified as having misconceptions in their knowledge of HIV/AIDS and other STDs. In their study of adolescents in Sierra Leone, Richter, Strack, Vincent, Barnes, and Rao (1996-1997) found that as many as half of the respondents believed in the existence of a vaccine for AIDS, and 22% thought there was a cure. One third of participants believed that only people with signs and symptoms of AIDS could transmit HIV, and more than 25% did not know that a woman could transmit HIV to her unborn child.

Attitudes toward HIV prevention may continue to put adolescents at risk for HIV infection. Stewart and Richter (1994-1995) reported that 19% of college students surveyed in Freetown, Sierra Leone, believed AIDS to be a conspiracy to keep Africans from having children. Further investigation revealed that the majority (59%) of those students believed that it is the man’s responsibility to raise the issue of safer sex, and 54% of these respondents were unsure if they would discuss the prevention of HIV and STDs with their sexual partner (Stewart & Richter, 1994-1995). However, Stewart and Richter also reported that 29% of the college students surveyed had one regular sexual partner, and 21% had more than one partner; 24% stated that they rarely or never engaged in sex.

Behaviors that predispose adolescents and adults to the risk of HIV infection have not been systematically studied in Sierra Leone. A literature search proved futile regarding publications on knowledge or practices related to medical or traditional-cultural rituals that may contribute to individual risk for HIV infection in Sierra Leone. This study was developed to address the problem of HIV infection and the paucity of data on HIV prevention efforts in Sierra Leone. The purposes of this study were to assess the HIV-related knowledge, attitudes, and behaviors of adult Sierra Leoneans to determine what type of HIV prevention efforts are required in this population and to determine how such efforts could be developed and implemented.

**Method**

**Sample**

A convenience sample of adults residing in the capital city of Freetown, Sierra Leone, and in the Northern Province of that country were recruited from clinics, markets, a refugee camp, and a teacher training college. Adults who agreed to participate in the study (response rate > 90%) provided verbal informed consent. The initial interview sample was composed of 353 men and 221 women, with a resulting study sample consisting of 321 men and 166 women. Of the 166 women, 55 were excluded from the study based on incomplete responses: 42 respondents omitted age, 10 omitted information regarding marital status, and 3 omitted educational information. Of the male respondents, 32 were excluded from the study based on incomplete responses: 20 respondents omitted age, 5 omitted marital status, and 7 omitted educational information.

**Data Collection**

The Sierra Leone Ministry of Health Research and Ethics Committee provided permission for the study. Pilot testing was conducted with patients of the Marie Stopes Clinic, a family planning and maternal and child health clinic in Freetown. A multi-item interview instrument was developed, pretested, and subsequently modified with the addition of questions and response categories. A panel of experts in Sierra Leone and the United States established the construct validity of the instrument.

All interviews were conducted by teams of American or African university-prepared, trained researchers under the supervision of a sociologist in Freetown and a community organizer and midwife in the Northern Province. The principal investigator (PI) trained the interviewers and supervisors in Freetown, and their
supervisor trained the team in the Northern Province. Travel restrictions imposed by the government limited the travel of the PI to the Northern Province. The interview instrument was prepared both in English and in Krio, the lingua franca of Sierra Leone, as only 15% of the Sierra Leone population is literate in English. To accommodate participants who were more comfortable in other local languages, interviews were also conducted in the local dialects of Mende and Temne using multilingual interviewers. All interviewers were trained to ensure a clear understanding of the survey questions by participants and to ensure accuracy in their interpretation of the questions into the languages that were used during the interviews. Training consisted of a seminar on the basics of HIV/AIDS prevention, a review of interview techniques, and practice in administering the interview instrument.

Questionnaire Design

HIV/AIDS-related knowledge, attitudes, and behavior were assessed using an 81-item questionnaire that included the following constructs: sociodemographic characteristics, knowledge of transmission and prevention of HIV/AIDS, attitudes toward HIV/AIDS and associated risk behaviors, and interpersonal violence. Additional items relating to cultural or traditional practices and to channels of information were assessed. The interviews lasted an average of 1 hour.

Data Analysis

All statistical analyses were conducted using Statistical Analysis System (SAS) version 6.12 (SAS Institute, 1989). The chi-square test was used to determine whether differences in the responses regarding risk factors were statistically significant by gender (Fienberg, 1977).

Results

The responding sample consisted of 321 men and 166 women. Most of the respondents (73%) were between the ages of 20 and 34 years, and 18% were aged 35 to 44. Religious preference was almost evenly divided between Muslims (52%) and Christians (48%). Most (77%) reported that they had a high school or university education. Of the respondents, 42% were currently married, and 42% had never been married. Demographics of the sample population are shown in Table 1.

This study revealed several aspects of the HIV/AIDS-related knowledge, attitudes, and beliefs of Sierra Leoneans and reflected aspects of their culture and traditions that may have unique impacts on the spread of HIV/AIDS (see Table 2). The results reported will be limited to the following aspects: the lack of perceived threat of HIV/AIDS, a preference for medical injections over oral medications, traditional scarification and circumcision, and the incongruence in the perception of one’s ability to protect oneself against HIV infection.

Lack of Perceived HIV/AIDS Threat

Regardless of the HIV/AIDS prevention information disseminated in Sierra Leone since the late 1980s, this study revealed that the perceived threat of HIV/AIDS has remained low, with only 16% recognizing the prevalence of AIDS in Africa. Of the respondents, 56% believed AIDS to be a threat only in Europe and the United States. A quarter of the respondents (25%) also regarded AIDS as a conspiracy to keep Africans from engaging in sexual relations and having children. This lack of a perceived threat may have been influenced by the fact that most respondents (88%) stated that they did not know anyone who had AIDS or who had died of AIDS. Of the Sierra Leoneans participating in this study, 25.4% believed there to be a cure for AIDS. Men were significantly more likely (29%) to believe there is a cure for AIDS than were women (18%). In addition, 28% of survey participants believed a vaccine for the prevention of AIDS was available.

Preference for Medical Injections Over Oral Medications

Sierra Leoneans strongly prefer medications that are administered by injection rather than orally. This cultural preference may serve as a variable that impacts HIV transmission in a developed country,
because a lack of sufficient infrastructure to support medical care has resulted in a shortage of needed equipment and supplies. Consequently, syringes are routinely used on more than one patient. Although this practice was identified by 83.5% of men and 82.5% of women as a mode of HIV/AIDS transmission, the use of this type of injection remained prevalent, with 45% of women and 38% of men having taken an injection in the past 6 months. The risk of HIV transmission can be controlled if patients provide their own sterile equipment for injections (a locally accepted practice). However, 60% of men and women in this study did not take sterilized needles and syringes with them nor did they ask if the health care provider properly sterilized the syringes before delivering an injection.

Traditional Scarification and Circumcision

Ritual scarification and circumcision—which often involve the sharing of unsterilized cutting implements—are frequent occurrences in Sierra Leone. These cultural and traditional practices pose a unique risk for HIV infection. In this study, almost 80% of women and 60% of men reported that they belonged to secret societies and, thus, had participated in some form of initiation involving scarification, circumcision, or both. Initiation into these secret societies usually takes place during preadolescence or adolescence, and children are usually taken for initiation into such societies by their parents. Only 37% of respondents in this study said they would ask if sterile techniques were used during ceremonies performed on their children, although 90% believed that implements of initiation (knives, razors, scissors, etc.) should be sterilized.

Ability To Protect Oneself From HIV Infection

The perceived ability to protect oneself from HIV infection is reflected in the number of respondents (89%) who reported the ability to avoid AIDS. The male respondents were significantly more likely to believe that they could avoid AIDS (91%) than were the female respondents (83%). The men in the study (84%) also were significantly more likely to consider it the man’s responsibility to introduce the topic of safer sex into a relationship than were women (65%). Of the study respondents, 56% thought that even broaching the topic of safer sex would anger their partner. Also, 70% of study respondents reported that even if most people in Sierra Leone were convinced that condom use would prevent HIV infection by sexual transmission, condoms would not be used.

Discussion

Several behavioral theories—such as the health belief model (Rosenstock, 1990) and the theory of reasoned action (Ajzen & Fishbein, 1980)—have established that for an individual to take preventive action, the individual must perceive his or her risk. This study
reveals a distinct lack of perceived risk for this population. Results demonstrate that survey participants do not believe AIDS is a particular threat in Africa, that they are unaware of people around them who are suffering from or have died of HIV/AIDS, and that they suspect a conspiracy to undermine reproduction.

Although some may argue that such beliefs are simply denial, there are logical explanations that support these beliefs. In a society in which the developed world has a history of using and abusing Africans, a distrust of the etiology of the AIDS pandemic on the part of this population is not unreasonable. It is important to remember also that, in much of Africa, many other conditions of daily life pose more imminent threats to health and welfare than does AIDS. Escape from rebel warfare in the provinces to the relative safety of Freetown was a very real, daily concern for many during the study period. Even during more peaceful times, other health concerns are more immediate than the threat of AIDS, such as malaria, diarrheal disease, and high infant mortality. Even if the lack of perceived threat of AIDS found in this study cannot be justified, such a perception is thought to have a profound influence on attitudes, beliefs, and behaviors that may place people at risk for HIV infection.

Although most participants (91%) believed that things could be done to protect themselves against HIV infection, there is a concern, especially on the part of women, that broaching the topic of condom usage with a male partner is inappropriate and may induce an angry response. The subordinate role of women—especially in sexual relationships—and their expectations of men in assuming the responsibility to introduce the subject of condoms make negotiations for safer sex difficult. In addition, “Women who do not have an independent means of making a living are likely to go along with men’s wishes with regard to sex, even if doing so endangers their health” (Mhalu, 1991, p. 2). Women and men in this study (70%) expressed pessimism over the lack of willingness

<table>
<thead>
<tr>
<th>Table 2. Risk Factors for the Spread of HIV</th>
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<tbody>
<tr>
<td>Risk Factor</td>
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<tr>
<td>Perception of threat</td>
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<tr>
<td>Believe AIDS is found mainly in the United States and Europe</td>
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<tr>
<td>Believe AIDS is a conspiracy to keep Africans from having sex and children</td>
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<tr>
<td>Know someone who has AIDS</td>
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<tr>
<td>Know someone who died of AIDS</td>
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<tr>
<td>Think there is a vaccine for AIDS</td>
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<td>Think there is a cure for AIDS</td>
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<tr>
<td>Preference for injections over oral medications</td>
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<tr>
<td>Took injections in the last 6 months</td>
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<tr>
<td>Know that unsterilized needles are a mode of HIV transmission</td>
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<tr>
<td>Did not take sterilized needle and syringe with them</td>
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<tr>
<td>Did not ask whether needles and syringes were properly sterilized</td>
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<tr>
<td>Scarification and circumcision</td>
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<td>Initiated into secret society</td>
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<tr>
<td>Will try to find out if sterile techniques are being used if they take their child for initiation</td>
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<tr>
<td>Think that knives, razors, scissors, and all sharp instruments should be sterilized before use</td>
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<tr>
<td>Ability to protect oneself from HIV/AIDS</td>
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<tr>
<td>There are things we can do to avoid AIDS</td>
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<tr>
<td>Even if most people are convinced that using a condom would protect them, they would not use a condom</td>
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<tr>
<td>In a new relationship, it is the man’s responsibility to raise the issue of safe sex</td>
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<tr>
<td>Believe raising the issue of safe sex would upset a new sexual partner</td>
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*Gender differences at p < .05. Identified gender has higher prevalence.
among their countrymen to use condoms, even if they were convinced that condom use would protect them from the sexual transmission of HIV.

Both the subordinate role of women in sexual relationships and the pessimism over the likelihood of condom use strike at another element of behavioral theory: self-efficacy. Self-efficacy is a person’s belief that they can perform a specific action or behavior (Bandura, 1977, p. 79). Although the respondents in this study originally expressed the belief that there were things one could do to prevent HIV infection, the respondents lack the self-efficacy to perform the necessary behaviors to prevent sexual transmission, namely, negotiation for safer sex and condom use.

Two other factors identified in this study were the preference for injections over oral medications and the prevalence of scarification and circumcision, which both underscore the fact that knowledge of risk alone does not result in preventive behavior. In both cases, most participants were knowledgeable about the risk involved but did not act to control the risk. Although most adults (91%) believed that cutting instruments used in the ritual practices of scarification and circumcision should be sterilized, only 37% said they would inquire if these instruments were sterilized before allowing their children to be subjected to their use. Similarly, 60% of participants did not bring clean needles with them to take injections despite the fact that 83% knew unsterilized equipment could facilitate transmission of HIV. This adds to the convincing existing evidence that “by itself information is insufficient to change behavior” (Mann, Tartola, & Netter, 1995, p. 315). It also underscores the construct of behavioral theory that explains the importance of societal norms in health behavior. The social cognitive theory (Bandura, 1977) recognizes that behavior is influenced by environmental, social, and personal factors and that the behavior itself is in a triadic reciprocal model of interaction.

Implications for Practice

The challenges for HIV/AIDS prevention presented in this study reinforce the need for health professionals to examine in greater depth the culturally specific opportunities that could serve to make prevention initiatives more effective in Africa. A study by van Dyk (2000) reports that AIDS education and prevention efforts in Africa will only succeed if traditional beliefs and customs are taken into account. In advance of that caveat, this study revealed that traditional customs—such as the practice of traditional healers and the acceptance of traditional theater—can provide channels of information for the communication of HIV/AIDS prevention efforts in Sierra Leone. For AIDS education and prevention efforts to be effective in that country, it will be important to examine influences such as the role of traditional healers as well as the power of traditional theater as means for delivering health messages.

Traditional health care providers in Sierra Leone, known as traditional “healers,” make available needed health services in addition to performing traditional and cultural functions. This service offers greater accessibility to care for people living outside urban centers in many parts of Africa, particularly in Sierra Leone. “In remote areas and in urban ‘townships’ many people turn to traditional healers in times of sickness, and for them, primary health care may be synonymous with traditional medicine” (Freeman & Mote, 1992, p. 1185). Furthermore, traditional healing is seen as involving “the whole person, [and is] designed to preserve cultural institutions and to help the patient live at peace with family, clan, village, tribe and inner self” (Freeman & Mote, 1992, p. 1187). Traditional midwives play similar roles in the provision of needed health care services and are also custodians of a unique cultural tradition. Involving these traditional healers in HIV prevention efforts could make the prevention message more acceptable to its intended audience and further enhance the stature of the traditional healer in the community.

The use of traditional theater as a means of delivering health messages also offers advantages over attempts at disseminating HIV prevention messages in more Westernized ways. Advantages of this venue are that it requires no literacy skills because it approaches people though the oral tradition with which they are familiar and comfortable. For example, in Mali, another African country, plays have been developed that show how HIV is transmitted and how one can be protected from sexual transmission by using a condom (Feldman & Miller, 1998). After each performance, a discussion is held and condoms are distributed.
Some efforts have been made in Sierra Leone to use the popularity of traditional theater to impart HIV prevention messages in a manner that is both understandable and applicable to the lives of those viewing the performances. The Society for Women and AIDS in Africa, Sierra Leone, in collaboration with the women and teenagers of Kanikay (a peri-urban community of Freetown) developed two dramas that were presented in communities around the capital city as well as videotaped and televised nationwide. The adult drama dealt with women’s concerns for the spread of HIV within polygamous marriages, whereas the teen drama focused on the issues around embarking on sexual intimacy at an early age and the importance of abstinence as a means of protection. Such educational efforts are reflected in other parts of Africa where traditional theater is also being used as a vehicle for HIV prevention. Although these efforts in Sierra Leone were not formally evaluated, there is great promise for such prevention efforts.

For needed progress to be made in Africa in the fight against HIV/AIDS, innovative efforts toward health education must be employed. The use of traditional and culturally based means for delivering health information is one such effort. The cultural resources of traditional healers and the venue of traditional theater could prove to be viable means for offering education on prevention techniques that serve to limit the spread of HIV/AIDS in Sierra Leone.

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