



Social Marketing and Communications for Health

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**Misconceptions, Folk Beliefs, & Denial:
Young Men's Risk for STIs & HIV/AIDS in Zambia**

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Abstract

Objectives: This study identifies young Zambian males' misconceptions and folk explanations for sexually transmitted infections (STIs), as well as human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS). In addition, this study describes their sources of information and assesses the reliability of those sources. The authors distinguish denial about infection from misconceptions and folk beliefs and explain how each influences young men's personal risk perception and strategies for avoiding infection.

Methods: Thirty in-depth interviews were completed with out-of-school males aged 15–19 years in 10 compounds in Lusaka, Zambia. Participants discussed their knowledge of transmission and prevention of STIs and HIV/AIDS, sources of information, personal risk perception, and patterns of sexual behavior. Data analysis in Ethnograph 5.0 highlighted common beliefs about STIs/HIV and their role in risk perception and sexual behavior.

Results: Overall, awareness of STIs and HIV/AIDS was high, but specific knowledge about transmission, prevention, symptoms, and risk factors was limited. Most participants identified promiscuous, careless, and unhygienic individuals, especially women, as likely transmitters of STIs/HIV. Misconceptions about HIV being transmitted through mosquito bites, kissing, and biting were common as were folk explanations linking infection to the strength of individuals' blood, menstruation, or sorcery. Despite knowing that a healthy-looking person can be infected with STIs and HIV, most participants continue to rely upon outward appearance as a means of identifying individuals who are likely to be infected. Overall, risk perception among study participants was low, and several participants' comments served as rationalizations for risky sexual behavior, suggesting that denial renders them unwilling to admit that current actions increase their risk for infection. Denial appears to be the result of the stigma attached to STIs and HIV/AIDS, behaviors associated with infection, and conflicts between local values and youth's sexual behavior.

Conclusions: Misconceptions, folk beliefs, and denial can impede personal risk perception for infection and interfere with the adoption of safer sexual behaviors. A common prevention strategy among participants was to avoid individuals thought to be at risk for STIs and HIV/AIDS rather than adopting more reliable methods, such as abstinence, condom use, or evaluation of risk through testing. The findings from this study suggest several programmatic implications for improving young men's knowledge about infection and their subsequent risk assessment, including developing more peer-based interventions and presenting science-based messages that work within a local health belief framework. In addition, programs should work with communities to decrease stigma associated with youth's sexual activity and HIV/AIDS.

Introduction

Worldwide, an estimated 11.8 million young people aged 15–24 are infected with human immunodeficiency virus (HIV), most of whom (77%) live in sub-Saharan Africa (Henry J. Kaiser Family Foundation 2002). Youth in this region are also disproportionately affected by sexually transmitted infections (STIs), which increase their likelihood of acquiring and transmitting HIV (AGI 1998; UNAIDS and WHO 1997). In Zambia—one of nine African countries hardest hit by the epidemic—HIV prevalence among 15- to 49-year-olds exceeds 21% (UNAIDS 2002a and 2002b). Several factors contribute to the rapid spread of HIV in Zambia, including high rates of STIs, a norm of multiple sexual partners, low rates of condom use, cultural beliefs, poverty, and poor health status (Weiss et al. 2001; USAID and Impact 1999).

Zambia's population is estimated to be 10.6 million, 21% aged 15–24 (UNICEF, UNAIDS, and WHO 2002). Approximately 40% of the population is urban, and nearly two-thirds of Zambians live below the poverty line (CSO 2002). Although most Zambians receive some primary school education, few attend secondary school¹ usually due to families' inability to pay school-related costs (Kelly 2000; Feldman et al. 1997). A lack of access to education and economic opportunities can exacerbate youth's vulnerability to HIV and STIs. Zambians with more years of schooling are less likely to have casual sexual partners and more likely to use condoms (CSO and ORC Macro 2002; Magnani et al. 2002; Agha 2000).

Recent evidence from Zambia demonstrates a decline in HIV/AIDS prevalence, especially among youth and educated segments of the population. Decreases in seroprevalence have been attributed to delayed sexual debut, lower rates of sex with casual and multiple partners, and increased use of condoms (MAP 2002; CSO 2002; TVT Associates 2002). Nevertheless, only modest changes in seroprevalence have been detected among poor and less-educated groups (Fylkesnes et al. 2001).

Zambian youth continue to participate in activities that put them at increased risk for STIs and HIV infection. Early sexual activity is common among youth, with a median age of 16.6 years for females and 16.0 years for males at sexual onset (UNICEF, UNAIDS, and WHO 2002). Many youth report having multiple sexual partners, and although rates of condom use are increasing, *consistent* use remains low (Fetters, Mupela, and Rutenberg 1998). Only 26% of 15- to 24-year-old males and 20% of females in the same cohort reported using a condom at last sex, and only 7% of youth report consistent condom use (UNAIDS 2002b, USAID and Impact 1999). Increasing rates of STIs are a problem among young Zambians, with rates of herpes simplex virus type 2 infection as high as 50% in some areas of the country (Weiss et al. 2001). Nearly a quarter of young men in a recent study reported a history of STIs, and 72% said that they knew someone who had had an STI (Ndubani and Hojer 2001).

Several studies have demonstrated that despite high levels of awareness about HIV/AIDS, youth worldwide lack specific knowledge essential to protecting themselves from infection. Misconceptions persist about modes of STI/HIV transmission, methods of prevention, and forms

¹ Primary education in Zambia is the first 7 years of schooling, with secondary being an additional 5 years (CSO 2002).

of treatment (Summers, Kates, and Murphy 2002; Mshana et al. 2002; PRB 2001). Although 94% of 15- to 24-year-olds in Zambia have heard of AIDS, only 75% know that HIV exposure can be avoided. Approximately one-fourth of youth aged 15–24 believe that mosquitoes transmit HIV (CSO 2002). More than 80% of Zambian youth know that a healthy person can be infected with HIV, but youth continue to make assumptions about people's serostatus based on appearance (CSO 2002; Trigg 2001). Knowledge about STIs is even lower. Three-quarters of youth have heard of STIs but only half are able to cite common symptoms (CSO 2002). Overall, researchers estimate that only 26% of Zambian youth have sufficient knowledge to protect themselves from STIs and HIV infection (UNICEF, UNAIDS, and WHO 2002).

Youth's knowledge about STIs and HIV/AIDS is complicated by local beliefs that overlap with scientific messages. Like most individuals, youth adhere to multiple theories of transmission and prevention in order to make sense of the epidemic (MacIntyre, Brown, and Sosler 2001; Warwick and Aggleton 2001). Their beliefs about infection are a result of their education, culture, socialization, and personal experience (Bernardi 2002; Astatke and Serpell 2000; Nzioka 1996; Prochaska et al. 1990). In addition, youth receive conflicting information about HIV/AIDS and sexuality from different sources (Dowsett and Aggleton 2000). For example, even though 78% of Zambian males aged 15–24 state that having one faithful partner is a method of HIV prevention, many believe that multiple sexual relationships are essential for achieving manhood (CSO 2002; Ndubani and Hojer 2001). Local beliefs that HIV is transmitted through supernatural forces also persist: 16% of males and 22% of females aged 15–24 stated that HIV is the result of witchcraft (CSO 2002).

Zambian youth's limited scientific knowledge and contradictory beliefs about STIs and HIV/AIDS may stem from their reliance upon interpersonal sources of information. Most youth rely upon peers for information, and others seek advice from grandparents or traditional healers (Fetters, Mupela, and Rutenberg 1998). These individuals may be ill informed about transmission and unprepared to suggest reliable methods of prevention. In Zambian culture, it is considered inappropriate to discuss sexual matters with one's parents, and evangelical churches label premarital sex and condom use as immoral, contributing to a stigmatization of STIs and HIV/AIDS (Agha 2001; Feldman et al. 1997). Stigma and a reluctance to discuss sexual matters openly with youth increase the likelihood of youth receiving incorrect information, denying their risk for infection, and failing to adopt protective behaviors (Population Council 2001; JHUCCP 2001; Kirby 1997).

Researchers have identified several factors associated with risk perception for STIs and HIV/AIDS. Behavioral theories, such as the Health Belief Model, Theory of Reasoned Action, and Social Cognitive Theory, outline antecedents essential for the adoption of safer sexual behaviors (Kirby 1999; Sweat and Denison 1995; Rosenstock, Strecher, and Becker 1994; Fishbein, Middlestadt, and Hitchcock 1994; Bandura 1994). Although the role of knowledge in increasing risk perception and changing behavior is unclear, it is thought to be a prerequisite for adopting protective behaviors (Peruga and Celentano 1993). Improving youth's knowledge about STIs and HIV/AIDS and the environment in which they learn about infection has the potential to change youth's attitudes about risk behaviors, improve their ability to negotiate safer sexual practices, and decrease stigma associated with risk behaviors.

It is important that researchers identify misconceptions youth harbor about STIs and HIV/AIDS in order to improve behavior change communication (BCC) programs and social marketing efforts. This study identifies accurate beliefs, common misconceptions, and folk explanations for STIs and HIV/AIDS among young Zambian males, as well as their sources of information, and the reliability of those sources. Authors distinguish denial about infection from misconceptions and folk beliefs and explain how each influences young men's personal risk perception and strategies for avoiding infection. Based on study findings, the authors recommend strategies for relaying accurate information and improving youth's risk perception and adoption of protective strategies.

Methodology

Data were collected in May and June 2001 for two purposes: (1) to create a BCC strategy for Zambian youth encouraging consistent condom use; and (2) to develop a multi-round survey to track behavior change. Thirty in-depth interviews were conducted with 15- to 19-year-old out-of-school males in 10 low-income neighborhoods ("compounds") randomly selected from Lusaka. Although complementary interviews were conducted with females, the focus of this paper is on the data collected for males. Participants came from randomly selected households within each compound, and a trained interviewer conducted one-on-one interviews with participants. Most interviews were conducted in *Chinyanja*, the rest in *Ichibemba*, two of the most widely spoken languages in Zambia. An open-ended discussion guide was used that had been pretested with the same population and revised. Discussions covered the respondent's social history and background, knowledge of transmission and prevention of STIs and HIV/AIDS, sources of information, personal risk perception, and patterns of sexual behavior. Interviews were audiotaped, translated, and transcribed into English. The authors completed data analysis in Ethnograph 5.0 to highlight common themes in participant comments about accurate knowledge and misconceptions about STIs and HIV/AIDS.

Results

Profile of study participants

The majority of study participants were born in Lusaka and lived with both parents. Among those living with a single guardian, most lived with their mothers, usually because their fathers had died. Others lived with brothers, grandparents, uncles, or brothers-in-law. Many of the participants' guardians were unemployed or had low-paying jobs.

The majority of participants left school during or at the end of grade 6. The lowest level of education attained was grade 3 and the highest, grade 9. Most participants could read, albeit with difficulty, both English and a vernacular language, but few could write. The main reason cited for dropping out of school was lack of money, and for several, this action had been prompted by the death of their guardian. Other participants attributed dropping out of school to their own irresponsibility. Most regretted the fact they were no longer in school and expressed eagerness to continue their education.

Poverty was a central concern of all participants. The most common ambition respondents expressed was a desire to resume their education, which could enable them to secure gainful

employment and contribute to family income. Few participants mentioned contracting STIs or HIV/AIDS as a concern.

Common beliefs, misconceptions, and folk explanations about STIs and HIV/AIDS

All study participants had heard of STIs and HIV/AIDS; most, however, lacked specific knowledge about modes of transmission, methods of prevention, symptoms, and risk factors associated with infection. Most participants demonstrated partial knowledge about infection or harbored misconceptions about transmission and prevention. In addition, many shared folk explanations that linked infection to weak blood, menstruation, or sorcery. Only a few participants stated that everyone is at risk for contracting STIs and HIV/AIDS; most identified “promiscuous,” “careless,” and “unhygienic” individuals, especially women, to be at greatest risk. Although most participants understood that STIs and HIV/AIDS are sexually transmitted, they also described mosquito bites, kissing, and biting as likely modes of transmission. Likewise, several participants misunderstood methods of prevention and mentioned only condom use or abstinence as options rather than multiple forms of prevention. Finally, despite knowing that a healthy-looking person can be infected with HIV, most participants continued to rely on outward appearances to identify individuals who are likely to be infected.

General STI and HIV/AIDS information

Participants demonstrated a wide range of knowledge about HIV/AIDS and often mixed correct information with misconceptions. There was awareness among participants that HIV/AIDS is a very “dangerous” disease, and most understood that it is incurable. A few participants, however, argued that if infected individuals are treated early or with modern medicine, they can be cured of HIV/AIDS. Most participants believed that all STIs are curable and sometimes confused them with other diseases.

“...A virus transmits HIV while STIs are diseases like cholera, which are transmitted by something else. STIs are curable unlike AIDS, which is curable only in a very few cases” (16 years, Chainda Compound).

Participants demonstrated mixed knowledge about STIs and their relationship to HIV/AIDS. Some knew that untreated STIs could result in infertility, but others believed that STIs could be deadly if left untreated. Most participants did not understand that STIs increase one’s risk for HIV infection, and some believed that untreated STIs could develop into AIDS.

“As long as (STIs) aren’t treated in time or if one doesn’t finish taking the prescribed medication, STIs are what eventually turn into AIDS. For example, when I suffered from bolabola² (chancroid), if I hadn’t finished taking the medicine, the disease would’ve turned into AIDS” (18 years, Chainda Compound).

Only a few participants were able to distinguish HIV from AIDS. The majority stated that HIV and AIDS are the same or said that they did not know if there is a difference between the two.

² Bolabola is a local term for a chancroid or an STI that causes swelling of lymph nodes in the pelvic region. Literally translated, the term means “ball ball,” referring to the shape of swelling.

Some participants appeared to understand that HIV is a virus; however, they were unclear about the viral disease process and how HIV affects the immune system. A few participants believed that HIV becomes lodged in individuals' bones and weakens their bodies as a result.

"HIV/AIDS isn't curable because it's caused by a germ that lodges (itself) in the bones. Once in the bones, it isn't possible to dislodge this germ" (17 years, Chawama Compound).

STI and HIV/AIDS symptoms

When asked to cite symptoms associated with STIs and HIV/AIDS, nearly all participants described symptoms apparent in the later stages of AIDS. Only a few argued that it is impossible to know if individuals are infected by their outward appearance.

"You know, AIDS, just like syphilis, destroys many parts of a person's body including the brain even when a person may look physically healthy" (19 years, Chainda Compound).

Some participants noted common STI symptoms such as sores or pus around the genital region and blood during urination. Others provided anecdotal descriptions for infection such as walking with one's legs far apart, having flies hover around the genital region, or emitting a foul odor.

"Bolabola (chancroid) comes with sores around the private parts. Therefore, one's known by his manner of walking with legs wide apart" (15 years, Jack Compound).

Participants listed a wide range of symptoms for HIV/AIDS. Most mentioned symptoms of end-stage AIDS and did not know that individuals infected with HIV could remain asymptomatic for years. Severe weight loss, hair loss, changes in skin tone, and changes in hair color were the most commonly cited symptoms. Some participants stated that people with HIV/AIDS develop shingles (locally known as "God's fire"), and others believed that infected individuals crave meat or western food³. Other symptoms included a deepening of the voice, full body rash, diarrhea, ringworm, protruding shoulders, paleness, vomiting, and swollen legs.

"An infected person loses weight, the shoulders protrude, and the hair becomes light and falls off. When the infection becomes very acute, he begins to yearn for various foods, which he doesn't even eat. The person may ask for chicken and when you bring the chicken, he won't eat it" (16 years, Soweto Compound).

³ Low-income groups in Zambia typically eat inexpensive foods such as vegetables. Individuals who suspect that they are HIV positive may go to extremes to maintain a healthy diet and purchase nutritious foods that are considered "western," especially meat, fruit, and milk.

Individuals at risk for STIs and HIV/AIDS

Overall, participants believed that individuals who are sexually “promiscuous” are at greatest risk for STIs and HIV/AIDS. Nearly all agreed that females are more promiscuous than males and the most likely transmitters of STIs and HIV/AIDS.⁴ Several participants identified commercial sex workers (CSWs) and young women engaging in relationships with older men as especially promiscuous. Most participants believed that promiscuous females are easily identifiable by their manner of dress, propensity to frequent bars or nightclubs, and their participation in “bad behavior.”

“Those who are more vulnerable (to STIs and HIV/AIDS) are those who are involved in bad activities such as proposing love to boys and wearing short skirts in order that they may entice men to have sex with them” (15 years, Chazanga Compound).

Other individuals considered by participants to be at risk for STIs and HIV/AIDS were “careless” people who do not use condoms, unhygienic individuals, and boys who had had older girls as sexual partners. Only a few participants stated that everyone who is sexually active is vulnerable to contracting STIs and HIV/AIDS.

“... There’s no one who can be said to be less vulnerable (to infection) because one never knows how he becomes infected” (16 years, Chainda Compound).

Participants appeared divided on the risk STIs and HIV/AIDS present to youth. Some believed that youth are at increased risk for infection because of high levels of sexual activity. Others, however, argued that youth are at low risk for infection and that adults are at greatest risk because they have been sexually active longer and have had more partners. Some participants stated that as long as youth avoid having sex with adults, they remain safe from infection.

STI and HIV/AIDS transmission and prevention

Although knowledge about modes of transmission for STIs was generally high among participants, correct information about HIV/AIDS transmission was low. Nearly all participants agreed that STIs and HIV/AIDS are sexually transmitted, but most believed that HIV infection is inevitable after one sexual encounter with an infected individual. Some also argued that HIV/AIDS is transmitted more easily through sexual contact than other modes of transmission.

A few participants noted correctly that HIV/AIDS is present in blood, and they were able to identify bloody objects, such as razor blades and syringes, as infectious.

“(You get infected) by being cut by a razor blade contaminated by an infected person. In hospitals, a person can also be infected if a syringe previously used for an infected person is used for an uninfected person” (16 years, Soweto Compound).

⁴ Heterosexual sex is the primary mode of HIV transmission in Zambia, which may explain why participants spoke of women as primary transmitters of infection (UNAIDS 2002a).

Many participants shared folk explanations for transmission and attributed the likelihood of individuals becoming infected with HIV to the strength of their blood. They explained that individuals with "weak blood" are more likely to become infected and manifest symptoms quicker than individuals with "strong blood."

"It depends on the blood; if it's strong, it can take 2 years (to show signs of HIV infection). If on the other hand the blood isn't strong, it'll take only months" (16 years, Soweto Compound).

Likewise, some participants believed that it takes longer for females to display symptoms of HIV infection than males because they are able to shed the virus during menstruation. One participant argued that females who have reached puberty cannot become infected with HIV/AIDS because menstruation removes the virus entirely from the body.

"A girl who hasn't reached puberty will be infected and one who's reached puberty won't be infected. That's because for a girl who's reached puberty, the virus is removed through menstruation" (18 years, Bauleni Compound).

Several participants believed that being bitten by or kissing infected individuals could transmit HIV. Only some of these participants noted that such routes of transmission are only plausible if individuals have open sores in their mouths.

"I was told that if an infected person has a sore in the mouth and kisses a healthy person, the healthy person will be infected" (15 years, Misisi Compound).

Some participants used medical jargon when describing HIV transmission and explained that HIV is a virus or germ that can be passed through blood or other bodily fluids. Some participants believed that HIV is passed through saliva. A few believed that sharing food or toilets, or shaking hands with infected individuals presents risk for infection. In addition, several participants thought that mosquito bites pose a threat for transmission.

"A person, bitten by a mosquito, which had previously bitten an infected person, will be infected. The mosquito gets blood from the infected person and in biting the uninfected person, it leaves some blood in his body" (15 years, Misisi Compound).

A few participants said that HIV/AIDS is related to sorcery. They explained that people infected with HIV act as if they have been bewitched. One participant said that some girls become infected with HIV by having sex with attractive ghosts who frequent bars.

"In drinking places girls see good-looking males who, in actual fact, are ghosts. At night (the ghost) wakes up to infect other people with HIV/AIDS. I don't know how the ghost became infected because it's something I merely heard from other people" (16 years, Kalingalinga Compound).

Participants identified condom use and abstinence as the most effective means of preventing STIs and HIV/AIDS. However, most participants identified one method to the exclusion of the other and failed to cite multiple forms of prevention.

“I think that people should just abstain from sex. This is the only way that we can prevent these diseases” (19 years, Chainda Compound).

Sources of information about sex, STIs, and HIV/AIDS

Participants reported receiving information on sex, STIs, and HIV/AIDS from a variety of sources, notably interpersonal contacts; Information, Education and Communication Programme (IEC) agents; and mass media. Several reported knowing individuals who had had STIs and a few knew people living with HIV or AIDS. Most participants indicated that they rely on interpersonal contacts for information on infection. Such discussions with friends and relatives usually occur within the context of gossip or speculation about individuals thought to be infected. Participants were reluctant to ask parents for information for fear of being punished or accused of inappropriate behavior. Several identified elders, doctors, and clinics as trusted sources of information but were usually embarrassed to approach them with questions about sex and infection.

Interpersonal contacts and IEC agents

Almost all participants reported obtaining information about STIs and HIV/AIDS through interpersonal communication with friends or family members. Most explained that they avoid asking friends and family questions about STIs and HIV/AIDS out of fear, embarrassment, or shyness. As a result, most obtain information about infection from conversations that are overheard within the context of gossip. Much information appears to be based on hearsay garnered when friends and family speculate about individuals they know are infected.

“Everyone knows about AIDS. I’ve heard about it from other people, especially adults. The first time I heard about it was from a certain adult who was talking about someone who was suspected to have contracted the disease” (16 years, Chawama Compound).

Several participants said that they were embarrassed to ask their friends about sexual matters or infection because they do not want them to presume that they are sexually active or have an STI or HIV/AIDS. Likewise, most participants said that they are reluctant to ask parents about sex, STIs, and HIV/AIDS because they would be reprimanded and suspected of having sex.

“I can’t approach my parents because they’d simply tell me to shut up quickly and get out of their sight” (15 years, Chazanga Compound).

Despite this reluctance, some participants reported receiving information from family members about sex, STIs, and HIV/AIDS. Most information arrives in the form of warnings rather than open discussion with parents alerting youth to the consequences of sexual activity.

“Even my father told us about the disease. He usually tells all of us in the house that we should avoid having sex if we’re to avoid contracting AIDS” (16 years, Chawama Compound).

Reliance upon interpersonal contacts can result in the spread of inaccurate information and misconceptions about risk and STI/HIV transmission. Most inaccurate information appears to be obtained from peers and adults.

“When we meet with older people in the bars, they reveal things to us. They say that if a boy who’s never had children has sex with a girl who’s ever had a child, the boy will be hurt” (18 years, Kabanana Compound).

Only a few participants reported discussing HIV/AIDS with their girlfriends and sexual partners.

“I discuss HIV/AIDS with my girlfriend. I tell her that we should be careful about our sexual life because we won’t know who between us will contract HIV/AIDS and infect the other partner” (18 years, Kabanana Compound).

Several participants reported receiving information from IEC agents during awareness-building events and presentations in compounds. Such events included football games, parades, and mobile video shows as well as peer education.

Radio, television, and newspapers

Most participants stated that they receive some information about STIs and HIV/AIDS from radio, television, or newspapers. Radio was the most frequently mentioned medium, and some participants recited prevention messages they had heard on radio programs. However, some participants admitted that they do not pay attention to programs about STIs and HIV/AIDS when they are on the air.

“I remember hearing about STIs from ‘Radio One’ although I didn’t pay much attention to what was being said” (18 years, Chainda Compound).

The inability to understand and read English may prevent some participants from obtaining accurate information from mass media sources. Some participants said that they are unable to understand complicated radio messages in English and would prefer to hear them in local languages. A few said that they rely on friends or family members to read newspaper articles to them.

“I’ve heard about STIs so many times from the radio but also sometimes on television...even from newspapers my brother reads for me. I also know how to read so I read for myself sometimes” (17 years, Jack Compound).

Personal experience or knowing someone with an STI or HIV/AIDS

Some participants reported that their knowledge about sex and STIs came from firsthand experience with infection.

“I came to know about STIs when I suffered from the disease myself. I developed a swelling around my groin coupled with leaking (gonorrhoea). It was at the hospital that I was told that what I had was an STI” (19 years, Kalingalinga Compound).

Several participants reported that they knew someone who had had an STI. Some of them said that their friends' experiences allowed them to learn more about symptoms and transmission.

“My friend who suffered from an STI tells us that STIs aren't good because they're painful. He usually tells us this whenever he reads a brochure or other such material” (15 years, Jack Compound).

Fewer participants knew individuals who were HIV positive or who had died from AIDS. For the most part, infected individuals were family members or neighbors, and participants appeared to make judgments about risk behavior based on rumors that they heard about them.

“We had a relative who suffered from AIDS. I was young then, but my parents have been telling us about him. He was very promiscuous and had many sexual partners” (15 years, Misisi Compound).

Trusted sources of information

Participants identified adults, friends, IEC agents, doctors, and clinics as trusted sources for information about sex, STIs, and HIV/AIDS. Most argued that medical professionals provide the most accurate information and that friends and family might not always be reliable resources.

“I used to discuss HIV/AIDS with my friends about 2 years ago as a way of gaining and spreading knowledge. We've stopped such discussions because we may just end up sharing (inaccurate information) because I'm no longer in the Anti-AIDS Club” (16 years, Chainda Compound).

A few participants reported knowing no one who could serve as a trusted source of information. In their opinion, individuals outside of the medical profession have limited knowledge about STIs and HIV/AIDS, rendering them unable to provide accurate information.

“I don't know any person that I can approach for information about AIDS....It's difficult to approach just anyone for such information....When someone's not a medical person, it's difficult to determine whether he's knowledgeable about AIDS or not” (19 years, Kabanana Compound).

The contribution of stigma and shame to denial

Previous sections of this document identified misconceptions and folk explanations common among study participants for STIs and HIV/AIDS. Both sets of beliefs can impede personal risk perception and the adoption of safer sexual behavior. Another, more complicated process is one of denial. Denial of infection may occur under several circumstances, including when infection and the behaviors that lead to infection are stigmatized, and when a conflict exists between the values that local culture dictate and individuals' behavior (Feldman et al. 1997; Prochaska et al. 1990).

Participants' comments revealed several rationalizations for risky sexual behavior, suggesting denial and an unwillingness to admit that current behavior increases their risk for infection with STIs and HIV/AIDS. Most participants spoke about the influence of religion in their communities and their parents' unwillingness to discuss sexual matters with them. Their comments demonstrated that a great deal of stigma is attached to sexual behavior among Zambian youth, STIs, and HIV/AIDS. Most participants believed, however, that individuals need sex for emotional and physical development, and they acknowledged that a conflict exists between social taboos against youth's sexual activity and their actual behavior. As a result, participants spoke about infection as punishment for moral shortcomings.

Stigma and shame associated with sexual behavior, STIs, and HIV/AIDS

In large part, participants' denial of risk for STIs and HIV/AIDS appeared to be attributed to the stigma and shame associated with sexual behavior among youth. Because transmission is associated with sexual behavior, infection can be regarded as punishment for moral shortcomings and lack of self-control. Throughout interviews, participants spoke about the inappropriateness of youth being sexually active and how churches and adults discourage them from having sex. Some participants echoed these core values and said that youth should not be allowed to buy condoms because access to them could encourage sexual activity. Others said that youth who become infected with STIs and HIV/AIDS have only themselves to blame because they know that they should not be sexually active. Some participants appeared to provide interviewers with socially appropriate responses, reinforcing the idea that youth believe that their sexual desires and behavior are socially inappropriate.

“Adolescents are underage (and shouldn't be allowed to buy condoms). Even if at the moment young people are allowed to use condoms, it's against the laws of God” (18 years, Bauleni Compound).

Because of the association between infection and reckless behavior, many participants said that they are reluctant to approach adults for information about STIs and HIV/AIDS. In their opinion, curiosity about these topics can be interpreted as an admission of participating in inappropriate behavior.

Finally, the stigma associated with STIs and HIV/AIDS can cause not only denial, but also fear and reluctance to be diagnosed or treated.

“Those who don’t get cured (for STIs) are the ones who hide the fact that they have an STI until it’s too late. For such people, taking medication is as good as taking poison” (18 years, Chainda Compound).

Conflicts between core values and youth’s “need” for sex

Participants’ denial of risk behavior also appeared to be a result of the conflict between local core values discouraging sex among youth and their own perceived need for sex. Even though most recognized sexual abstinence as one of the most effective methods of STI/HIV prevention, they felt it impractical to expect youth to abstain. They explained that sex is a fundamental human need, pleasurable, and essential for emotional and physical development. In their opinion, most youth find it impossible to abstain or to limit their number of sexual partners.

“Abstinence isn’t good. Every human experiences a desire for sex. Those who feel like having sex mustn’t abstain because everything needs to be pretested. Sex provides knowledge and experience that’s helpful in the future” (15 years, Chazanga Compound).

Some participants recognized a conflict between church doctrine, adults’ expectations of youth’s sexual behavior, and youth’s desire to have sex. They acknowledged the difficulty of this situation and explained that youth hide sexual activity as a result.

“Young men can never brush aside the thought of sex. We think that sex is a natural thing and yet, the Bible tells us to abstain until we get married. What we see in reality is that once a boy sees a girl that he likes, he’ll stop at nothing until he sleeps with her” (17 years, Jack Compound).

Finally, some participants spoke of a need to have multiple sexual partners to establish their manhood. In their opinion, it is important for young men to demonstrate their prowess by having several sexual conquests.

“If he’s really a man, he can’t come away from a girl’s home without having sex” (18 years, Bauleni Compound).

How misconceptions, folk beliefs, and denial affect risk perception and strategies for avoiding infection

Participant comments reveal that misconceptions and folk beliefs about STIs and HIV/AIDS render them ill prepared to evaluate their personal risk for infection. Perhaps more important, the stigma and shame associated with STIs and HIV/AIDS can result in a denial of risk and shape youth’s strategies for avoiding infection. Overall, risk perception among study participants was low. Misconceptions and folk explanations appear to interfere with participants’ risk perception by competing with correct information, thereby encouraging unsafe behavior, and hindering the adoption of safer behavior. Most participants believed that avoiding individuals at highest risk for transmission is an effective prevention strategy. Participants, however, tended to base their assessment of others’ risk on outward appearances. In addition, some participants appeared to use misconceptions and folk explanations as justifications for continued risk behavior and were

unwilling to admit that their sexual activity poses a risk for infection. This denial of risk was also manifested by participants' reluctance to adopt effective prevention strategies, such as abstinence and condom use, or to be tested for STIs and HIV.

Perceived risk for STIs and HIV/AIDS

Few study participants believed that they are at risk for STIs and HIV/AIDS. They considered their risk for infection to be negligible because they are not promiscuous or unhygienic, nor do they fit the profile of high-risk individuals. Participants appeared more concerned about pregnancy, which they perceived as a more likely and immediate threat than STIs or HIV/AIDS. In addition to minimizing their personal risk for infection; participants presumed that current partners present little risk for STIs and HIV/AIDS because they are sexually faithful and have forsaken past risk behavior. None of the participants mentioned the risk serial monogamy presents or recognized the link between past sexual encounters and potential risk in current relationships.

“Issues about HIV/AIDS don't bother me because I know that I'm not promiscuous. I can't be infected. It never occurs to me (that I could be infected). I'm not promiscuous and my girlfriend's stopped moving around [having sex] with other boys. She can't have HIV/AIDS” (18 years, Soweto Compound).

A general misconception among participants was that so long as they remain sexually faithful to their partners, they can avoid STIs and HIV/AIDS. Consequently, participants viewed monogamous sexual relationships as risk-free even though the majority of their relationships lasted no longer than 6 months.

“I don't think I'd be infected with any STIs or HIV/AIDS....I have only one girlfriend; I don't think she could be infected. She's been my girlfriend for a very long time” (19 years, Kabanana Compound).

By externalizing the threat of infection to promiscuous, careless, or unhygienic individuals, participants placed the onus of behavior change on others and argued that policy makers should ensure that risk activities are controlled. There was little acknowledgement on the part of participants that their own behaviors merit change.

“At least nightclubs should be made to close early so that the girls who patronize them will be compelled to go home early (and avoid risk)” (19 years, Chainda Compound).

Strategies for Avoiding Infection

Avoiding those thought to be infected with STIs and HIV/AIDS

A prevention strategy most participants appear to have adopted is avoiding individuals thought to be at risk for STIs and HIV/AIDS. They spoke of avoiding promiscuous and unhygienic females, only having sex with partners they trust, and ending relationships with partners who appear risky.

“I believe that (my girlfriend) has another boyfriend. Judging by her behavior, it’s not safe to continue my relationship with her because she could infect me with an STI that could cause my death” (19 years, Misisi Compound).

Abstinence and fidelity

Participants also spoke about abstinence and sexual fidelity as methods of preventing STIs and HIV/AIDS. Even though participants recognize abstinence as the best form of protection against infection, it appears to be the hardest behavior to maintain. Some participants spoke about the ability to abstain from sex as a sign of being a “good” person who will avoid being punished with STIs or HIV/AIDS.

“Everyone wants to have sex but is restrained only by the fear of AIDS. Under these circumstances, the better person is the one who refrains from sex” (19 years, Chainda Compound).

Discussions of morality and “controlling one’s behavior” were common during participant interviews. Some participants suggested that youth who find it difficult to abstain should go to church and heed adults’ warnings to avoid sexual encounters.

“One way of preventing (AIDS) is going to church. That way, you’ll fear sleeping with girls” (19 years, Chainda Compound).

Participants who mentioned sexual fidelity as a means of prevention spoke of it in the same vein as abstinence, implying a moral imperative for limiting one’s sexual partners and saving oneself from STIs and HIV infection. Likewise, some participants mentioned getting married as a prevention method, using marriage as a proxy for sexual fidelity.

“I think that people should stop having sex if they think they’re to be saved from the disease. I think that I should also abstain from sex or get married quickly” (19 years, Kalingalinga Compound).

Condom use

Several participants spoke about condom use as an effective prevention method. However, few mentioned the effectiveness of adopting a dual strategy and spoke about condom use independent of sexual fidelity. Some participants also said that if they were to choose between remaining abstinent and using condoms, they would opt for condom use because they find it impossible to forgo sexual relations.

“The only way of preventing AIDS is through using condoms or abstaining. Of these two ways of prevention, the better way is using condoms. You know that, as a male, one can’t abstain. He must have sex all the time” (19 years, Misisi Compound).

Proponents of condom use said that condoms should be used with partners who look promiscuous or at high risk for infection. Overall, participants failed to recognize the importance of consistent condom use with all sexual partners.

“I think it’s important for one to take care of his life and use condoms, especially if you suspect that the girl looks like someone who’s promiscuous” (17 years, Chainda Compound).

The most common justification for not using condoms was trust in one’s sexual partner. Most participants believed that their sexual partners present little to no risk for STIs or HIV because they are “good,” not promiscuous, known to participants, and sexually faithful. Some appeared to use trust as a bargaining tool during condom negotiation by convincing partners that using condoms signifies a lack of trust. In some cases, participants used trust as a justification for risk behavior that had occurred before sexual fidelity was established in a relationship.

“I said to myself that the girl that I had sex with was a trusted person, and it wasn’t possible that she could have been promiscuous...I used to notice her behavior, and it seemed to me that she wasn’t promiscuous” (18 years, Chainda Compound).

Several participants rationalized not using condoms by arguing that condoms are ineffective at preventing transmission of STIs and HIV. They stated that condoms contain holes and maintained that latex is an ineffective barrier to the virus. Several participants also said that condoms tear or break easily. Nevertheless, many admitted that they had not personally experienced any difficulties using condoms but based their observations on friends’ experiences.

“...I don’t trust condoms entirely because AIDS is a very destructive disease. I’ve heard many people complain that condoms get torn” (18 years, Chainda Compound).

Some participants thought that although condoms can provide protection from some STIs, they are ineffective at preventing HIV transmission.

“(Condoms) are effective for diseases like kaswende (gonorrhea) and syphilis but not for AIDS” (17 years, Misisi Compound).

Finally, some participants argued that condoms interfere with sexual pleasure. Several spoke about the importance of having "skin-to-skin" contact with their sexual partners. Only a few participants refuted this argument. In their opinion, young men use sexual pleasure as an excuse to forgo use, even when they know condoms are an effective means of protecting against infection.

"Many young people don't use condoms because they tell each other lies, such as sex isn't enjoyable with condoms. Yet there's no difference whether one uses condoms or doesn't use them" (19 years, Kabanana Compound).

HIV testing

Some participants harbored misconceptions about HIV testing or had received incomplete information about the testing process. A few participants said that they had never heard of HIV testing and were unaware of its benefits. Some were poorly informed about the availability and cost of testing.

"I don't know whether or not young people like me are allowed to go for an HIV test" (16 years, Kalingalinga Compound).

Others had misconceptions about who should be tested and when testing should occur. A few believed that they would not require an HIV test because if they were infected, they would "feel" it inside of their bodies. A couple of participants thought that only those who are sick should obtain tests.

"I can only go for an HIV test if I'm sick. Otherwise, there's no need to go for one" (16 years, Jack Compound).

Most study participants said that they assume they are HIV negative, so there is no need to get tested. In their opinion, testing is appropriate for adults and others who are at risk for infection. Some participants said that if they were to get tested, it would only be to confirm that they are HIV-negative.

"I would (get tested) in order to confirm my status. I know that I would test HIV negative" (18 years, Soweto Compound).

Nevertheless, some participants spoke frankly about their fear of testing and how a positive HIV diagnosis could be perceived as a death sentence, leaving them hopeless about the future.

"I wouldn't go for an HIV test because I wouldn't have the courage for it. If I were found to be HIV positive, I'd be going around with the knowledge that I'm about to die" (18 years, Chainda Compound).

Conclusions

This study examines young Zambian males' beliefs about STIs and HIV/AIDS, their sources of information, and the reliability of those sources. Although the role of knowledge in increasing risk perception and changing behavior is unclear, it is considered a prerequisite for adopting protective behaviors, and programs should not overlook its importance. Our study identifies common misconceptions and folk explanations and distinguishes denial about infection from other sets of beliefs. Study findings offer insight into the influence these factors have on risk perception and youth's strategies for avoiding infection. We also demonstrate how some youth use inaccurate knowledge and folk explanations as justifications for continued risk behavior. Although young men in Zambia appear to have received certain key messages about STIs and HIV/AIDS, they lack sufficient knowledge and opportunity to discuss risk behavior that would allow them to protect themselves adequately from infection.

Despite high levels of awareness about STIs and HIV/AIDS, most participants lacked specific knowledge about modes of transmission, methods of prevention, symptoms, and risk factors for infection. Moreover, only a few acknowledged that everyone is at risk for these diseases; most identified promiscuous, careless, and unhygienic individuals, especially women, as likely transmitters of STIs/HIV. Misconceptions about HIV transmission through mosquito bites, kissing, and biting were common as were folk explanations that link infection to the strength of individuals' blood, menstruation, and sorcery. Despite knowing that a healthy-looking person can be infected with STIs and HIV, most participants continue to rely upon outward appearances to identify individuals who are likely to be infected. The spread of misconceptions can be attributed to youth's reliance upon interpersonal contacts as sources of information, individuals who are usually poorly informed themselves.

Misconceptions and folk explanations about STIs and HIV/AIDS can impede personal risk perception for infection. Overall, risk perception among study participants was low and many considered pregnancy a more immediate threat than STIs or HIV/AIDS. In addition, several participant comments served as rationalizations for risky sexual behavior, suggesting that denial renders them unwilling to admit that current behavior increases their risk for infection. Denial appears to stem from the stigma attached to STIs and HIV/AIDS, behaviors associated with infection, and conflicts between local values and youth's sexual behavior. Most participants spoke about the influence of religion in their communities and their parents' unwillingness to discuss sexual matters with them. Most argued that individuals need sex for emotional and physical development but acknowledged that a conflict exists between social taboos against youth's sexual activity and their actual behavior. As a result, participants spoke about infection as punishment for moral shortcomings.

Misconceptions, folk beliefs, and denial can also interfere with the adoption of safer sexual behaviors. A prevention strategy common among most participants is to avoid individuals thought to be at risk for STIs and HIV/AIDS. They spoke of avoiding promiscuous and unhygienic females, only having sex with partners they trust, and ending relationships with partners who appear risky. Denial is also manifested in their reluctance to get tested for STIs or HIV and adopt prevention methods, such as abstinence and condom use.

As with all research, this study faced certain limitations that must be taken into account when interpreting results. Some participant comments appeared to reflect courtesy bias, especially those in which participants explained how their behavior was socially appropriate and concurrent with religious teachings. Better pretesting of the discussion guide might have identified questions that were vague or poorly interpreted by participants. A random sample of study participants may have yielded different results than one in which participants were purposively selected. It is difficult to know if randomly selected participants were likely to have opinions typical of their counterparts or if selecting participants according to their experience and willingness to discuss sensitive topics would have strengthened study results. Finally, like all studies reliant upon self-reported data for sexual activity, participants may have under- or overreported certain behaviors.

The findings from this study have several research and programmatic implications. Using qualitative research to inform survey instruments can strengthen data collection and improve the quality of data available for program development. Surveys should assess more than basic awareness and knowledge about STIs and HIV/AIDS: They should uncover conflicting beliefs, local terminology, and folk beliefs surrounding infection. Questions should also address stigma and denial by asking youth about community perceptions of STIs and HIV/AIDS as well as differences between social expectations of youth and their actual behavior. Using scales rather than traditional question design can measure dimensions of knowledge and expose a range in attitudes and beliefs about risk for infection.

Several opportunities are available for targeting youth and relaying accurate information to prevent STIs and HIV/AIDS. Given youth's reliance upon interpersonal contacts for information, peer-based interventions should be enhanced to ensure that youth have access to trusted and well-informed sources of advice. Communication campaigns should also target adults, equipping them with accurate information and encouraging them to talk openly with youth about STIs and HIV/AIDS. Mass media messages should be more accessible to populations with limited education and distributed in local languages. Likewise, media messages should complement face-to-face interventions in which participants have an opportunity to ask trained agents questions about STI/HIV transmission and prevention.

Communication campaigns should correct youth's incomplete knowledge about STIs and HIV/AIDS and challenge their misconceptions. Messages should communicate the availability of HIV and STI testing and the importance of knowing one's serostatus. Programs should also present science-based explanations for infection without dismissing local beliefs. For example, campaigns could present information that works within local understandings of health and illness concerning the difference between HIV and AIDS, physical manifestations of illness, and viral loads in blood. Such a process could ensure that messages are culturally appropriate and accessible to audiences. Programs should also work with communities and leaders to decrease the stigma associated with STIs and HIV infection. Finally, programs should collaborate with communities to create long-term strategies for increasing youth's access to educational and economic opportunities, rendering them unwilling to sacrifice personal achievement for STIs or HIV infection.

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