Factors Influencing the Rise in Incidence of Heterosexual Transmission

In the African-American Population

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Abstract

The primary period of the HIV infection along with cultural behaviors have public health implications on infectiousness within the African American population in the United States. The incidence of HIV infections determined by heterosexual transmission continues to rise. HIV continues to spread and cause Acquired Immunodeficiency Syndrome (AIDS) that claims the lives of almost 315,000 since the beginning of the AIDS epidemic. That is 35% of the 816,000 of the AIDS deaths reported. Social networks within the black community are a key determinant of HIV transmission. Understanding cultural determinants will help target interventions to control HIV infection and mitigate the impact that HIV is having on the African American culture in the United States.
Factors in HIV Transmission

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In the African-American Population

Over a span of 20 years, Human Immunodeficiency Virus (HIV) has disseminated throughout the globe crossing barriers of race, gender, socioeconomic groups, and sexual orientation. HIV continues to spread and cause Acquired Immunodeficiency Syndrome (AIDS) that claims the lives of almost 315,000 since the beginning of the AIDS epidemic. That is 35% of the 816,000 of the AIDS deaths reported. In recent years, HIV has spread explosively to the African American heterosexual population. While HIV continues to be transmitted in the homosexual white population in the United States, the rates of new infections have decreased in recent years due largely to the acceptance of information regarding the transmission and effects of HIV.

Despite the overwhelming global spread of HIV, in the United States HIV remains elusive to prevention interventions in the African American heterosexual population as demonstrated by the continued rise of transmission rates. Understanding the determinants involved in the heterosexual transmission of HIV may assist in targeting interventions to prevent further increase in incidence of HIV infections. Framing prevention messages to appeal to the cultural values of the African American community may be a beneficial strategy.

Global, National, Community Impact

According to the Joint United Nations Programme on AIDS, (2002) Forty-two million people are living with HIV/AIDS and an estimated 14,000 people are infected with HIV everyday in the world. Approximately 12,000 of those new infections are adults aged 15 to 49. In the United States, an estimated 900,000 people are living with HIV and approximately 275,000 of those people do not even know that they are infected. Approximately 40,000 people
are infected every year. Out of the 30% of newly infected women, 75% of those women acquired the virus through heterosexual transmission.¹

African Americans comprise approximately 13% of the United States population and they account for 54% of the new HIV cases in this country. Black women account for 64% and black men 50% of all new infections (Figure 1).² For those living with AIDS, African American children represented almost two-thirds (65%) of all reported pediatric cases.³ As the incidence in HIV/AIDS continues to rise, it indicates a crisis situation for the African American population. The leading determinant of HIV infection in African American women is heterosexual transmission.¹ It is critical that action is taken at all levels to avert millions of new cases over the next decade.
Factors in HIV Transmission

Figure 1: Reported HIV Cases by Race and Gender

Source: Centers for Disease Control³
Financial Impact of HIV

Socioeconomic status is a risk factor for HIV. The poverty rate for African Americans was 26 percent compared to the 13 percent for the total US population (Figure 1). Poverty is an antagonist for the initiation and maintenance of marriage. Poverty is a key factor in the increased prevalence of single mothers and female head of households. Therefore; economic factors also impact the sexual behaviors and create circumstances that promote concurrent sex partners.

Figure 1 Source: U.S. Census Bureau Population Survey. March 1999

In 1997, the cost of HIV care was about $6.7 billion per year. Annually, there are over 2 million outpatient visits, 100,000 Emergency Room visits, and 900,000 hospital days associated with HIV infections. Annually, the estimated amount spent per patient in 1998 was $18,300.

HIV Mortality

In 2000, HIV was the 7th leading cause of death in African Americans. AIDS is ranked among the top three causes of death for African Americans for certain age groups. In men ages 25-34 and ages 45-54, it is ranked 3rd. In Black males aged 35-44 years of age, HIV is ranked as the leading cause of death. In Black females, HIV is ranked as the leading cause of death for the
age group 25-34 years, and 3\textsuperscript{rd} in the 35-44 years of age groups.\textsuperscript{23} Table 1 shows the age groups with rank representing number of deaths caused by HIV disease in the top 10 leading causes of death. These statistics have significant public health implications by indicating that there is a problem that is contributing to the increased incidence and hence deaths in these groups. This paper will examine some key determinants that are contributing to the increase in incidence within this group.

Table 1

<table>
<thead>
<tr>
<th>Rank</th>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
</tr>
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<tr>
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<td>10</td>
<td>8</td>
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<tr>
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<td></td>
<td>55-64</td>
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*not listed in top ten


The primary period of the HIV infection has significant public health implications on the infectiousness within the African American population in the United States. Understanding the importance of the social networks within the black community and its role in the transmission of HIV will help tailor interventions to control the rate of HIV infection.
Primary HIV Infection

Primary HIV infection (PHI) is the early stage of HIV infection. It is a highly infectious period. During this time the viral load in the blood plasma increases to a high level and then declines. Primary HIV infection has an onset of 4 days to 4 weeks following exposure to the virus. The median time to symptom development is 15 days within an interval range of 5 – 29 days after the acquisition of HIV.\(^{17}\)

One of the major factors in the sexual transmission of HIV is the presence of the virus in genital secretions. The seminal and vaginal mucosal cells also can contain the virus. There is a high level of HIV present in genital secretions in acute infection and advanced disease.\(^{11, 13, 14}\)

Sexually transmitted diseases (STD) enhance the transmission of HIV.\(^{11}\) There are numerous studies showing the correlation between gonorrhea, chlamydia, syphilis, trichomonas, herpes genitalis and the enhanced facilitation of the transmission of HIV.\(^{12, 13, 14, 17, 24}\) Fleming and Wasserheit (1999) demonstrated strong evidence supporting HIV transmission augmentation by the presence of ulcerative and non-ulcerative STDs. STDs both promote infectiousness of HIV and the susceptibility to HIV.\(^{12}\)

When HIV is transmitted into a new host, the virus replicates to high levels. As part of the immune response, new T-Lymphocytes are drawn out. When T-Lymphocytes respond to the virus, the virus infects these cells. When HIV sheds in the genital tract it enhances the infectiousness of HIV. STDs promote this shedding. STDs appear to recruit the inflammatory cells that are susceptible to HIV and they disrupt the cells of the mucosal lining that serves as a barrier to infection.\(^{12}\)

Fleming and Wasserheit (1999) reviewed studies on the effect of genital ulcers on HIV infectiousness and susceptibility in men and women. The presence of a genital ulcer in an
infected person increases the concentration of HIV in the seminal plasma, semen, and the blood plasma. A person with a genital ulcer has a compromised mucosal integrity. This increases a cell-mediated immune response. This response activates specialized cells that are HIV susceptible and brings them to the surface of the ulcer.¹²

In non-ulcerative STDs, infections increased the shedding of HIV by initiating a normal immune response. In men, HIV levels are elevated in the semen. Levels of HIV concentrations were reduced to levels of the control groups after treatment of the STD infection. Among women, cervicitis, vaginitis, and gonorrhea showed an increase in HIV viral shedding in the vaginal tract. Following treatment of the STD, HIV shedding was decreased significantly.¹² Susceptibility in non-infected women was increased by the presence of a STD because HIV target cells, CD4+ lymphocytes, are recruited to the endocervix.¹²

During the initial acute stage of infection CD4+ Lymphocytes and some macrophages will be infected. Replication of HIV occurs rapidly to high levels. The host has not fortified an immune response to the HIV intrusion. Lymphoid tissue becomes infected. CD4+ lymphocytes will decline initially as CD8+ cells increase. When the antiviral cellular immune response and later the formation of antibodies to HIV appear, the number of CD4+ and CD8+ cells will return to near normal levels. A sharp decline of the virus will also occur during this immune response. However, a small number of cells will continue to host a replicating virus escaping the immune system's responses.¹¹

Even without the presence of an STD, when the blood plasma viral load is high, there is a high level of HIV in the genital fluids.¹⁴ Pilcher et al. (2001) investigated 5 cases of sexually transmitted HIV during PHI. Four of those cases involved heterosexual transmissions between steady partners. In Couple 1 the transmission was woman-to-man. The transmitters in couples
1, 3, 4 identified a specific high-risk sexual exposure with another sex partner. Couples 1 and 5 had co-infection with additional sexually transmitted diseases\textsuperscript{15,16}.

Transmission rates occurred within weeks of exposure to HIV. For couple 1 there were multiple exposures occurring prior to the onset of the transmitter’s symptoms. The incubation period, the time from sexual exposure to the onset of symptoms, in this couple was 20 days. There was a single sexual exposure on 7 days after symptoms started in the male transmitter in couple 3. The female partner developed symptoms 12 days after this sexual exposure. It took the female in couple 4, 17 days to develop symptoms after sexual exposure. HIV is clearly transmitted during acute stages of infection\textsuperscript{15}.

During this acute time period where HIV viremia is at a high level, the response of the immune system has not yet produced antibodies to the virus. The Elisa Immunoassay (EIA) and Western Blot, the standardized assays for HIV testing are limited in that they are designed to detect antibodies. During the acute stage of HIV and PHI, the EIA and Western Blot are negative. Tests for the p24 antigen, HIV-RNA or HIV-DNA are specific tests for the presence of HIV infection. The p24 antigen levels however, may not be detected during the first few days making the test limited in its sensitivity. There are also assays that are sensitive for measuring the HIV-RNA or proviral DNA in the blood plasma\textsuperscript{17,18}. However, because these tests lack specificity, there is a chance of false-positive results\textsuperscript{18}.

The most common features of primary HIV infection are similar to or mimic infectious mononucleosis. Predominant symptoms include pyrexia, pharyngitis, malaise, lethargy, rash, lymphadenopathy, and headache. Symptoms vary in severity and duration. Pyrexia is very consistent in patients with PHI especially in non-whites\textsuperscript{17}. These symptoms may be dismissed as
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influenza and individuals remain unaware of their infection and proceed in their current sexual behavior.

_Influential Cultural Practices_

The social structure of the African American community influences beliefs, perceptions, and behaviors. There is a role that cultural norms, values, beliefs, language, and systems play in the behavior of an individual. Understanding that role is possibly the key to understanding the epidemiological spread of this disease. When the HIV epidemic began to emerge, prevention efforts focused on key social factors to influence modifications in risk behaviors. The social context of risk behaviors have a significant impact on the transmission of HIV.

_Locus of Control_

Guidry et al (2003) explained that if there is a belief that a disease belongs to another group, the belief itself has to be dispelled if the mortality rates are to be reduced. African Americans must accept that the disease belongs to their group and is not solely affecting other groups or subgroups. The role and impact of culture requires evaluation as an important factor of HIV acquisition rates, especially among African Americans. Because the behavior of the African American population is so closely based on cultural values, understanding these values is the key to understanding the epidemiological dilemma behind the rise in HIV incidence and understanding the barriers to prevention efforts.

Fatalism is the surrender of power to external forces of life, which causes the destruction of personality, potential, hope, and life. When this power is surrendered a person becomes hopeless, desperate, and mistrustful. The perception of not having control or hope will increase the possibility of high-risk behavior. Fatalism influences African American behavior. African Americans are mistrustful even in relation to the HIV pandemic. Because of this fatalism,
individuals are less likely to pursue medical care, screening, or follow prevention strategies presented by the health system.  

Mistrust

There are serious and valid issues of mistrust against the mainstream American scientific and medical community rooted in the historical context of American racial relations. Fear and mistrust of the medical system is rooted in slavery. During the antebellum era, organized medicine alleged that blacks had anatomical differences that were peculiar. For this reason, slaves were brutalized to develop medical techniques. For instance in 1845 and 1849 Dr. Marion Sims, used female slaves to develop a gynecological technique for repairing vesico-vaginal fistulas without the use of anesthesia. After the technique was perfected, white volunteers refused to endure the painful procedure.

Other undocumented medical abuses were recounted in the oral histories of the African American families. Fear of medical experimentation especially if one entered a hospital has been passed through generations. The African American community can be preoccupied with conspiracy theories because of historical events.

In 1932, the United States Public Health Service recruited 400 unsuspecting black men for a Syphilis study. The government promised treatment for “bad blood” a euphemism used for Syphilis. The study was performed in Macon County, Alabama. This sanctioned medical investigation was The Tuskegee Study of Untreated Syphilis in the Negro Male. No drugs were being tested and no treatment for Syphilis was provided. It was a nontherapeutic study on the long-term effects of untreated Syphilis. The Public Health Service offered participants incentives to participate. Participants would receive free physical examinations, free transportation to and from medical clinics, hot
meals on their examination days, free treatment for minor ailments, and a burial stipend was guaranteed to be paid to their survivors. The Public Health Service failed to provide participants with information about the risks involved with the life threatening disease being studied. In addition, they failed to obtain informed consent.

Forty years later, in 1972, it was discovered that no protocol for the study ever existed and that the researchers had never intended to treat the subjects. The study existed to compile data on the untreated effects of Syphilis. Over 100 men had died, and more had severe complication that may have later contributed to their deaths.\textsuperscript{37,38}

This study led to an increased distrust of the medical community. This mistrust is a barrier to research and medical care within the black community.\textsuperscript{37,39} Although laws exists to protect participants, African Americans still perceive possible exploitation in medical research and the historical evidence validates those fears regardless of the accuracy of the history. In other words, it may not be accurate that men were injected with Syphilis but the evidence surrounding the lengthy study support reasons not to trust. In the opinion of many, HIV was created to control the African American population. The opinion may not be accurate, but the historical evidence is enough not to trust in the medical system.\textsuperscript{39}

Even thought there is a general negative attitude toward participation in medical research, African Americans are able to identify theoretical benefits. However, an individual is less likely to perceive a direct link between the theoretical benefits and their personal life. These attitudes apply not only to participating in research but also to options for medical treatment and recommendations.\textsuperscript{39}

Interpersonal trust is important in the process of informed consent. There is limited research on the determinants of behavioral decision-making and the impact interpersonal trust
between providers or investigators and patients. Therefore, the African American community
should be consulted for suggestions in designing research protocols and strategies to recruit
participants for studies and programs.\textsuperscript{39}

\textit{Concurrent Sex Partnerships}

Sexual networks fuel the spread of STDs. Social networking enhances risk behaviors
because people circulate in their interactions with each other. Sexual mixing patterns and
concurrent sex partnerships increase the rate of the spread of sexually transmitted infections. In
concurrent sex partnerships, one partner will have a steady partner and at least one other sex
partner that overlaps in time.\textsuperscript{24}

Louman and Youm (1999) stated that sexually transmitted infections are based on factors
of assortative and disassortative mating. In assortative mating, blacks tend to limit sexual mixing
within their own ethnic group. This factor alone leads to blacks being 1.3 times more likely to
have sexually transmitted infections because of the likelihood that the partner choices of blacks
are more segregated than with other racial groups. In addition, African Americans who have had
one partner in the past year are 5 times more likely to choose an African American partner who
has had four or more partners in the past year.\textsuperscript{26} There is a higher rate of infection due to the
patterns of sexual networks. This pattern allows HIV to efficiently spread within the African
American population and elevates the incidence rates compared to whites who tend to choose
partners who have had low numbers of partners like themselves.\textsuperscript{26,28}

Adimora et. al (2002b), examined the potential influence of contextual factors on
behaviors that promoted sexually transmitted infections. The study showed a perception of
widespread economic oppression and racial discrimination that affected education, employment,
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and other various aspects of life. The impact of these perceptions in conjunction with an insufficient availability of recreational outlets provided for an increase in high risk behaviors.29

Respondents from focus groups reported concurrent sexual partnerships throughout the African American population among unmarried persons. Among unmarried couples, sexual partnerships that overlap in time are common. This is partially influenced by the perception of gender imbalances and behaviors that women tolerate. Monogamous relationships are threatened because of these perceptions and promote concurrent sexual relationships. Behaviors that will secure a person’s chance of maintaining a sexual partner are prevalent within the black community.6,25

A monogamous sexual relationship reduces the risk of acquiring an infection. However, even if one of the sex partners has only one other sex partner, the risk of infection is still lower than if both sex partners each had a concurrent sexual relationship. Marriage reduces the likelihood of concurrency of sexual relationships. There is a dramatic difference in marriage rates between blacks and whites. By 1993, the percentage of unmarried black men (58%) and women (61%) were significantly higher than their white counterparts, 29% and 22% respectively.29

Adimora et al. (2002a) examined the prevalence, distribution, and correlates of women in the United States by evaluating their involvement in concurrent partnerships. Sexual partnership data was analyzed on 10,847 women; age 15-44 years from the 1995 National Survey of Family Growth. The prevalence of concurrent sexual relationships in women was 21% among blacks, 11% among whites. Prevalence of concurrent sexual relationships was lowest among married women (4%).24 The US Census Bureau (1997) reported that persons who were married and living with their spouse was 34%, significantly lower than rates for couples who were white.
(59%). Maried persons were less likely to have a concurrent sex partner. Other factors such as poverty, age, and age at first intercourse were also strongly associated with concurrency. Less associated were education, income, and work status.

A couple of factors contribute to this disparity of low marriage rates. There is a low sex male to female ratio among blacks. Black males have a higher mortality rate. Although, African-Americans comprise approximately 13% of the nation's population, they comprise approximately 50% of the nation's prison population. The shortage of men may be the reasoning behind the low marriage rates. Due to the relative scarcity, men have the option of moving from partner to partner or taking up simultaneous relationships. Mate availability may create the promotion of concurrent partnerships.

African Americans have the highest rates for sexually transmitted disease. In comparison to their white counterparts, African Americans are 27 times more likely to have gonorrhea. They are 16 times more likely to have syphilis. African Americans have higher reported rates of STDs than any other racial or ethnic group. Although, reporting bias may account for some increase in difference, the difference is large enough to validate action. In 2001, 75% of the total number of reported Gonorrhea cases was among African Americans. This is 27 times higher than in whites. In the 15 –19 years age group, African American females had a rate 18 times greater than the white female of the same age group. African American men in this age category had an incidence rate that was 46 times higher than that of the white males. In 2001, the Syphilis rates for African Americans accounted for 62% of all reported syphilis cases.
Mathematical models can be used in forecasting the course of an epidemic. Mathematical modeling grants the opportunity to explore the outcome possibilities of prevention interventions. Sampling methods, accurate measurement, and interpretation of data are key to understanding the role of sexual behavior in transmission of infections and in designing interventions that will have successful prevention outcomes.

Patterns of sexual networks are difficult to measure. Ghani et al. (1998) analyzed three sampling methods: Individual reporting, snowball sampling, and contact tracing. Individual reporting is an efficient method for collecting data in which partners disclose the numbers of sex partners of their sexual contacts. This is ideal if the participant has full knowledge of their partners' sexual behavior. It also assumes that the participant is willing to disclose the information. Snowball sampling is a method used to collect data on social networks. An initial
A proportion of the partners in this initial set are selected and a new set is formed from each participant selected. This continues until the process ends or reaches a predetermined number of steps.

Contact tracing is a very common practice among STD clinics. Partner information is obtained in order to identify and contact partners for treatment. Those persons diagnosed with an infection inform their sexual partners and encourage them to have screening and treatment. In some cases, the index partner gives information and consent to the clinic staff to contact the sex partner(s). The staff member informs the partner(s) of the contact with an infected individual and encourages them to come in for screening and treatment. Data collection methods have limitations and offer the introduction of biases due to participant unwillingness or the inability to reveal or contact sex partners. 30

Biases may be introduced in the study of sexual partner networks. If sampling individuals is non-random the potential for bias is created in the measurement of estimates describing the networks. For example, if participants are recruited in a sexually transmitted clinic and consent to giving information on partnerships. Consequently partners referred into the clinic give information but one decides to withhold information or fails to give accurate information due to recall. Measurement bias will then be created. By ignoring these biases, researchers may underestimate the persistence and establishment of infection in a population. 30 An adjustment or an understanding of the existence of bias will grant a better perception of the data in its interpretation.

The sampling methods described underestimate the degree to which assortative mixing and concurrent sex partnerships exist. Non-disclosure of partnerships creates major biases in groups with high sexual activity. Snowball sampling and contact tracing serve better at
estimating patterns. They present a more accurate description of highly connected sexual networks.

Understanding this bias is important because if the degree of assortative mixing is underestimated, the estimated risks of infection derived from the data collected would also be underestimated. When the relationships that provide data and indicate possible paths for transmission of infection are underestimated, the results are skewed. They will indicate that the potential for the transmission of infection will have been underestimated as well.\textsuperscript{30}

Snowball sampling and contact tracing prove to create less biased estimates on sexual mixing patterns. Of these methods, contact tracing best serves the purpose of sampling. It allows for the persons at risk for acquiring the infection to be contacted. It provides rationale for collecting information on the sex partner. The information is being collected to prevent re-infection and control further disease transmission by contacting the partner for treatment.

The awareness of potential bias will increase the understanding of the analyses of sexual patterns and allow for adjustments to be made. By focusing on highly sexually active groupings where STDs are more likely to exist, sampling through contact tracing would be a better sampling for collection of data.\textsuperscript{30}

\textit{Prevention Efforts}

Faith communities are used as ideal settings for HIV education and prevention interventions. They are used based on the principle that religious organizations are in the position to influence the lives of hard to reach communities. Whether a congregation participates or not is based on the perceived need for HIV/AIDS-related education and prevention services. Barriers to strategies involving the faith community are many. Services related to HIV/AIDS may not be seen as a part of a congregation’s mission. In addition, lack of
qualified staff, lack of experience of ministry staff, and lack of financial resources, and lack of a general knowledge about HIV/AIDS served as barriers.\textsuperscript{32}

Perception of susceptibility to HIV/AIDS is an important determinant of prevention strategies. Tesoriero (2000) surveyed religious congregations in New York State to document the existence of education and prevention services related to HIV/AIDS, identify barriers to services, and assess willingness to meet with service providers. Only 16.7\% of the congregations contacted provided prevention services. In high need areas for prevention services, 41\% of respondents perceived a low need for HIV/AIDS related services in their community.

Eighty-seven percent of the respondent congregations reported on or more barriers dealing that were attitudinal. Forty-one percent of the responding churches opposed homosexuality/bisexuality, drugs and alcohol, or condom use. Thirty-five percent of congregations did not think that HIV/AIDS was considered a serious problem in their community. This study did not address feasibility of persuading religious groups to become more involved. Other reasons for not offering services or referrals were “fear of HIV/AIDS” and negative attitudes toward those at risk or infected with HIV.\textsuperscript{32}

The CDC is committed to working in collaboration with community-based organizations to prevent HIV in African Americans. For example, one program in Indiana identifies key leaders in the African American community and trains them as “community conversationalists”. The conversationalists discuss HIV and syphilis prevention with other African-American men and women in non-traditional setting. Non-traditional settings include beauty salons, barbershops, churches, social clubs, and communities. Outreach workers use flyers and posters throughout the community. Liquor stores have been encouraged to distribute prevention
information with customer purchases. This program reaches about 2,000 African Americans each week. ³

Another program in Chicago had a goal to reduce the risk of HIV among African Americans living in shelters and transitional housing. The program trains the staff and volunteers of the shelters to be HIV and STD prevention peer educators. They provide personalized HIV counseling, testing and referral services for those with behavioral risk factors. One of the programs interventions is conducting group education classes. Risk reduction strategies and behavior modification techniques are discussed at the group education classes.³

Discussion

There are significant factors contributing to the rise in heterosexual transmission of HIV in the African American population. Cultural factors confounded with the epidemiology of HIV transmission are leading to a surge in incidence. The fact that HIV is in the African American population means that interventions for prevention must not only focus on risk reduction but the factors that contribute to the risks that need to be reduced. Because these risks factors are cultural norms stimulated by “outside” forces, strategies must also begin to focus on cultural values and changing social norms, such as concurrent sex partnerships.

Although current prevention programs focus on aspects of prevention that include, education and risk reduction, there is limited evidence supporting formative research into the values of African Americans for the development of prevention strategies. Faith communities are used as an access for prevention strategies. It is questionable whether using this strategy is even necessary to pursue. More research is needed to support how African Americans view the role of religion in their lives. If attending a church is a social event or a segment of life, then it may not filter into daily decision making on behavior change. The question of whether relationships
with sex or potential partners are valued over their perceived relationship with God must be answered.

As long as the social norm allows sexual networking and concurrent partnerships and sexually transmitted infections remain in circulation, incidence rates and the prevalence of HIV will continue to rise. As the prevalence rises, the costs of health care will continue to rise. Because many African Americans are living in poverty, the nation will have to increase funding allocated for treatment and health care for HIV disease.

A continued effort to increase the screening and treatment of sexually transmitted infections will be a key to decreasing shedding of the virus and susceptibility of HIV transmission. The treatment of sexually transmitted infections decreases the virus present in the genital secretions and or the immune response cells in the genital tract that increase susceptibility. Testing all sexually active African Americans for HIV infection should be offered as opposed to offering antibody testing alone. HIV Counseling should be performed with every sexually transmitted screening session.

It will be important in the future to market behavior changes. Marketing health behaviors will provide targeted interventions for the African American population. The Centers for Disease Control targets over 40% of their domestic HIV/AIDS prevention budget to reduce HIV/AIDS among African Americans. Local and state health departments are agencies are able to collaborative efforts and could provide epidemiological and demographic data. The National Institutes of Health, Office of AIDS Research has objectives to support research to understand how to implement evidence-based HIV prevention interventions and explain the complex relationships in the factors associated with the risk of and protection from HIV transmission and acquisition.
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Framed messages, marketing behavior change, based on formative research will provide practical solutions that are feasible and designed around the values and desires of the African American population. Messages should be pre-tested in the African American community prior to release. The one-size fits all approach to messages will not bring change in the African American population.

It would be beneficial for the United States Public Health Service to be a front line partner and supporter of efforts to linking the African American community to the medical community. The Public Health Service has an opportunity to build and promote trust by providing leadership in communication with the African American community. Leadership by the Public Health Service should be positioned for suggestions in the design of research protocols and strategies as well as for the promotion of informed consent in the recruitment of participants for studies and programs.

Because HIV is ranked so high as a leading cause of death, policy should be developed to increase the protection of the public’s health. Testing and counseling should be increased for HIV infection. Policy to encourage cultural changes such as the encouragement of marriages within the population should be developed and implemented. Sex outside of a marriage relationship, once a strong religious issue is now considered high-risk behavior. Policy to provide necessary programming to keep black men out of the prison system should be established.

The period of primary HIV infection is a major key to unlocking the dilemma of HIV infection within the African American population. The time between exposure and symptom development is an infectious time period in which person continue to have sex. During this time the infected person is unaware of their infection and does not seek care. The community is
unaware that they are at risk for HIV infection during this period of time and therefore does not perceive susceptibility to infection. In the light of sexual social networks, HIV transmission will continue during this period of obscurity. Within a few weeks 2 or more people may be infected before the first person develops symptoms. Policy is needed to train health care providers to recognize signs of primary HIV infection. Providers also need to know about what the culturally based risk factors of HIV are in the African American population and inquire about those behaviors.

In conclusion, prevention efforts focused on changing cultural norms from a population-based level are needed desperately. Formative research is needed to understand the cultural norms, values, and practices of the heterosexually active African American population prior to marketing change in risk behaviors or developing programs. The velocity and direction of the incidence of HIV transmission in the heterosexually active African American population will not reverse or decline until evidence based programming is designed and implemented for behaviors focused upstream.
Abbreviations

AA
African American

AIDS
Acquired Immunodeficiency Syndrome

CDC
Centers for Disease Control

DNA
Deoxyribonucleic Acid, the primary genetic material of all cells.36

EIA
Enzyme linked immunoassay. Utilizes an antibody labeled with an enzyme marker such as horseradish peroxidase.36

HIV
Human Immunodeficiency Virus

STD
Sexually transmitted disease

STDs
Sexually transmitted diseases

T Lymphocytes
Lymphocytes responsible for cell-mediated immunity.36

CD4+ Lymphocytes
A critical subpopulation of regulatory T-lymphocytes involved in the induction of most immunological functions. Includes helper and suppressor inducer T-lymphocytes. CD4 is the name of a surface molecule.36

CD8+ Cells
A critical subpopulation of regulatory T-lymphocytes involved in MHC Class I-restricted interactions. Includes cytotoxic and suppressor T-lymphocytes. CD8 is the name of a surface molecule.36

PHI
Primary Human Immunodeficiency Virus Infection

RNA
Ribonucleic Acid, a polynucleotide consisting essentially of chains with a repeating backbone of phosphate and ribose units to which nitrogenous bases are attached.36
References


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