Informing Faith-Based HIV/AIDS Interventions: HIV-Related Knowledge and Stigmatizing Attitudes at Project F.A.I.T.H. Churches in South Carolina

Lisa L. Lindley, DrPH, MPH, CHES[a]
Jason D. Coleman, MSPH, PhD[b]
Bambi W. Gaddist, DrPH[c]
Jacob White, MD[c]

SYNOPSIS

Objectives. Project F.A.I.T.H. (Fostering AIDS Initiatives that Heal) was established in January 2006 to reduce the stigma of human immunodeficiency virus (HIV) among African American faith-based organizations in South Carolina. During its first year, Project F.A.I.T.H. funded 22 churches to provide HIV-related programs and services to their congregations and surrounding communities. To determine the baseline level of HIV-related knowledge and stigmatizing attitudes, we conducted a survey with parishioners, pastors, and care team members at Project F.A.I.T.H. churches.

Methods. During 2007, 20 Project F.A.I.T.H. churches conducted cross-sectional surveys with 1,445 parishioners, 61 pastors, and 109 care team members measuring their HIV-related knowledge and stigmatizing attitudes.

Results. While most parishioners were very knowledgeable about HIV transmission via unprotected sex and needle sharing during injection drug use, they were less knowledgeable about transmission via casual contact, mosquitoes, donating blood, and an HIV test. Overall, HIV-related stigma was low at Project F.A.I.T.H. churches. However, males and older parishioners (aged ≥65 years) were significantly less knowledgeable and had greater HIV-related stigma than females and younger parishioners. Pastors and care team members at Project F.A.I.T.H. churches were significantly more knowledgeable and harbored significantly less stigma than their parishioners.

Conclusions. To effectively address HIV-related stigma at African American churches, educational programs must reinforce the ways in which HIV can and cannot be transmitted, and pay particular attention to educating males and older populations. These findings may be helpful to HIV-prevention efforts targeting African American faith-based organizations in South Carolina and elsewhere.

[a]Department of Health Promotion, Education, and Behavior, Arnold School of Public Health, University of South Carolina, Columbia, SC
[b]Arnold School of Public Health, University of South Carolina, Columbia, SC
[c]South Carolina HIV/AIDS Council, Columbia, SC
Address correspondence to: Lisa L. Lindley, DrPH, MPH, CHES, Department of Health Promotion, Education, and Behavior, Arnold School of Public Health, University of South Carolina, 800 Sumter St., Columbia, SC 29208; tel. 803-777-7029; fax 803-777-6290; e-mail <llindley@mailbox.sc.edu>.

Compared with other racial/ethnic populations in the United States, African Americans have been disproportionately affected by the epidemic of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS). In 2007, more than half of all HIV/AIDS cases in the U.S. were among African Americans, even though this racial/ethnic group constituted only 12% of the U.S. population, according to the 2000 Census.[1,2] In South Carolina, African Americans constitute nearly 30% of the population, yet they represented 73% of the HIV/AIDS cases in 2007.[3,4]

Participation in high-risk sexual and substance-use behaviors, as well as high rates of other sexually transmitted diseases (STDs), poverty, and stigma, have contributed to African Americans' increased risk for HIV/AIDS.[5] HIV-related stigma—defined as "prejudice, discounting, discrediting, and discrimination directed at people perceived to have HIV/AIDS," particularly homosexual males and injection drug users (IDUs)—has been a significant impediment to HIV prevention efforts, especially within the African American community.[6,7] Not only has HIV-related stigma been associated with African Americans not getting tested for HIV and not disclosing their HIV serostatus to potential sex partners, but stigma has also impeded African Americans living with HIV/AIDS from seeking health care and/or adhering to their antiretroviral treatment.[8–14]

Education remains one of the most important tools in the fight against HIV/AIDS and in reducing HIV-related stigma. In particular, stigmatizing attitudes have been strongly correlated with individuals' misunderstanding the mechanisms of HIV transmission and overestimating the risks of casual contact.[6] In addition, beliefs that infected individuals are responsible for their illness (i.e., victim blaming) have contributed to HIV-related stigma and are often reinforced within religious institutions.[7] Thus, to reduce HIV-related stigma and break the silence surrounding HIV/AIDS within many African American communities, the Centers for Disease Control and Prevention (CDC) has encouraged broader community mobilization to include faith leaders and African American churches in HIV education and prevention efforts.[5]

Since the time of slavery, churches have served as the foundation for spiritual growth and development, political and civic activity, and social cohesion and organization in the African American community.[15,16] For many African Americans, the church has remained the focal point of life.[17] In recent decades, the church has also become a center for health promotion and disease prevention, as the issue of health equality has become the "next phase of the civil rights movement."[18]

African American churches have provided a number of health promotion and disease prevention programs focusing on a variety of health-related issues. These programs include increased fruit and vegetable consumption, nutrition, and colorectal, breast, and cervical cancer screening.[19–25] However, HIV/AIDS prevention programs have received much less attention. Moreover, programs that have addressed HIV/AIDS in African American churches have tended to approach the issue in the broader context of general health or focused solely on substance users.[26–28]

In January 2006, the South Carolina HIV/AIDS Council (SCHAC), a nonprofit community-based HIV/AIDS service organization in Columbia, South Carolina, established Project F.A.I.T.H. (Fostering AIDS Initiatives that Heal). The purpose of Project F.A.I.T.H., a statewide demonstration project funded by the South Carolina General Assembly, is to reduce HIV-related stigma among African American churches and faith-based organizations in South Carolina. Through a request-for-proposal process, Project F.A.I.T.H. funded 22 African American churches to provide HIV/AIDS educational programs and services to their congregations and surrounding communities. Two churches served as technical assistance providers, along with SCHAC staff, to the remaining churches. To inform and guide the development of HIV/AIDS-related programs and services at Project F.A.I.T.H. churches, we conducted a baseline survey assessing HIV-related knowledge and stigmatizing attitudes with parishioners, pastors, and HIV/AIDS care team members from Project F.A.I.T.H. churches. This article describes the results of this baseline assessment.

METHODS

HIV knowledge and stigma survey

We developed the baseline knowledge and stigma survey conducted with parishioners, pastors, and care team members at Project F.A.I.T.H. churches using items drawn from the National Health Interview Survey of AIDS Knowledge and Attitudes, the AIDS Attitude Scale, and other research studies measuring HIV-related knowledge and stigma.[6,29–31] Additional knowledge items regarding mother-to-child transmission and injection drug use (IDU) were created using information from CDC fact sheets.[32,33]

The first section of the survey collected demographic information, including age, gender, race/ethnicity, marital status, church name, zip code of residence, and date the survey was conducted, from each population. Pastors and care team members completed additional items to assess the length of time of their service.

The second section of the survey (12 items) assessed

knowledge of HIV transmission. Specifically, participants were asked how likely it was that a person could get HIV by engaging in 12 different behaviors: (*1*) sharing plates, forks, or glasses with someone who has HIV; (*2*) using public toilets; (*3*) being bitten by mosquitoes or other insects; (*4*) being kissed on the cheek by someone who has HIV; (*5*) being coughed or sneezed on by someone who has HIV; (*6*) donating or giving blood; (*7*) getting tested for HIV; (*8*) having unprotected oral sex with someone who has HIV; (*9*) having unprotected anal sex with someone who has HIV; (*10*) having unprotected vaginal sex with someone who has HIV; (*11*) having sex with multiple sex partners; and (*12*) sharing needles for drug use with someone who has HIV. Response options were "very likely," "somewhat likely," or "unlikely." The Cronbach's alpha for the HIV transmission knowledge section was 0.789, indicating reliability of the scale measure.

The third section of the survey (20 items) assessed participants' basic HIV/AIDS knowledge. Participants were asked whether each of 20 statements was true or false. Some examples of items from the basic HIV/AIDS knowledge section include: birth control pills protect against HIV; most people who have HIV look sick; it can take 10 or more years for someone with HIV to test positive; and there is a medicine available to prevent a pregnant woman infected with HIV from passing it to her baby. The Kuder-Richardson alpha for the basic HIV/AIDS knowledge section was 0.756, indicating reliability of the scale measure.

We created a composite knowledge score from the 32 items (two knowledge sections) in the survey, and assigned point values for each item as follows: correct response = 1 point; incorrect response = 0 points. The values of all 32 items were summed to create the composite knowledge score for each survey participant. A mean knowledge score was then calculated for and compared among parishioners, pastors, and care team members. The possible range for mean HIV/AIDS knowledge score was 0–32 points. A higher mean score indicated greater HIV/AIDS knowledge.

The fourth section of the survey (six items) assessed whether participants held stigmatizing attitudes toward people living with or at risk for HIV/AIDS. Respondents were asked whether they agreed, disagreed, or were unsure whether they agreed or disagreed with each of the following statements: "I think people who inject drugs deserve to get AIDS," "I think homosexuals deserve to get AIDS," "AIDS is a punishment from God for sin," "I have little sympathy for people who get the AIDS virus from sexual promiscuity," "Most people who have AIDS only have themselves to blame," and "People with AIDS should be treated with the same respect as anyone else." The Cronbach's alpha for the attitudes section was 0.753, indicating reliability of the scale measure.

We created a composite stigma score from the six items included within the attitudes section of the survey and calculated point values for the first five items as follows: agree = 2 points; don't know = 1 point; and disagree = 0 points. The value of the final item was reversed and calculated as follows: disagree = 2 points; don't know = 1 point; and agree = 0 points. The composite stigma score was the sum of items for each survey participant. A mean stigma score was then calculated for and compared among parishioners, pastors, and care team members. The possible range for the mean HIV-related stigma score was 0–12 points. A lower mean score indicated less HIV-related stigma.

Before implementing the survey, Project F.A.I.T.H. staff at SCHAC and the project's evaluation consultants reviewed each baseline survey instrument. Minor adjustments were made to the wording of several questions, and the font size of the instrument was increased to make it easier for senior citizens and individuals with visual impairments to read and complete the survey.

Procedures

Each Project F.A.I.T.H. care team administered the baseline survey to its parishioners, pastors/ministers, and care team members at their church. Surveys were given to parishioners in two waves. The first wave of the survey was conducted with parishioners at 12 Project F.A.I.T.H. churches during the spring of 2007, and the second wave was conducted with parishioners at eight Project F.A.I.T.H. churches during the winter of the same year. For the parishioner survey, most churches (82%) had members of their congregation complete the survey immediately after church services, while others approached congregation members in Sunday school classes and/or individually. Similarly, the pastors/ministers and care team members at each church were approached individually and asked to complete the survey. Thus, the baseline assessments were cross-sectional surveys of the entire pastor and care team populations, and a convenience sample of parishioners at Project F.A.I.T.H. churches.

Data analyses

In addition to descriptive analyses, Chi-square, t-tests, analysis of variance tests, and multiple comparisons using the Tukey post-hoc procedure were conducted to determine if significant differences existed in HIV-related knowledge and stigma scores among parishioners based on gender and age (18–24 vs. 25–34 vs. 35–44 vs. 45–54 vs. 55–64 vs. ≥65 years), as well as

among parishioners, pastors, and care team members. Two project evaluators entered the data, which the director of evaluation then reviewed. Surveys with 10 or more missing items were excluded from the analyses. SPSS® 15.0 was used for data analyses,[34] and all tests were considered significant at or below the 0.05 alpha level.

RESULTS

Participants

A total of 1,445 parishioners, 61 pastors/ministers, and 109 care team members (all aged 18 years or older) from 20 Project F.A.I.T.H. churches completed the survey. Churches were located in one of nine South Carolina counties: Anderson, Charleston, Dorchester, Greenville, Lancaster, Lexington, Marlboro, Orangeburg, and Richland. Most (80%) churches represented one of three denominations: (*1*) Baptist, 60%; (*2*) African Methodist Episcopal, 10%; or (*3*) United Methodist, 10%. The remaining churches represented other Christian denominations.

All pastors and more than 98% of parishioners and care team members were African American (Table 1). The majority of parishioners and care team members were female, while most pastors were male. Respondents ranged in age from 18 to 93 years. The mean age of parishioners was 47 years, while the mean ages of care team members and pastors were 50 and 55 years, respectively. Pastors were significantly ($p<0.001$) older than their parishioners. Nearly half of parishioners and care team members were married, compared with 85% of pastors.

The mean number of years care team members had served as members of their care team was 4.3 years (standard deviation [SD] = 6.16). Pastors reported a mean of 18.5 years (SD = 11.87) as a religious leader, with 9.1 of those years (SD = 8.74) as the religious leader at their current church. Most pastors (70.4%) had received a bachelor's degree or higher, while 29.6% had an associate's degree, a high school diploma, or a General Educational Development diploma/certificate. Sixteen percent of pastors had a master of divinity degree, 11.5% had a different master's degree, and 16.4% held a doctoral degree.

HIV-related knowledge

The majority of parishioners (≥75%) responded correctly to six of the 12 HIV transmission knowledge items in the survey (Table 2). Parishioners correctly assessed the likelihood of HIV transmission via sharing needles for IDU; having unprotected oral, anal, and vaginal sex; having multiple sex partners; and being kissed on the cheek by someone with HIV. However, parishioners

Table 1. Demographic characteristics of Project F.A.I.T.H. parishioners, pastors, and care team members, South Carolina, 2007

Characteristic	*Parishioners*	*Pastors*	*Care team*
Completed surveys (*n*)	1,445	61	109
African American race/ethnicity (percent)	98.2	100.0	98.2
Gender			
Male (*n* [percent[a]])	399 (28.1)	41 (69.5)	21 (19.3)
Female (*n* [percent[a]])	1,022 (71.9)	18 (30.5)	88 (80.7)
Age (in years) (*n* [percent[a,b]])			
18–24	133 (10.4)	0 (0.0)	1 (1.0)
25–34	186 (14.5)	3 (6.0)	11 (11.0)
35–44	291 (22.7)	8 (16.0)	22 (22.0)
45–54	282 (22.0)	14 (28.0)	34 (34.0)
55–64	225 (17.6)	15 (30.0)	19 (19.0)
≥65	165 (12.9)	10 (20.0)	13 (13.0)
Mean age (standard deviation)	47.1 (15.1)	55.3 (12.0)	50.2 (12.3)
Age range (in years)	18–93	32–83	24–82
Marital status			
Single (*n* [percent[a]])	471 (33.9)	3 (5.0)	32 (29.4)
Married (*n* [percent[a]])	641 (46.1)	51 (85.0)	54 (49.5)
Separated/divorced (*n* [percent[a]])	162 (11.7)	1 (1.7)	16 (14.7)
Widowed (*n* [percent[a]])	115 (8.3)	5 (8.3)	7 (6.4)

[a]Percentages are based on number of people who responded to the question.

[b]Percentages may not equal 100 due to rounding.

F.A.I.T.H. = Fostering AIDS Initiatives that Heal

Table 2. HIV/AIDS knowledge among Project F.A.I.T.H. parishioners, pastors, and care team members, South Carolina, 2007

	Parishioners (n=1,445)	*Pastors (n=61)*	*Care team (n=109)*
	Percent answering correctly		
HIV transmission knowledge			
How likely is it that a person could become infected with HIV by . . .			
1. Sharing plates, forks, or glasses with someone who has HIV.[a]	63.2	80.4	89.0
2. Using public toilets.[a,b,c]	58.1	79.7	89.7
3. Mosquitoes or other insects.[a]	47.1	64.9	78.2
4. Being kissed on the cheek by someone who has HIV.[a]	76.5	91.5	98.1
5. Being coughed or sneezed on by someone who has HIV.[a]	61.6	75.9	87.3
6. Donating or giving blood.[a,c]	31.7	39.0	66.4
7. Getting tested for HIV.[a,c]	70.5	79.7	95.2
8. Having unprotected oral sex with someone who has HIV.	93.0	98.3	96.3
9. Having unprotected anal sex with someone who has HIV.[a]	87.5	89.8	97.3
10. Having unprotected vaginal sex with someone who has HIV.	89.2	93.1	95.4
11. Having sex with multiple partners.[a]	84.4	89.8	90.1
12. Sharing needles for drug use with someone who has HIV.[a]	90.2	94.8	97.3
Basic HIV/AIDS knowledge			
1. Birth control pills protect against HIV.[a]	91.1	96.7	100.0
2. There is no cure for HIV/AIDS at present.[a,c]	75.6	82.0	91.8
3. A person can be infected with HIV and not have AIDS.[a]	82.4	84.5	93.7
4. Most people who have HIV look sick.[a]	83.8	95.1	99.1
5. If having sex, the best way for someone to reduce his or her risk of getting HIV is to use a condom every time.[a]	83.0	90.2	97.3
6. It can take 10 or more years for someone with HIV to test positive.[a]	23.7	32.8	32.1
7. People can get HIV by sharing needles or syringes (to inject drugs) with someone who has HIV.	94.0	96.7	99.1
8. There is a vaccine available that protects a person from getting HIV.[a,b]	70.9	88.3	91.9
9. In order to prevent getting HIV, people who inject drugs should never reuse or share needles.	90.5	96.7	98.2
10. It is possible, but unlikely, to get HIV from an HIV test.[a,b,c]	41.9	49.2	63.0
11. Bleach can be used to clean dirty needles for injecting drugs to reduce the risk of getting HIV.[a,b]	19.4	23.3	55.1
12. If a person has an STD, such as gonorrhea, herpes, or syphilis, s/he is more likely to get HIV.[a]	41.4	46.7	63.6
13. HIV can be transmitted through casual contact, such as shaking hands, hugging, or sharing a drink with someone who has HIV.[a,c]	78.4	88.5	97.3
14. If a man pulls out before orgasm, condoms don't need to be used to protect against HIV.[a,b]	85.7	100.0	99.1
15. There is medicine available to prevent a pregnant woman infected with HIV from passing it to her baby.[a,c]	22.8	16.9	49.5
16. Any person with HIV can pass it on to someone else through oral, vaginal, or anal sex.	88.0	96.7	98.1
17. Someone can get HIV by having unprotected oral sex with an infected partner.[a,b]	58.5	93.4	93.6
18. If a mother has HIV, the baby can get it by drinking breast milk.[a,c]	49.2	65.6	83.0
19. People who have unprotected oral, anal, or vaginal sex should get tested for HIV regularly.	89.7	100.0	98.2
20. People who share needles should get tested for HIV regularly.	89.0	100.0	98.2

[a]Significant ($p<0.05$) difference between parishioners and care team

[b]Significant ($p<0.05$) difference between parishioners and pastors

[c]Significant ($p<0.05$) difference between pastors and care team

HIV = human immunodeficiency virus

AIDS = acquired immunodeficiency syndrome

F.A.I.T.H. = Fostering AIDS Initiatives that Heal

STD = sexually transmitted disease

were less knowledgeable about HIV transmission via donating or giving blood; getting tested for HIV; being bitten by mosquitoes or other insects; being coughed or sneezed on by someone who has HIV; using public toilets; or sharing plates, forks, or glasses with someone who has HIV. Between 29% and 68% of parishioners responded incorrectly to these items.

Most pastors (≥75%) correctly responded to 10 of the 12 HIV transmission knowledge items. Fewer than three-quarters of pastors correctly assessed the likelihood of HIV transmission via mosquitoes or other insects and donating or giving blood. Similarly, three-quarters or more of care team members correctly responded to 11 of the 12 items; fewer correctly assessed the likelihood of HIV transmission via donating or giving blood.

With regard to basic HIV/AIDS knowledge, three-quarters or more of parishioners, pastors, and care team members responded correctly to 12, 14, and 15 items, respectively, of the 20 items (Table 2). Most parishioners knew that birth control pills do not protect against HIV, there is neither a cure for nor a vaccine to prevent HIV, a person can have HIV and not have AIDS, and most people with HIV do not look sick. Moreover, parishioners knew about the importance of not sharing needles for IDU, using condoms if sexually active, and getting tested regularly for HIV if sexually active and/or sharing needles to inject drugs. However, parishioners were less knowledgeable about harm reduction methods for IDU (using bleach to clean needles/syringes), the availability of medication to prevent HIV transmission from infected mothers to their babies, HIV transmission from mother to baby through breast milk, and the increased risk for HIV among individuals who have another STD. Parishioners also responded incorrectly to the statements that it could take 10 or more years for someone to test positive for HIV and that it was possible, but unlikely, to get HIV from an HIV test.

Pastors and care team members were more likely than parishioners to correctly respond that someone could get HIV from unprotected oral sex, while care team members were more likely to correctly respond that a mother with HIV could transmit the virus through breast milk than either pastors or parishioners.

HIV-related stigma

The majority of parishioners, pastors, and care team members (≥75%) disagreed with the following statements: "I think people who inject drugs deserve to get AIDS," "I think homosexuals deserve to get AIDS," and "AIDS is a punishment from God for sin" (Table 3). In addition, most parishioners, pastors, and care team members agreed with the statement, "People with AIDS should be treated with the same respect as anyone else." However, fewer parishioners agreed or did not know whether they agreed or disagreed with the following statements: "Most people who have the AIDS virus only have themselves to blame," and "I have little sympathy for people who get HIV from sexual promiscuity."

Mean knowledge and stigma scores

Mean HIV-related knowledge and stigma scores among parishioners, pastors, and care team members are

Table 3. HIV-related stigma among Project F.A.I.T.H. parishioners, pastors, and care team members, South Carolina, 2007

	Parishioners	*Pastors*	*Care team*
Statements regarding HIV	*Percent disagreeing with statement*		
AIDS is a punishment from God for sin.[a]	75.4	87.7	91.0
People who inject drugs deserve to get AIDS.[a]	84.1	94.9	98.2
Homosexuals deserve to get AIDS.[a]	81.3	93.2	98.2
Most people with AIDS only have themselves to blame.[a,b]	68.5	69.5	86.5
I have little sympathy for people who get HIV from sexual promiscuity.[a]	72.2	86.4	91.8
	Percent agreeing with statement		
People with AIDS should be treated with the same respect as anyone else.[a,c]	82.7	94.9	96.4

[a]Significant ($p<0.05$) difference between parishioners and care team

[b]Significant ($p<0.05$) difference between pastors and care team

[c]Significant ($p<0.05$) difference between parishioners and pastors

HIV = human immunodeficiency virus

F.A.I.T.H. = Fostering AIDS Initiatives that Heal

AIDS = acquired immunodeficiency syndrome

presented in Table 4. Parishioners correctly responded to 72% of the knowledge items in the survey, compared with 80% of pastors and 86% of care team members. Care team members' HIV knowledge scores were significantly greater than those of both pastors and parishioners. HIV-related stigma was low among parishioners, pastors, and care team members at Project F.A.I.T.H. churches. However, mean stigma scores for pastors and care team members were significantly lower than those of parishioners.

Among parishioners, significant differences were reported in mean total HIV knowledge and stigma scores based on gender and age (Table 5). Females had a significantly greater mean total HIV knowledge score and a significantly lower mean stigma score than males. Parishioners aged 25–34 years had the highest mean total HIV knowledge score, while parishioners aged 65 years and older had the lowest. Moreover, parishioners aged ≥65 years had a significantly lower mean total HIV knowledge score than parishioners aged 18–24 ($p=0.041$), 25–34 ($p<0.001$), and 35–44 years ($p=0.010$). Conversely, parishioners aged 25–34 years had the lowest mean stigma score, while parishioners aged ≥65 years had the highest. Parishioners aged ≥65 years had a significantly greater mean stigma score than all other age groups with the exception of parishioners aged 18–24 years. It is important to note that the youngest participants (aged 18–24 years) in the survey had the second highest level of stigma, just behind parishioners aged ≥65 years.

A significant ($p<0.001$) negative correlation (-0.424) was reported between mean total HIV knowledge scores and mean stigma scores for all three populations. In other words, the greater the mean score in total HIV knowledge, the lower the HIV-related stigma score among Project F.A.I.T.H. parishioners, pastors, and care team members.

DISCUSSION

Overall, parishioners, pastors, and care team members at Project F.A.I.T.H. churches were knowledgeable about many HIV-related facts, especially regarding HIV transmission via needle sharing for IDU and unprotected vaginal and anal intercourse. In addition, parishioners, pastors, and care team members were knowledgeable about the importance of consistent condom use and regular HIV testing. However, parishioners, in particular, were less knowledgeable about ways in which HIV could *not* be transmitted, such as via donating blood, being bitten by mosquitoes or other insects, getting tested for HIV, using public toilets, or having casual contact with an HIV-infected person. As previous research has demonstrated, stigmatizing attitudes have been significantly correlated with misunderstanding mechanisms of HIV transmission and overestimating risk of casual contact.[6] Such misunderstandings must be corrected. During SCHAC's F.A.I.T.H. Summit in June 2008, Project F.A.I.T.H. churches were made aware of these important facts through fact sheets created for each participating Project F.A.I.T.H. church, to guide their educational planning efforts.

Overall, HIV-related stigma was low among parishioners, pastors, and care team members at Project F.A.I.T.H. churches. However, nearly one out of every four parishioners in Project F.A.I.T.H. churches had "little sympathy for people who get HIV from sexual promiscuity," believed that "AIDS was a punishment from God for sin," and believed that "most people with HIV only had themselves to blame." Such results

Table 4. HIV-related knowledge and stigma scores: Project F.A.I.T.H. parishioners, pastors, and care team members, South Carolina, 2007

	Parishioners Mean (SD)	*Pastors Mean (SD)*	*Care team Mean (SD)*
HIV transmission knowledge score[a,b]	8.8 (2.67)	9.9 (2.08)	10.9 (1.32)
Basic HIV knowledge score[a,b,c]	14.2 (2.66)	15.4 (1.90)	16.8 (1.81)
Total HIV knowledge score[a,b,c]	23.1 (4.52)	25.5 (2.94)	27.6 (2.71)
Stigma score[a,b]	2.0 (2.45)	1.2 (1.80)	0.5 (1.14)

NOTE: Range, mean HIV transmission knowledge score: 0–12; range, mean basic HIV knowledge score: 0–20; range, mean total HIV knowledge score: 0–32; range, mean stigma score: 0–6

[a]Significant ($p<0.05$) difference between parishioners and pastors

[b]Significant ($p<0.05$) difference between parishioners and care team

[c]Significant ($p<0.05$) difference between pastors and care team

HIV = human immunodeficiency virus

F.A.I.T.H. = Fostering AIDS Initiatives that Heal

SD = standard deviation

Table 5. HIV knowledge and stigma scores among Project F.A.I.T.H. parishioners by gender and age, South Carolina, 2007

	Total knowledge score			*Stigma score*		
	N	*Mean (SD)*	P-*value*	N	*Mean (SD)*	P-*value*
Gender						
Male	359	21.7 (4.90)	<0.001[a]	365	2.5 (2.62)	<0.001[a]
Female	920	23.0 (4.52)		925	1.8 (2.35)	
Age (in years)						
18–24	126	23.0 (4.25)	<0.001[b]	127	2.1 (2.09)	0.001[b]
25–34	175	24.2 (3.75)		181	1.5 (2.24)	
35–44	264	23.0 (4.74)		265	2.0 (2.61)	
45–54	258	21.9 (5.28)		258	1.8 (2.23)	
55–64	200	22.7 (4.62)		205	1.9 (2.48)	
≥65	137	21.3 (4.30)		132	2.7 (2.70)	

NOTE: Range, mean total HIV knowledge score: 0–32; range, mean stigma score: 0–6

[a]Significance determined by t-test

[b]Significance determined by analysis of variance

HIV = human immunodeficiency virus

F.A.I.T.H. = Fostering AIDS Initiatives that Heal

SD = standard deviation

clearly indicate that more work needs to be done to address HIV-related stigma in these, and likely other, African American churches. Furthermore, HIV-related stigma was significantly associated with parishioners' gender, age, and HIV-related knowledge. Thus, to further reduce HIV-related stigma among congregation members at Project F.A.I.T.H., and likely other African American churches, we recommended that special attention be given to educating males, older (aged ≥65 years) parishioners, and younger (aged 18–24 years) parishioners about HIV/AIDS and the negative effects of HIV-related stigma.

Research has demonstrated that HIV-related stigma can be an impediment to public health, especially with regard to HIV preventive behaviors, testing, and/or treatment.[8–13] Researchers should conduct additional studies at Project F.A.I.T.H. and other African American churches to further understand the role of knowledge acquisition around HIV transmission, as well as provide educational programs that challenge homophobic beliefs and attitudes that blame the victim to further reduce HIV-related stigma. Moreover, it is vital to determine whether a reduction in HIV-related stigma actually influences preventive behaviors in African American communities.

Limitations

One limitation of this study was the use of a convenience (non-random) sample of parishioners from Project F.A.I.T.H. churches. Thus, it is possible that parishioners who felt more comfortable with and/or knowledgeable about HIV/AIDS completed the survey or that they gave socially desirable responses to HIV-related stigma items. Furthermore, data were collected using a survey instrument adapted/developed by the researchers. As a result, the level of HIV-related knowledge and stigma presented in this article may not accurately represent those of Project F.A.I.T.H. parishioners. Additionally, it is likely that parishioners from Project F.A.I.T.H. churches are different from parishioners at other African American churches in South Carolina. The fact that these churches applied for funding to provide HIV/AIDS education and services in their congregations and surrounding communities may be an indication of their greater knowledge about, comfort with, and/or lower level of stigma regarding HIV/AIDS and people living with or at risk for the disease. Regardless of the reason, caution should be taken when applying results from this investigation to African American churches in South Carolina or elsewhere.

CONCLUSIONS

Results from this baseline assessment provide important insight into African American church members' basic understanding of HIV/AIDS and HIV-related stigma that has been lacking in the literature. It is astonishing to find, 28 years into the HIV/AIDS epidemic, considerable numbers of individuals who still believe that HIV can be transmitted through casual contact, mosquitoes, public toilets, or an HIV test. While it

seems that prevention efforts have done an excellent job educating the public about ways in which HIV *can* be transmitted, as most African American parishioners answered these items correctly, less progress has been made and/or less attention has been paid to educating the public about how HIV *cannot* be transmitted. To further reduce HIV-related stigma and promote preventive behaviors such as HIV testing, educational efforts in African American churches must address both.

Lastly, additional research should be conducted with African American churches that are not providing HIV/AIDS educational programs and services to determine their level of HIV-related knowledge and stigma. In particular, reasons why these churches do not address HIV/AIDS should be explored. Such information is vital if HIV-prevention interventions in African American churches are to be successful.

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