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Factors Associated with Belief in Conspiracies about HIV/AIDS among HIV-Positive African-American Patients

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FACTORS ASSOCIATED WITH BELIEF IN CONSPIRACIES ABOUT HIV/AIDS AMONG HIV-POSITIVE AFRICAN-AMERICAN PATIENTS

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Abstract

The purpose of this study is to examine factors associated with belief in conspiracies about HIV/AIDS among HIV-Positive African American patients. Survey data were collected from 256 African American patients living with HIV/AIDS attending two HIV clinics in Montgomery and Dothan, Alabama. The study used multiple regression analysis to examine how sociodemographic factors contribute to belief in conspiracies about HIV/AIDS. Education and age were significantly related to belief in conspiracies about HIV/AIDS among men and women. Beliefs in conspiracies about HIV/AIDS may be a barrier to HIV prevention among African Americans. Public health officials should work toward obtaining the trust of African Americans by addressing the existing discrimination within the health care system and acknowledging the existence of HIV/AIDS conspiracy beliefs. Conspiracies about HIV/AIDS may be a manifestation to African Americans' mistrust of the U.S. government and the health system.
Keywords: HIV/AIDS, African Americans, Conspiracy Beliefs

Introduction

Although some studies have documented the prevalence belief in conspiracies about HIV/AIDS in the general African American population and the implications of the beliefs for preventing HIV (Bird and Bogart, 2005; Bogart and Bird, 2003; Herek and Capitanio, 1994; Hutchinson et al., 2007; Klonoff and Landrine, 1999; Parson et al., 1999; Whetten et al., 2006; Zekeri et al., 2009), limited studies were found that examined beliefs in conspiracies among African Americans that are HIV-positive living in the rural south where HIV infection is currently increasing fastest. No study was found dealing with factors associated with belief in conspiracies about HIV/AIDS. If efforts to prevent and also stop the spread of HIV/AIDS in black communities are to be beneficial, researchers should take into consideration the belief in conspiracies about HIV/AIDS among African Americans with HIV infection. This is because according to the most recent data from the Centers for Disease Control and Prevention (CDC, 2014), the highest rate diagnoses of HIV infection in America was among African Americans (58.0%), which was approximately 9 times the rate for whites (6.7%) and 3 times the rate for Hispanic/Latinos (19.6%). Thus, African Americans have the most severe burden of HIV of all racial/ethnic groups in the United States.

In an extension of previous work (Zekeri et al., 2009; Zekeri and Diabate, 2014), this study examines factors associated with belief in conspiracies about HIV/AIDS among African Americans with HIV infection living in rural Alabama. It is important to document factors associated with belief in conspiracies about HIV/AIDS because such belief can lead African Americans to be distrustful of HIV/AIDS related information and intervention efforts. Further, knowing the subgroup of the HIV-positive individuals most likely to endorse the belief in conspiracies about HIV/AIDS will help health workers, social workers, and public health officials to develop efficient intervention programs for ethnic groups.

Literature Review

Though endorsing conspiracy beliefs about HIV/AIDS has important implications for HIV/AIDS surveillance, public policy, prevention messages and programs, limited research has examined factors associated with belief in conspiracies about HIV/AIDS among HIV-Positive patients in America. The authors could not find any published peer-reviewed assessments of factors associated with conspiracy beliefs focusing on rural African Americans with AIDS; however, much of the substantial literature on this topic has examined these beliefs in more general populations. A population that has been understudied with respect to HIV/AIDS conspiracy beliefs is African Americans living with HIV/AIDS. Empirical research measuring factors associated with conspiracy beliefs among rural African Americans that are HIV-positive is needed to inform government leaders, health providers, and the general public as they debate new policies concerning HIV treatment, prevention, and monitoring. Put simply, HIV/AIDS educational programs will be less effective to the extent that they are not believed by their most affected target audience in rural communities.

As indicated above, there is limited empirical evidence on this important topic. Related studies have noted that a significant percentage of African Americans hold conspiracy beliefs regarding HIV/AIDS (e.g., Bogart and Thorburn, 2005; Herek and Capitanio, 1994; Klonoff and Landrine, 1999; Whetten et al., 2006). In their study of 607 respondents in California, Herek and Capitanio (1994) found that 20% of the 263 African Americans in their sample believed that "the government is using AIDS to kill off minority groups" compared to 4% of whites. Furthermore, 43% of African Americans and 37% whites believed that information about AIDS is being held back. African Americans who believed that the government is using AIDS to kill off minority groups were likely to have completed fewer years of formal education and to have lower income.

Klonoff and Landrine (1999) conducted a door-to-door survey of 520 African Americans in San Bernardino County, California and found that 27% of their respondents agreed, with the statement "HIV/AIDS is a man-made virus that the federal government made to kill and wipe out black people." Bogart and Thorburn (2005) conducted a random telephone survey of African Americans. They found that over 20% of men and 12% of women somewhat or strongly agreed that "AIDS is form of genocide against blacks," while over 30% of men and 24% of women agreed that "AIDS was produced in a government laboratory." Similarly, Parsons et al. (1999) studied parishioners of 35 churches in Louisiana. They found that almost 70% of their respondents did not believe that the government is telling the truth about AIDS, and over 25% agreed that AIDS was "intended to wipe blacks off the face of the earth." The above studies noted the legacy of the Tuskegee Syphilis study and its potential importance of generating mistrust of the government and HIV prevention messages. Findings from a study of trust of health care providers and the government and their association with health services use, suggested that conspiracy beliefs may be widespread and reflected substantial mistrust of the government and health care system (Whetten et al., 2006). In this study, 23% of African Americans and 11% of whites strongly or somewhat believed that the government created AIDS to kill minorities.

Given the disproportionately high prevalence rates of HIV/AIDS among African Americans, identifying factors associated HIV/AIDS conspiracy beliefs among African Americans that are HIV-positive is essential for effective prevention interventions. As a contribution to the

literature, the present study examined factors associated with HIV/AIDS conspiracy beliefs among HIV-infected rural African American patients.

Methodology

The Study

The present study is part of a larger longitudinal project that is examining HIV/AIDS, food insecurity and health disparities in rural Alabama. Sampling was designed to yield a cohort reflective of HIV-Positive African American patients in the southeastern Alabama receiving care for HIV at the region's AIDS Clinic. The data were collected at Montgomery AIDS Outreach clinic, the only AIDS clinic serving the entire southeastern quarter of Alabama, a geographic area home to the state's highest per capita HIV infection rate. Montgomery AIDS Outreach has a handful of mobile clinics around the region, along with another permanent center in Dothan, Alabama. The staff of the AIDS Outreach informed the patients attending the clinic of the opportunity to participate in the study during regular appointments. All HIV-infected African Americans attending Montgomery and Dothan clinics were eligible to participate in the study.

Of the 500 eligible subjects invited to participate, only 300 participated. All the participants were advised that they could refuse to answer any questions and that participation in the study was both voluntary and anonymous. The staff of the clinics gave the questionnaire to patients and they completed the survey on a voluntary basis in a private room within the clinic. Verbal informed consent was obtained from respondents aged 18 years or older prior to participants filling out the survey. The study protocol was approved by the Institutional Review Board at Tuskegee University. The current analysis is on 256 African American patients that completed the questionnaires; 44 questionnaires were dropped from the analysis because they were incomplete.

Measures

Conspiracies about HIV/AIDS

Conspiracy belief measures were adapted from previous studies (Bird and Bogart, 2005; Bogart and Bird, 2003; 2005; Herek and Capitanio, 1994; Zekeri et al., 2009; 2015). Respondents were instructed to record their agreement with 10 statements capturing HIV/AIDS conspiracies (for example, "A lot of information about AIDS is being held back from the public," "HIV is a manmade virus," "AIDS is a real public health threat," "There is a cure for AIDS, but it is being withheld from the poor," "AIDS is a form of genocide against blacks," "The government is not telling the truth about AIDS," and "AIDS was created by the government to control the black population") The scale was from 1(disagree strongly) to 5 (agree strongly). The item, "The government is not telling the truth about AIDS" was reverse coded before including it in the scale. The items were averaged and combined into one overall scale with higher scores indicating greater endorsement of HIV/AIDS conspiracies. Cronbach's alpha (that is, the measure of internal reliability or consistency of the items) was 0.89.

Independent Variables

Respondents were asked questions to identify or select their gender, marital status, educational attainment, age, annual household income, cohabitating with a partner, and employment. Gender is sex of the respondent (1 = male and 2 = female). Marital status was measured on four levels: (1) single, (2) married, (3) separated, and (4) divorced. Educational attainment was measured by

four categories: (1) did not graduate from high school, (2) completed high school, (3) some college or vocational school, and (4) completed college. Education was dichotomized into "no high school" versus "high school and college graduates." Age was dummy coded as young (18-34) and old (35-63). Annual household income was measured as (1) less than $30,000 and (2) more than $30,000. Employment was measured as (1) working and (0) not working.

The estimated model is stated as:
$CON = \beta 0 + \beta 1GEN + \beta 2MAR + \beta 3EDU + \beta 4AGE + \beta 5INC + \beta 6EMP + \varepsilon$
Where:
CON = conspiracy beliefs
GEN = gender
MAR = marital status
EDU = education
AGE = age
INC = income
EMP = employment
β = coefficient
ε = error term

Statistical Analysis
Analyses to determine factors associated with conspiracy beliefs were performed using the SPSS software version 14 (SPSS Inc., Chicago, Illinois) for Windows (Microsoft Corp, Redmond, Washington). Multiple linear regression analyses assessing the association between each of the variables to conspiracy belief scale were performed for the overall sample and by gender. The Variance Inflation Factor (VIF) scores for all the independent variables were less than 6.0, suggesting little multicollinearity among the variables.

Results

Sample Characteristics
Table 1 provided descriptive statistics for each demographic variable. Of the 256 respondents, 46% were men. Over half were not married, and 18.4% were married. Almost a third had some college or vocational education, and 29.7% had a high school diploma. A substantial proportion (44%) were 35 years or older. Nearly three-fifths (58%) earned less than $30,000 as annual household income. Also, a little over three-fifths (62%) were employed (Table 1).

Results in Table 2 indicate that many patients endorsed HIV/AIDS conspiracy beliefs. For example, more than half (68.4%) somewhat or strongly believed that, "A lot of information about AIDS is being held back from the public," and 51.2% somewhat or strongly believed the statement that "HIV is a manmade virus", while 55.1% agreed that "there is a cure for AIDS, but it being withheld from the poor." Moreover, almost 88% somewhat or strongly agreed that, "AIDS is a real public health threat," and 40.2% believed that "AIDS was produced in a government laboratory." About one-third subscribed to the notion that "AIDS is a form of genocide against Blacks" (29.7%) and 27.7% of the respondents said that "AIDS was created by

Table 1. Demographic Characteristics of Respondents (N = 256)

Respondent characteristics	Percent
Gender	
Male	46.0
Female	54.0
Marital Status	
Single	58.6
Married	18.4
Separated	5.1
Divorced	9.8
Level of Education	
Did not graduate from High School	24.6
Completed High school	29.7
Some College or Vocational school	31.6
Completed College	13.7
Age (in years)	
0-21	19.9
22-34	35.5
35-63	44.5
Annual Income from all Sources	
Less than $30,000	58.00
More than 30,000	42.00
Employment	
Working	62.0
Not Working	38.0

the government to control the black population." Regarding treatment-related conspiracy beliefs, over one-third (35.6%) somewhat or strongly agreed that "people who take the new medicines for HIV/AIDS are human guinea pigs for the government," while 26.9% somewhat or strongly endorsed the statement that "the medicine that doctors prescribe to treat HIV is poison."

Multiple regression analysis showed that in the overall sample and among men, age and education were associated with belief in HIV/AIDS conspiracies (Table 3). In contrast, only education was significantly associated with endorsing HIV/AIDS conspiracy among women. This set of variables explained 16% of the variation in HIV/AIDS conspiracies in the total sample, 14% among men, and 13% among women.

Discussion

The purpose of the study was to examine factors associated with belief in conspiracies about HIV/AIDS among HIV-positive African American patients. Consistent with previous research many of the patients believed in conspiracies about HIV/AIDS (Bird and Bogart, 2005; Bogart and Bird, 2003; 2005; Herek and Capitanio, 1994). More extreme beliefs related to genocidal

Table 2. Conspiracies about HIV/AIDS Endorsed by Study Sample Overall and by Gender (N= 256)

	% Agreeing Somewhat or Strongly			
	Overall (n=256)	Men (n=142)	Women (n=114)	X^2
Conspiracies About HIV/AIDS				
A lot of information about AIDS is being held back from the public	68.4	70.3	69.0	8.10
HIV is a manmade virus.	51.2	54.2	50.6	1.98
AIDS is a real public health threat	87.9	89.8	87.4	2.14
AIDS is a form of genocide against blacks.	29.7	27.2	35.6	3.24
The government is not telling the truth about AIDS	47.3	44.9	48.2	7.25
AIDS was created by the government to control the black population.	27.7	28.9	29.9	3.77
There is a cure for AIDS, but it is being withheld from the poor	55.1	50.1	64.3	6.15
The medicine that doctors prescribe to treat HIV is poison	26.9	28.1	29.8	.54
People who take the new medicine for HIV are human guinea pigs for the government	35.6	38.1	34.5	.67
AIDS was produced in a government laboratory	40.2	46.6	37.9	5.54

Significant values are based on X^2 tests between women's and men's frequency distributions of the 5 category responses to each item (disagree strongly, disagree somewhat, no opinion, agree somewhat, agree strongly), df = 4.

and medication related conspiracies were endorsed at sizeable rates. These results are similar to those of previous studies (Hutchinson et al., 2007; Klonoff and Landrine, 1999; Parson et al., 1999; Whetten et al., 2006; Zekeri et al., 2009).

The independent variables as a set had a very small effect on African Americans with HIV belief about HIV/AIDS conspiracy. Education was significantly associated with beliefs about HIV/AIDS conspiracies in all analyses (dealing with males and females separately). These findings are similar to the research by Bogart and Thorburn (2005). Taken in the context of previous studies which have documented the impact of education on attitudes, the findings of differences between low level and higher levels of education is noteworthy and suggest that the liberalizing effect of education on individual attitudes should be acknowledged in HIV/AIDS prevention and treatment messages in African American communities. Although no previous research found a statistically significant association, age was statistically associated with stronger endorsement of HIV/AIDS conspiracy beliefs in the analysis of the whole sample and that of men as a subgroup. Young African American males holding these conspiracy beliefs do not trust governmental institutions. This distrustfulness could pose a barrier to treatment efforts.

Overall, these findings suggest that HIV/AIDS conspiracy beliefs among African Americans must be acknowledged and addressed in culturally tailored HIV/AIDS prevention and education

Table 3. Multiple Regression Equation for belief in Conspiracies about HIV/AIDS

Variables	Ovarall (N=256) Beta	Men (N=118) Beta	Women (N=138) Beta
Male Gender	.043	-----	------
High School/College	-.321*	-.311*	-.332*
Married/Living with a partner	-0.50	.027	.-096
Age (ref. group >34Years)	.203*	.215*	.170
Income	.104	.110	.089
Model R^2	.16	.14	.13

* $p < 0.05$

programs. This is because these conspiracy beliefs may be a barrier to HIV prevention and treatment efforts to halt the epidemic in African American communities where it is taking a terrible toll. This is particularly the case for less educated African Americans who are HIV-positive and more likely to endorse HIV/AIDS conspiracy beliefs. This subgroup may be suspicious of HIV prevention and treatment information distributed by the U.S. government and the public health system. For example, HIV-positive African Americans who endorsed treatment-related conspiracy beliefs (e.g., "people who take the new medicine for HIV/AIDS are human guinea pigs for the government") may be less likely to adhere to antiretroviral therapies and prevention messages. It is unlikely that the less educated HIV-positive African Americans who believe the government created HIV will listen to the government's warnings and take recommended treatments or come for testing. Public health officials and clinicians working against the spread of HIV/AIDS must acknowledge and address the conspiracy beliefs common in African American communities.

To be useful, HIV/AIDS prevention messages addressing conspiracy beliefs may need to be delivered by trusted members of African American communities. Whenever possible, African American professionals from local health departments and community-based organizations are to be used to present HIV/AIDS education because it may foster the trust of African Americans. Such community-based and peer-delivered intervention messages may reduce risky sexual behaviors. Furthermore, health educators or public health officials working against the spread of HIV/AIDS must demonstrate both openness and sensitivity to questions about conspiracy beliefs and mistrust prevalent in the African American communities. This will help in understanding the historical roots and social context from which such questions arise. Conspiracy beliefs are not

unique to HIV/AIDS alone but related to broader beliefs about conspiracies with the U.S. society as a whole. As Bogart and Bird put it "to obtain the trust of black communities, government and public health entities need to acknowledge the origin of conspiracy beliefs openly in the context of historical discrimination" (Bogart and Bird, 2005, p. 215).

Conclusion

In sum, it is recommended that all those involved in the battle against HIV/AIDS in African American communities (individuals, community organizations, and government agencies) must give special consideration to prevention and treatment efforts that will significantly reduce the incidence and prevalence of HIV/AIDS among African Americans in the Deep South in general, but southeastern Alabama in particular. So, they should aggressively seek and identify subgroups (e.g., less educated, young African Americans) and to target social factors that enhance HIV/AIDS in these sub-groupings.

The present analysis supports the validity of continuing to explore the link between sociodemographic variables and HIV/AIDS conspiracy beliefs. In this study, there was evidence of significant relationships between education, age and HIV/AIDS conspiracy beliefs. Many questions, however, remain unanswered. Do the relationships found for this sample of HIV-positive African Americans, who live in Alabama, hold for other groups in the population? Do the association between education and HIV/AIDS conspiracy beliefs differ by religion, geographical region, or rural-urban residence? Additional research, focusing on other ethnic groupings and other geographic areas is needed to address these questions. The degree to which conspiracy beliefs influence HIV treatment and interventions requires further exploration.

The primary study limitation is that the participants were sampled from two HIV clinics in rural Alabama; HIV-positive patients in other regions may experience different cultural values, so caution should be exercised in generalizing these results; generalizability of results based on rural residents is a challenge in general given the heterogeneity of rural areas. This analysis is cross-sectional and did not account for the seasonal variations that exist in health. There may be other factors that influence conspiracy beliefs among HIV-positive African Americans that were not captured in this study. These findings provide a basis for future investigations into conspiracies about HIV/AIDS.

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