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The health and sociocultural correlates of AIDS genocidal beliefs and medical mistrust among African American MSM

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Abstract

This study examined social and health-related correlates of AIDS conspiracy theories among 464 African American men who have sex with men (MSM). Exploratory factor analysis revealed two subscales within the AIDS conspiracy beliefs scale: medical mistrust and AIDS genocidal beliefs. Multiple regression analyses revealed medical mistrust and AIDS genocidal beliefs were both associated negative condom use attitudes and higher levels of internalized homonegativity. Medical mistrust was also associated with lower knowledge of HIV risk reduction strategies.

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Finally, we conducted bivariate regressions to examine the subsample of participants who reported being HIV-positive and currently taking HIV antiretroviral therapy (ART) to test associations between sexual behavior and HIV treatment and AIDS conspiracy theories. Among this subsample, medical mistrust was associated with having a detectable viral load and not disclosing HIV-status to all partners in the previous 3 months. Collectively, these findings have implications for HIV prevention and treatment for African American MSM.

Keywords

African American MSM; AIDS conspiracy theories; Medical Mistrust; HIV risk

Introduction

Significant racial disparities persist along the HIV care continuum and African Americans continue to be disproportionately burdened by HIV. Although they represent only 12% of the total US population, African Americans account for nearly half of all new HIV infections.[1] If incidence trends continue at the current rate, 1 in 16 Black men will receive an HIV diagnosis at some point in their lives.[1] African American men who have sex with men (MSM) are particularly affected. Between 2005 and 2014, HIV incidence increased 22% among African American MSM[2] and, at the current rate, approximately half of African American MSM will be diagnosed with HIV infection during the course of their lives.[3] Despite marked advances in prevention and treatment, African Americans are less likely to receive HIV antiretroviral medications,[4] more likely to report poor adherence to medication regimens, [5–7] and are less likely to be retained in care.[8] Additionally, mortality for persons living with HIV is 13% higher among African Americans than among Whites.[9] One factor that may contribute to these persistent disparities is medical mistrust and belief in long-standing conspiracies surrounding HIV.[10,11] Also conceptualized as AIDS counter-narratives,[12] these alternative explanations for the origin and spread of HIV reflect distrust of the public health and biomedical communities.[13] AIDS conspiracy theories, or speculations about the origins of HIV and role of the government in the AIDS epidemic, often are conceptualized as a manifestation of medical mistrust.[14]

It is not uncommon for conspiracy theories to emerge from marginalized groups as a rhetorical strategy for resisting dominant social representations of health and illness,[12,15] as is the case with HIV. Mistrust of medical institutions, health care providers, antiretroviral medications, and the health care system is comparatively high among African Americans[16,17] and may pose a significant barrier to accessing HIV prevention and treatment.[18,19] Extensive narratives regarding mistreatment of African Americans by US health care services include medical experimentation on African slaves, involuntary sterilization, the Tuskegee Syphilis Study, and continued unequal access to quality medical care. This mistrust may lead some individuals to be suspicious of available treatments and to question the authenticity of information they are provided surrounding HIV.[17]

As argued by Bogart and colleagues (2016), medical mistrust can manifest at multiple levels of the socioecological framework.[20] For example, as outlined above, institutionally-

sanctioned discrimination and medical maltreatment have contributed to medical mistrust among African Americans.[21] At the individual level, personal experiences of racism and discrimination, as well as discrimination experienced by people in one's social network,[20] can play a role in the development and sustainment of cultural mistrust of physicians, medical regimens, and the health care system.[22] African American MSM have reported experiencing high levels of healthcare-specific racial discrimination directed toward self, family, or friends,[23] potentially influencing their perceptions of HIV providers as well as prevention and treatment options.

Strong evidence documents the detrimental effects of medical mistrust and AIDS conspiracy theories for African American men on HIV prevention and health outcomes along the care continuum.[14,17] Individuals who endorse AIDS conspiracy theories may be suspicious of information disseminated by large health care systems or government public health agencies, and may be less willing to participate in prevention activities[14] or follow public health recommendations.[24] Theories implicating the government in the origins of HIV are associated with negative attitudes toward condoms, greater number of sex partners,[25] and inconsistent condom use.[17] Additionally, medical mistrust may render individuals less likely to get tested,[26] a concern given that early and frequent testing is crucial to reducing HIV transmission and engaging HIV-infected individuals into care.[27] Furthermore, race-based medical mistrust is a strong predictor of decreased willingness to use pre-exposure prophylaxis (PrEP) by African American MSM.[28] Such findings may have significant implications for HIV prevention efforts targeting African American MSM, especially with the rise in bio-behavioral HIV prevention interventions.

Medical mistrust is also a deterrent to engagement in medical care by HIV-infected African American MSM. [29] Trust in physicians is associated with fewer HIV-related outpatient clinic visits, fewer Emergency Department visits, greater acceptance of antiretroviral therapy, and higher antiretroviral therapy adherence.[18,19,30,31] However, African Americans living with HIV have greater mistrust of health care providers than their White counterparts.[30] Similarly, AIDS conspiracy theories also are associated with suboptimal adherence to antiretroviral medication and poorer health outcomes. Endorsement of conspiracy theories regarding HIV treatment and AIDS denialism (denial of conventional knowledge of HIV and AIDS) are associated with lower likelihood of optimal treatment adherence.[31,32] In one study among African American men receiving antiretroviral therapy, one in five participants believed people taking new HIV treatments were guinea pigs for the government and 17% believed that antiretroviral medication was poison.[31] Not surprisingly, individuals who believe that HIV treatment cannot be trusted have lower long-term antiretroviral adherence.[31]

Despite the growing body of literature implicating medical mistrust and AIDS conspiracy theories in the growing HIV disparities, this research has primarily focused on health outcomes including HIV risk behaviors[33], HIV testing,[23] and ART adherence,[34] primarily among HIV-infected individuals. The present study adds to this by also examining how conspiracy theories and medical mistrust may also be associated with sociocultural and community-level factors among a large sample of Black MSM. For example, although little previous research has studied the relationship exists between internalized homonegativity

and HIV conspiracy beliefs,[35,36] internalized homonegativity is a documented barrier to health care access [37] and may limit disclosure of sexual orientation or behaviors to medical professionals. This may stem from prior social and medical discrimination and mistreatment or anticipation of such experiences from within the medical community.[36] The inability to discuss sexual orientation and behaviors with physicians due to anticipated discrimination may lead to alienation from the healthcare community and limited engagement in HIV prevention activities.[38] Additionally, some researchers have framed medical mistrust among men as a consequence of masculine ideology and the internalization of cultural beliefs about masculinity.[39,40] Masculinity norms may limit men's healthcare access, as accessing health care may be seen as weak and a threat to one's power, autonomy, or selfcontrol. [40,41] Masculinity that manifests as extreme self-reliance is related to underutilization of healthcare, mistrust of healthcare organizations, and poor health behaviors.[40,41] The effect of such norms may be particularly prominent for African Americans, whose masculine identities are shaped by a unique set of sociohistorical circumstances,[42] and even more so for African American MSM, whose sexual identities are often seen as a contradiction to masculinity.[43] African American MSM have noted feeling a different set of masculine expectations compared to White men, often rooted in broader social, political, and racial power dynamics. These perceived rigid expectations may affect one's sense of self and selection of sexual partners.[32,43] Rigid expectations of masculinity can also contribute to poor psychosocial outcomes, including internalized homonegativity and limited gay community acculturation, among African American MSM.[35,44] Individuals who anticipate discrimination or mistreatment by providers may not seek out healthcare in order to avoid disclosure,[45] and anticipated homonegativity and discrimination from providers may contribute to medical mistrust.

The present research assessed the social and health-related correlates of AIDS conspiracy theories among a large, multi-city sample of African American MSM. We examined AIDS Conspiracy Beliefs to identify the potential effects of such beliefs on prevention and treatment outcomes at multiple levels of the socioecological model among HIV-positive and negative African American MSM. We hypothesized that in exploratory factor analyses, the AIDS Conspiracy Beliefs Scale would emerge as a two-factor model reflecting both medical mistrust and AIDS genocidal beliefs.[31] Additionally, and given the socio-historical context of medical mistrust and genocidal beliefs among African American MSM, we explored their relationships with several social, psychological, and sexual outcomes. Specifically, we hypothesized that genocidal beliefs and medical mistrust would be associated with greater self-ascribed masculinity, higher levels of internalized homonegativity, and more limited gay community participation. Based on social cognitive theory,[46] and previous research,[14,17,24] we hypothesized that medical mistrust and genocidal beliefs would be associated with more limited HIV risk reduction knowledge and behavioral intentions, more negative condom attitudes, and more negative peer norms regarding safe sex. Finally, we hypothesized that greater endorsement of AIDS genocidal beliefs and medical mistrust would be significantly related to decreased use of HIV testing, greater sexual risk, and, among HIV-positive individuals, poorer health outcomes. Although previous research has examined the health effects of genocidal beliefs among HIV-infected individuals, little research has explored the implications for HIV prevention among individuals who are HIV-negative or the potential

relationships between medical mistrust and sociocultural factors including masculinity, internalized homonegativity, and gay community participation. Given the current rise in bio-behavioral HIV prevention strategies, it is important to understand how medical mistrust and AIDS genocidal beliefs may affect African American MSM's access to prevention and treatment offered in medical settings.

Methods

Data were collected between 2012 and 2014 as a part of participants' baseline assessments for "Connections Creating Change" (C3), a randomized HIV prevention social network intervention trial for Black MSM. The study recruited social networks of African American MSM in Milwaukee, WI, Cleveland, OH, and Miami, FL, all cities in which HIV incidence is disproportionately high among racial minority MSM.[47–49]

In-person recruitment of each network was done to identify "seeds" in community venues where Black MSM were known to congregate. These venues were selected based on prior ethnographic observations and community mapping and included bars, clubs, pageants, house balls, hangout places, and other formal and informal social settings. Two field staff trained in ethnography systematically observed in a venue to watch for "social circles"[50] of racial minority men. After randomly picking one social circle, the two staff independently observed and identified the circle's seed, conferring with one another until reaching agreement about who appeared to be the center of attention among others in his circle. All seeds were African American MSM. Field staff approached the seed and briefly explained the study. Five individuals who were approached declined to participate. Individuals who were interested in participating were asked to provide the first names of his close MSM friends. The seed was given study information packets and was asked to invite into the study each friend he had just named. These individuals constituted the network's first "ring." When they entered the study, members of the first ring were also interviewed and asked to invite the participation of members of their own friendship groups. These individuals constituted the second network ring. Members of the second ring who were enrolled in the study invited, in turn, the participation of their own friends, the network's third and final ring. In this way, sociocentric networks were recruited by reaching out three waves from each initial seed. Of 39 seeds who were consented, 35 (89.7%) brought into the study at least half of their first-ring friends. The final sample consisted of 35 networks that collectively included 464 participants, 230 in Milwaukee, 180 in Cleveland, and 54 in Miami, with differences due to difficulties our community partner organization in Miami had with recruitment and staff turnover. Social networks ranged in size from 3 to 47 (mean= 13.3) enrolled members.

Participants came to a research field office for individual assessments. Following an explanation of the study, participants provided written informed consent, completed assessment interviews administered by A-CASI, provided biospecimens for HIV/STD testing, and received risk reduction counseling. Participants received a $40 incentive payment for completing the A-CASI interview and an additional $40 for completing STD/HIV testing. The study protocol was approved by IRBs of each participating institution.

Assessment Measures

Endorsement of **HIV/AIDS conspiracy beliefs** was measured using a 9-item scale developed by Bogart and Thorburn (2005). The scale assessed endorsement of HIV-related misconceptions, conspiracy beliefs, and medical mistrust.[17] Respondents indicated their level of agreement with each statement using a 5-point Likert scale (score range from 9 to 45, Cronbach's alpha=0.89).

We conducted exploratory factor analysis on the 9 conspiracy beliefs items. Varimax rotation resulted in the extraction of two factors with Eigenvalues greater than 1 (Table I). Labels for these factors, based on items that loaded at or above 0.5, were defined as: (1) AIDS genocidal beliefs about the origin and purpose of HIV and (2) medical mistrust. *Genocidal beliefs* included items that advanced theories of genocide and alternate explanations about the origins of HIV including, "HIV is a man-made virus" and "AIDS is a form of genocide against Blacks". *Medical mistrust* items focused on physicians and HIV medications including "The medicine that doctors prescribe to treat HIV is poison" and "Doctors put HIV into condoms." We confirmed that the two-factor solution was preferable over a one-factor option. The commonly-used RMSEA goodness–of-fit measure for a one-factor solution was 0.187 as compared to 0.088 for a two-factor model. Further, we re-computed the *genocidal beliefs* and *medical mistrust* subscales based on the factor analysis, so that item loadings less than .5 were set to zero. These two subscales derived from the factor analysis comprised the main outcome variables for conspiracy beliefs.

Demographic characteristics—Participants responded to questions about their gender at birth as well as their self-identified present gender (male, female, or transgender), age, race, whether of Hispanic ethnicity, employment status, income, highest level of education, length of residence, and housing stability. Participants used a 5-point scale to describe their sexual orientation (from exclusively gay to exclusively straight).

Participants reported **sexual risk behaviors** in the previous 12- and three-months including number of sexual partners, frequency of condomless intercourse, and sex with commercial sex partners. Respondents also indicated whether they disclosed their HIV status to partners in the previous three months and whether they had a sexually transmitted infection (STI) within the last six months. We assessed **substance use** by asking participants on how many days they drank alcohol in the past month and the greatest number of drinks they had in a single day. Participants who reported 5 or more drinks on this measure were defined as binge drinkers. In addition, participants indicated whether, and on how many days in the past month, they used heroin, other opiates, powder cocaine, crack cocaine, amphetamines or methamphetamines, marijuana, ecstasy, gamma hydroxybutyrate (GHB), ketamine, inhaled nitrites ("poppers"), non-prescribed medications for erectile dysfunction, other illicit prescription drugs, and any injected drug.

AIDS risk-specific scales were based off social cognitive theory,[46] theory of reasoned action,[51] and the AIDS-specific Information Motivation-Behavior theory,[52] which postulate that HIV preventive actions are related to a variety of psychological constructs. The assessment included five AIDS risk-specific scales. A 9-item scale measured *knowledge of HIV risk reduction steps* (sample item: "If a man pulls out before orgasm, it protects from

getting AIDS and venereal diseases," scale range 0–9). An eight-item scale measured perceived *safer sex peer norms* (sample item: "Condom use is well-accepted among my friends") with 3-point scales for each statement (scale range 0–16 Cronbach's alpha=0.75). The same response format was measured *condom attitudes* (8 items, sample item: "Using condoms interrupts the pleasure of sex," range 0–16, Cronbach's alpha=0.80); *risk reduction behavioral intentions* (8 items, sample item: "A condom will be used if I have sexual intercourse with a casual partner", range 0–16, Cronbach's alpha=0.75); and *risk reduction self-efficacy* (8 items, sample item: "I am sure that I can overcome my partner's objections to condoms", range 0–16, Cronbach's alpha=0.66).

Psychosocial and sociocultural contextual scales—We assessed several psychological and social factors that may be related to medical mistrust and endorsement of HIV genocidal beliefs among African American MSM including masculinity, internalized homonegativity, resilience, religiosity, and outness. *Self-ascribed masculinity* was measured with a 4-item scale adapted from Garcia et al., 2012 (sample item: "I can pass as a straight man").[53] Participants responded to each statement using 5-point Likert response options from strongly disagree to strongly agree (score range from 4 to 20, Cronbach's alpha=0.83). *Internalized homonegativity* was assessed using a modified version of Hereck's (1998) internalized homophobia scale, which measures on a 5-point Likert scales participants' level of agreement with 9 statements (sample item: "I wish I were not sexually attracted to men," score range from 9 to 45, Cronbach's alpha=0.86).[54–56] *Resilience*, reflecting the perceived internal capacity to handle challenging life situations, was assessed using 10 items from a 25-item scale originally developed by Wagnild and Young (1993) in which 5-point Likert scales indicated participants' level of agreement with each statement (score range from 10 to 50, Cronbach's alpha=0.88).[57]

HIV testing and treatment—Participants reported whether they had ever had an HIV test, and, if so, whether they had been tested within the past year. All those who had ever tested for HIV were then asked to disclose the result of their most recent test. Those respondents who were HIV-positive indicated how many times they had visited a doctor for HIV treatment in the past 6 months, and whether they were presently taking antiretroviral medications. Men who reported being on HAART were asked if they had learned whether their HIV viral load was undetectable at their most recent doctor's visit.

Analysis

Means and standard errors (SE) were computed for key numerical measures and relative frequencies for categorical variables in order to characterize the overall sample. First, we tested bivariate associations of both AIDS genocidal beliefs and medical mistrust subscales with a series of variables in 3 domains: sociodemographic background; AIDS risk-specific scales; and psychosocial contextual scales. Generalized mixed-effects linear regression models were conducted to analyze these associations. To control for the interdependence of responses among members of the same network, social network was included as a random effect in each regression. All regression analyses conducted were Generalized Estimating Equations for mixed-effects models and were performed using IBM SPSS Statistics, Version 21 (2012) software. Predictors that met a threshold p-value < .20 in the bivariate analyses

qualified for inclusion in a multiple mixed-effects regression. A backward-stepwise procedure was used to select all fixed-effect covariates for each subscale; an *alpha* of .05 was set as our criterion for statistical significance. Social network was again entered as a random effect. Variables selected as predictors of only one subscale were subsequently entered into the final model for the other subscale so that we were able to compare the same covariates within both subscales.

In the final stage of the analysis, exploratory bivariate regressions were performed to test AIDS genocidal beliefs and medical mistrust as predictors of sexual history, sexual behaviors, and HIV treatment outcomes. For the later analyses, we focused on subsamples of participants who reported being HIV seropositive and those who were currently on antiretroviral medications.

Results

Sample Characteristics

The mean age of the sample was 27.5 (SE=0.38) years (Table 2). Although all 464 participants reported male gender at birth, 7.7% (n=36) identified themselves as currently transgendered or female. More than 45% (n=210) of participants had at least some college, and approximately 23% (n=108) of participants were currently attending school full or part time. A large majority (75%, n=348) of participants described their sexual orientation as mainly or exclusively gay, while another 20.7% (n=96) identified as bisexual. Over 23% (n=107) of the total sample reported that they were HIV-positive at their last test; 31.7% (n=147) had not been tested in the past year; and 4.7% (n=22) of participants indicated that they had never been tested for HIV.

Participants reported a mean of 5.4 (SE=0.62) male partners in the past year and 2.6 (SE=0.24) male partners in the past 3 months. Almost half (n=230) of the sample indicated that they had condomless anal or vaginal intercourse in the past 3 months, and 27.4% (n=127) of participants did not disclose their HIV-serostatus to all of their sex partners prior to first intercourse. Five percent (n=23) of participants reported having intercourse with a commercial sex worker in the past 3 months.

Bivariate Predictors of AIDS Conspiracy Beliefs

Table III presents bivariate predictors of both genocidal beliefs and medical mistrust. As the table shows, both of the conspiracy domains were associated with participant sociodemographic background characteristics, HIV/AIDS risk-specific scale characteristics, and sociocultural contextual factors.

Stronger *genocidal beliefs* about HIV/AIDS were associated in bivariate analyses with having income of less than $10,000 per year, lower knowledge about HIV risk reduction steps and more negative condom attitudes, having greater self-ascribed masculinity, and greater internalized homonegativity. Strength of genocidal beliefs was also associated with lower levels of gay community participation and resilience.

Greater *HIV-related medical mistrust* was significantly associated in bivariate analyses with having low income, younger age, and self-identifying as straight or bisexual as opposed to gay. Similar to the bivariate correlates of holding genocidal beliefs, greater medical mistrust was also associated with lower knowledge of HIV risk reduction and unfavorable condom attitudes, as well as lower gay community participation, lower resilience, and greater internalized homonegativity.

Multiple Regression Analyses Predicting AIDS Conspiracy Beliefs

Results of the multiple regression analyses of factors predicting both genocidal beliefs and medical mistrust are shown in Table IV. Participants holding stronger genocidal beliefs about

HIV/AIDS had significantly greater internalized homonegativity, held more negative attitudes about using condoms, and had lower income. Stronger levels of medical mistrust were also associated in regression analyses with greater internalized homonegativity, negative condom attitudes, and having a recent commercial sex partner. However—and unlike for genocidal beliefs—the multiple regression analysis showed that those participants who were higher on HIV medical mistrust were also younger and had lower knowledge of HIV risk reduction steps. There was a trend for low income to predict higher levels of medical mistrust.

AIDS Conspiracy Beliefs as Predictors of Sexual Behavior and Measures of HIV Treatment

The final phase of the analysis examined whether genocidal or medical mistrust beliefs were associated with sexual behaviors, as well as HIV treatment engagement among the sub-sample participants who were aware of their HIV-positive serostatus (n=107) or among the 85 participants who indicated they were currently on ART regimens. The findings of these analyses are shown in Table V.

Logistic regression models indicated that participants who scored higher on AIDS genocidal beliefs and medical mistrust were more likely to have had a commercial sex partner in the past 3 months and to not disclose their HIV status to all of their sexual partners. None of the other sexual history or behavioral outcomes were significantly associated with either AIDS conspiracy subscale.

Poisson regression analyses showed that neither AIDS genocidal beliefs or medical mistrust were significantly associated with number of HIV medical care visits in the past 6 months. Similarly, logistic regression models showed that neither conspiracy beliefs scale was associated with the likelihood that an HIV-positive participant would be taking antiretroviral medication. However, among participants on ART regimens, the logistic regression revealed a strongly significant relationship between medical mistrust beliefs and reporting detectable viral load. A one-unit increase in the standardized medical mistrust subscale was associated with more than a 3-fold increase in the odds of having detectable viral load (OR=3.082, 95% CI=1.34, 7.12).

Discussion

We examined the association between AIDS conspiracy beliefs and sexual risk, psychosocial sociocultural factors, and clinical outcomes among a large sample of African American MSM. As hypothesized, and in line with previous research,[31] two distinct subscales emerged within the AIDS conspiracy beliefs measure among this population: medical mistrust and genocidal beliefs. Our findings demonstrate the continued existence of medical mistrust and AIDS genocidal beliefs and provide evidence that such beliefs may partially explain the racial disparities among the HIV care continuum.

This study revealed mixed associations between sexual risk and both genocidal beliefs and medical mistrust among African American MSM. Medical mistrust and genocidal beliefs about the origin of HIV were associated with negative attitudes about condom use, which included statements such as ‘safer sex is boring’ and ‘condoms show that you don’t trust your partner.’ Such findings are in line with previous research, which has demonstrated an association between stronger AIDS conspiracy beliefs and inconsistent condom use.[17,31,14] However, in this study, the associations with negative attitudes about condom use did not translate into lower condom use or greater number of sexual partners. Individuals who have negative attitudes toward condoms and believe condoms interfere with the pleasure and intimacy of sex, may, nevertheless, recognize their importance and continue to use them. Additional research should discern any differences in condom use by partner, as pleasure-related attitudes toward condoms have been found to be partner specific.[58] AIDS genocidal beliefs and medical mistrust were also both also positively associated with having a commercial sex partner in the previous three months. Additionally, medical mistrust was significantly associated with having a lower knowledge of HIV risk reduction strategies. Yet, contrary to our hypotheses and previous research,[59] neither medical mistrust nor genocidal beliefs were associated with reductions in HIV testing. Previous research has delineated multiple dimensions of medical mistrust and has found that experiences of systematic discrimination were associated with decreased HIV testing.[26] These personal experiences may have more effect on individual access to prevention and treatment services than broad mistrust or beliefs, although additional research is needed.

Several demographic and sociocultural factors were also associated with either genocidal beliefs or medical mistrust. Individuals who were younger or had higher levels of medical mistrust and genocidal beliefs were associated with having an income under $10,000 a year. These findings are important, as young African American MSM and individuals of low socioeconomic status have disproportionately high rates of HIV incidence and prevalence.[60,61] These particularly vulnerable populations face discrimination, mistreatment, and exclusion from the medical and public health communities,[13,29,62] which can contribute to medical mistrust and the formation of genocidal beliefs about the origin of HIV. Such findings highlight the need to tailor prevention services to vulnerable populations, including young African American MSM, who may be less likely or able to access HIV prevention care in traditional healthcare settings. As hypothesized and in line with previous research,[63] regression analyses revealed that both medical mistrust and genocidal beliefs were associated with internalized homonegativity. Internalized homonegativity, or the internalization of societal anti-gay attitudes, has been found to limit an individual’s coping

mechanisms, social support systems, and access to community resources,[44,64] which may be important factors in challenging genocidal beliefs and improving trust with the healthcare community. Additionally, internalized homonegativity can limit healthcare access and delay entry to care among MSM,[65,66] compromise access to prevention services,[66] and serve as a barrier to HIV testing.[67] Collectively, our findings suggest HIV genocidal beliefs and medical mistrust may interfere with HIV prevention efforts for African American MSM. Individuals who endorse conspiracy beliefs about the origin or treatment of HIV may be similarly skeptical of HIV prevention messaging, including public health efforts to promote PrEP. Recent research suggests PrEP use among African American MSM may be significantly impacted by medical mistrust,[28,68] as PrEP requires regular engagement with a healthcare provider. Efforts to improve PrEP uptake among African American MSM should anticipate and address medical mistrust as a potential challenge with PrEP implementation.

Importantly, our study also demonstrated that for HIV-positive patients on ART, medical mistrust is significantly associated with having a detectable viral load. Such findings are consistent with previous research that has shown trust in healthcare providers to be linked to antiretroviral adherence and good mental health.[18,19] Enhancing the degree to which African American MSM trust their health care providers may improve prevention and treatment, thereby reducing associated racial disparities in HIV.[30] There is evidence that patients perceive less stigma from HIV care specialists, suggesting that although medical mistrust is a broad, historical experience affecting African American MSM, mistrust may be less likely to occur in HIV-specific settings.[29] Medical mistrust has numerous dimensions and it is possible that different aspects of trust affect medical access differently. Medical mistrust in this study did not differentiate between type of provider or provider setting. Furthermore, it is important to consider the differing implications of trust in providers, trust in medications, and trust in the broader healthcare system. Individuals may trust their individual provider, with whom they have built a relationship, but remain skeptical of pharmaceuticals, the government's role in health care, and the broader public health system. Distinction between global medical mistrust and personal trust in a provider is important, as having a provider in whom one trusts can mitigate the effect of distrust in the broader medical system.[29]

This research offers several implications for HIV prevention and treatment interventions. Through the lens of the socioecological framework, medical mistrust and HIV conspiracy beliefs manifest at multiple levels and thus, require a multi-level approach, including interventions at the structural, interpersonal and individual levels.[20,69] For example, broader social-structural interventions are needed to address the root causes of AIDS conspiracy theories. To dismiss such beliefs as ignorance or approach such beliefs through dissemination of accurate public health and medical information is insufficient. Rather, efforts should seek to establish and repair trust between the African American community, the federal government, and the medical and public health communities and address the broader effects of medical mistrust on social and racial disparities of health. Additionally, while the presence of AIDS conspiracy theories among African Americans may be partially rooted in legacies of distrust and mistreatment of minority populations by the federal government,[17,70] the existence of medical mistrust also points to the importance of more recent individual experiences of racism, homonegativity, and discrimination within the medical system. Interventions should also seek to improve health care settings, including

expanding local, community-based health settings, sharing medical decision-making, and incorporating health educators and social workers to improve personal relationships and trust in medical care.[71] At the individual level, efforts to improve patient-provider communication may be beneficial in counteracting negative patient experiences and decreasing medical mistrust; patients report being suspicious of providers who use medical jargon and fail to provide adequate time for patients to ask questions.[72] Finally, interventions at any level should acknowledge the history of medical mistrust, the continued racism and discrimination individuals experience within the health care system, and the continued existence of AIDS genocidal beliefs.[73]

Conclusion

Despite the importance of these findings, they should be considered in light of the study's limitations. This study is cross-sectional and as such, we cannot determine causality. Although our sample was drawn from three cities, our results may not be generalizable to other US cities. Recruitment from the three cities was done in collaboration with community-based organizations and although we provided training for field staff, differences in organizational structure and culture resulted in varied recruitment numbers by site. Additionally, in-person recruitment was conducted by field staff, which identified 'seeds' at local congregating spots of African American MSM. Individuals who publicly identify as gay, bisexual, or other MSM or spend time within these locations may be different from other African American MSM. Selection bias may also have influenced whom field staff identified as 'seeds.' Additionally, there are inherent biases in ethnographic observation. Although two field staff trained in ethnography consulted with each other to identify seeds, their observation and identification of seeds may have been influenced by a number of factors including the given social context and inherent field staff biases.

Clinical measures (medication adherence, engagement in care, and detectable viral load) were self-reported. Participants may have misreported adherence or misunderstood lab results. Future research should use clinical indicators to examine factors that influence HIV treatment and care. We also had a limited sample of HIV-infected participants and HIV-infected participants receiving ART and future research should continue to explore these issues among larger samples. Finally, although this study highlights the existence and correlates of medical mistrust and AIDS genocidal beliefs, it did not differentiate types of medical mistrust (provider v. broader public health system mistrust) or provide context for that mistrust. Qualitative research with African American MSM may provide context and greater explanation for medical mistrust and AIDS genocidal beliefs among African American MSM.

The persistence of medical mistrust and AIDS genocidal beliefs highlights the need for continued efforts to ease social anxieties around HIV prevention and treatment and increase efforts to build trust between the medical community and African American MSM. Public health efforts to address racial disparities in HIV must maintain a focus on rebuilding trust with the African American community while acknowledging historical abuses and legacies of racism that have damaged trust and engagement with the healthcare system.

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Table I

Endorsement of HIV Conspiracy Beliefs by 464 African-American MSM Recruited within 35 Social Networks and Varimax-Rotated Factor Loadings of AIDS Genocidal Beliefs and Medical Mistrust Subscales[a]

		Factor Loadings for:	
HIV Conspiracy Belief Item	**% Agree (strongly or somewhat)**	**AIDS Genocidal Beliefs**	**Medical Mistrust**
HIV is a man-made virus	34.6%	**0.774**	−0.019
AIDS was produced in a government laboratory	14.3%	**0.790**	0.340
HIV was created and spread by the CIA	13.0%	**0.749**	0.367
People who take the new medicines for HIV are human guinea pigs for the government[b]	12.7%	**0.512**	**0.512**
AIDS is a form of genocide against Blacks	11.6%	**0.731**	0.386
AIDS was created by the government to control the Black population	9.3%	**0.716**	0.496
The medicine that doctors prescribe to treat HIV is poison	6.9%	0.288	**0.753**
The medicine used to treat HIV causes people to get AIDS	3.2%	0.185	**0.827**
Doctors put HIV into condoms	0.6%	0.196	**0.800**

Table II

Description of Sociodemographic Background for 464 African-American MSM Recruited within 35 Social Networks

Age in years—*Mean (SE)*	27.5 (0.38)
Self-identified gender:	
Male	92.2% (428)
Female or transgender	7.7% (36)
Race:	
African-American	84.7% (393)
Multiracial (including African-American)	6.0% (28)
White	2.2% (10)
Native American	1.5% (7)
Other	5.6% (26)
Hispanic Ethnicity	6.7% (31)
Level of education:	
Less than complete high school	16.6% (77)
Completed high school	38.1% (177)
Any higher education	45.3% (210)
Currently a student	23.3% (108)
Currently working	55.1% (256)
Annual income:[a]	
Less than $10,000	54.7% (254)
$10,000 to $29,999	30.8% (143)
$30,000 or more	12.9% (59)
Resides in current area less than 1 year	8.4% (39)
Current housing situation is unstable	9.0% (42)
Sexual orientation:[b]	
Gay	75.0% (348)
Bisexual	20.7% (96)
Straight	4.1% (19)
Never been tested for HIV	4.7% (22)
Tested for HIV 1 year or more ago[c]	31.7% (147)
HIV-positive at most recent test[d]	23.1% (107)

Table 3

Bivariate Mixed Regression Models Predicting AIDS Conspiracy Subscales Among Members of 35 African-American MSM Social Networks

	AIDS Genocidal Beliefs[a]		Medical Mistrust[a]	
Fixed Effects[b]	**Coefficient (SE)**	***p*-value**	**Coefficient (SE)**	***p*-value**
Sociodemographic Background:				
Self-identified as female or transgender	−0.096 (0.145)	.506	−0.315 (0.176)	.075
African-American race	0.117 (0.107)	.274	0.089 (0.131)	.681
Hispanic ethnicity	−0.062 (0.154)	.686	−0.055 (0.189)	.771
Age (in years)	−0.002 (0.005)	.654	−0.012 (0.06)	.041
Currently employed	−0.139 (0.078)	.075	−0.164 (0.096)	.087
Currently a student	−0.034 (0.092)	.714	−0.001 (0.113)	.991
Less than complete high school education	−0.003 (0.104)	.974	−0.015 (0.128)	.906
Income less than $10,000 per year	0.253 (0.079)	.001	0.300 (0.097)	.002
Resides in current area less than 1 year	0.094 (0.138)	.682	0.048 (0.170)	.775
Current housing situation is unstable	0.039 (0.135)	.774	0.016 (0.165)	.923
Sexual orientation bisexual or straight	0.173 (0.089)	.054	0.333 (0.109)	.002
Never tested for HIV	0.228 (0.185)	.219	0.353 (0.226)	.120
Tested for HIV 1 year or more ago	−0.026 (0.084)	.761	−0.048 (0.103)	.639
HIV-positive at most recent test	−0.093 (0.093)	.319	−0.188 (0.115)	.102
AIDS Risk-Specific Scales:				
Knowledge of HIV risk reduction steps	−0.068 (0.023)	.003	−0.106 (0.028)	<.001
Safer sex peer norms	−0.017 (0.011)	.136	−0.016 0.014)	.263
Risk reduction behavioral intentions	−0.018 (0.011)	.121	−0.022 (0.014)	.112
Condom use attitudes	−0.048 (0.011)	<.001	−0.054 (0.014)	<.001
Risk reduction self-efficacy	−0.001 (0.015)	.920	−0.009 (0.018)	.611
Psychosocial Contextual Scales:				
Self-ascribed masculinity	0.020 (0.009)	.033	0.019 (0.012)	.102
Gay community participation	−0.020 (0.006)	.001	−0.028 (0.008)	<.001
Internalized homonegativity	0.030 (0.005)	<.001	0.033 (0.006)	<.001
Resilience	−0.019 (0.007)	.009	−0.028 (0.009)	.001
Religious and church involvement	0.001 (0.007)	.935	0.001 (0.009)	.934
Sexual History and Sexual Behavior in the Past 3 Months:				
Had an STD in the past 6 months	0.059 (0.140)	.674	0.186 (0.172)	.280
Has a main male sexual partner	−0.106 (0.079)	.182	−0.132 (0.097)	.172
Had any UI, past 3 months	−0.044 (0.077)	.569	−0.098 (0.095)	.302
Had UI with multiple partners, past 3 months	−0.017 (0.098)	.866	−0.020 (0.112)	.869
Had UI with non-main partner, 3 months	0.144 (0.084)	.089	0.130 (0.103)	.209
Had commercial sex partner in past 3 months	0.495 (0.175)	.005	0.576 (0.215)	.008
Did not disclose HIV status to all partners, 3 mo.	0.181 (0.086)	.036	0.280 (0.105)	.008

Table 4

Comparison of Multiple Mixed Regression Models Predicting AIDS Conspiracy Subscales Among Members of 35 African-American MSM Social Networks[a]

	AIDS Genocidal Beliefs		Medical Mistrust	
Fixed Effects	**Coefficient (SE)**	***p*-value**	**Coefficient (SE)**	***p*-value**
Self-identified as female or transgender	−0.120 (0.142)	.398	−0.371 (0.172)	.032
Age (in years)	−0.003 (0.005)	.588	−0.013 (0.006)	.025
Income less than $10,000 per year	0.159 (0.078)	.042	0.173 (0.094)	.066
Knowledge of HIV risk reduction steps scale	−0.031 (0.023)	.170	−0.065 (0.028)	.019
Condom use attitudes scale	−0.037 (0.011)	.001	−0.043 (0.014)	.002
Internalized homonegativity	0.026 (0.005)	<.001	0.028 (0.006)	<.001
Had commercial sex partner in past 3 months	0.408 (0.169)	.016	0.526 (0.206)	.011

Notes:

[a]In the initial stepwise model for genocidal conspiracy beliefs, 4 covariates (low income, condom use attitudes, internalized homonegativity, and commercial sex partner) were selected. We also added 3 variables that were selected in the final group of predictors of medical mistrust (self-identified female gender, age, and HIV risk knowledge). Likewise, income was added back into the multiple regression model predicting medical mistrust.

Table 5

Bivariate Regression Models Predicting HIV Treatment Outcomes by AIDS Conspiracy Subscales

	AIDS Genocidal Beliefs		Medical Mistrust	
Fixed Effects	**IRR/OR (95% CI)[a]**	***p*-value**	**IRR/OR (95% CI)[a]**	***p*-value**
Number of visits to a physician for HIV treatment in past 6 months[b]	0.929 (0.79, 1.09)	.356	0.937 (0.81, 1.08)	.371
Currently on antiretroviral treatment[c]	0.632 (0.31, 1.30)	.210	1.117 (0.63, 1.98)	.702
Had a detectable viral load at last doctor's visit[d]	1.815 (0.83, 3.97)	.134	3.082 (1.34, 7.12)	.009

Notes:

[a]Exponentiated regression coefficients and their 95% confidence intervals were Incidence Rate Ratios (IRR), computed from Poisson regressions modelling the number of doctor visits, and Odds Ratios (OR), computed from logistic regressions modelling the dichotomous antiretroviral treatment and viral load indicators.

[b]The analysis was performed for 105 of 107 HIV seropositive men who reported the number of doctor visits.

[c]The analysis was performed for all 107 HIV seropositive men.

[d]The analysis was performed for 76 of 85 men who reported that they were currently on HAART. Nine participants, who indicated that they did not know or were not informed of their viral loads, were omitted from the analysis.