### Risk Factors For STI Acquisition in African Americans: A Literature Review

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**Research Question:** What are the risk factors that contribute to higher rates of STI acquisition among African Americans?

#### Abstract

Sexually Transmitted Infections (STIs) are a growing issue globally. Although there has been significant progress in increased access to condoms, dental dams, vaccinations, and quality comprehensive sexual education to prevent STIs. STIs are still one of the most common infections in the United States. STIs affect African Americans more than any other racial group due to systemic factors. Disparities such as housing status, income, poor education, and substance abuse contribute to the growing rate of STIs. This literature review explores the risk factors that contribute to high STI rates among African Americans. 13 peer reviewed research articles were selected from PubMed and Sage Journals for an in-depth analysis. The results yielded three overarching major contributing risk factors for STI acquisition in African Americans; housing and income, STI education and attitudes, and substance abuse. These findings highlight how the role of intersectionality, health inequity, and systemic socioeconomic disadvantages largely affect health outcomes and STI rates. Community based interventions are effective in making STI testing and treating more accessible to those affected by these disparities. This literature review compiles studies that can guide policy makers, health care providers, and health promotion specialists in implementing plans to reduce STI risk factors in African Americans.

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#### Introduction

In 2018, nearly one in five US adults in the United States had an STI (Centers for Disease Control and Prevention, 2021a). More than 1 million STIs are acquired each day (World Health Organization). STIs acquired in 2018 resulted in nearly \$16 billion dollars in direct medical costs (Centers for Disease Control and Prevention, 2021a). When an STI is asymptomatic, this can lead to an individual spreading the infection unknowingly, furthering the epidemic (World Health Organization). STIs can be bacterial, viral, or parasitic infections (Cleveland CLinic, 2023). STIs can also be contracted through contaminated needles shared by drug users (Centers for Disease Control and Prevention, 2021b). Bacterial and parasitic STIs can be cured with medications while most viral STIs can only be treated (World Health Organization). Untreated STIs can lead to complications like pelvic inflammatory disease, chronic pelvic pain, infertility, and poor birth outcomes in people with uteruses (Van Gerwen et al., 2022). STIs can increase the risk of congenital infections and ectopic pregnancies in pregnant people. People with an STI are also at an increased risk of contracting and transmitting the human immunodeficiency virus (Barrow et al., 2020). STIs, like human papillomavirus can even cause cervical and other types of cancers (World Health Organization).

STIs are preventable with proper sexual education, condoms, dental dams, limiting sex partners, getting tested frequently, and abstinence (Brown University, 2023). Access to STI testing, STI-related stigma, and cost are all barriers to acquiring proper diagnosis and treatment of STIs (World Health Organization). Screening for STIs and knowing infection status are essential. Delaying medical care for STIs can result in an increased risk of more severe health

outcomes (Malek et al., 2013). Providing education about proper condom use and other safe sex practices has been shown to be beneficial in reducing STIs (Planned Parenthood).

Some racial or ethnic minorities have higher rates of STIs compared to the general population (Centers for Disease Control and Prevention, 2019). African Americans have a higher rate of STIs than other racial/ethnic groups (Centers for Disease Control and Prevention, 2019). In 2014, over half of gonorrhea cases occurred among African Americans (African American Health Program, 2014). In 2018, Black females were five times more likely to contract chlamydia than White females (Centers for Disease Control and Prevention, 2020a). It is important to understand that the rates of STIs are higher in minorities can be attributed to social determinants of health and are not caused by race or ethnicity (centers for Disease Control and Prevention, 2020b). African Americans are affected disproportionately by unemployment, living in poverty, lack of housing, healthcare access, and quality education which puts them at risk for more severe health outcomes related to STIs (Centers for Disease Control and Prevention, 2021a). It is important for research to focus on risk factors for African Americans because compared to the general population African Americans are affected disproportionately by unemployment, substance abuse, living in poverty, lack of housing, healthcare access, and quality education (Centers for Disease Control and Prevention, 2019)

If this issue is not addressed, systemically, African Americans may continue to be at high risk for STIs and worse health outcomes compared to other ethnicity groups. Most studies fail to address the multifaceted social and environmental health disparities that result in African American populations being disproportionately affected by STIs. Specifically, African

Americans may feel apprehensive to participate in research studies due to mistrust of medical communities (Ruiz-White et al., 2023). The purpose of this literature review is to analyze the risk factors associated with acquiring STIs among African Americans in the United States.

#### Methods

PubMed provides many journals on biomedical studies about STIs and risk factors. The database has numerous articles about sexual health and HIV. PubMed was the most helpful because many of the articles about STIs are peer reviewed studies. Although PubMed focuses on treatment and clinical trials, the database has some information about STI risk factors and survey-based studies about sexual health. Sage Journals provides many recent peer reviewed journal articles about health and social sciences. Sage Journals allows access to the International Journal of STDs and AIDS. This database was useful because PubMed did not allow access to this journal that focuses solely on STIS.

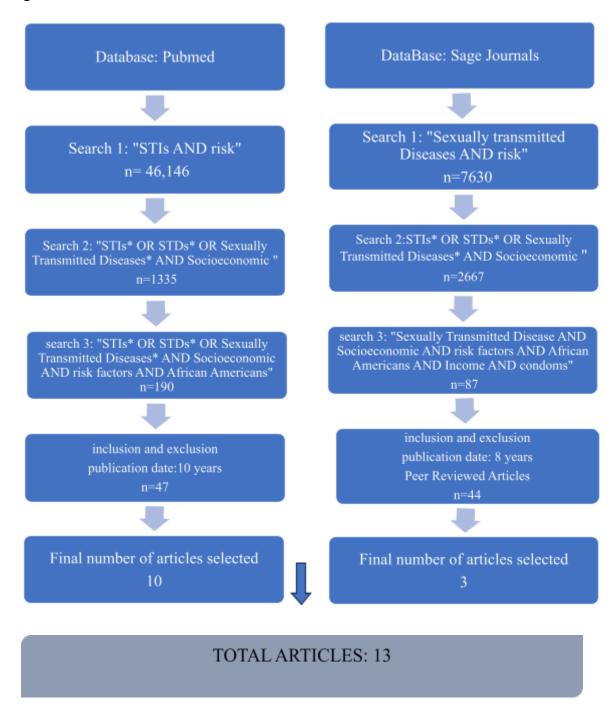
The first search was "STIs AND risk" in PubMed and it provided broader studies and yielded 46,146 results. There were some studies about racial disparities between STD rates for women, but most articles focused on the long-term impacts STIs have on women specifically such as infertility. Searching "STIs\* OR STDs\* OR Sexually Transmitted Diseases\* AND Socioeconomic" in PubMed provided 1335 articles. Searching: "STIs\* OR STDs\* OR Sexually Transmitted Diseases\* AND Socioeconomic AND risk factors AND African Americans" in PubMed provided 190 articles. The search yielded 47 results after only including articles published in 2013 or later. Of the 47 results, ten articles are used from this PubMed search.

In Sage Journals, "Sexually transmitted Diseases AND risk" yielded 7630 results. Results from this search were broad and did not have many studies on risk factors or African Americans. Searching "STIs\* OR STDs\* OR Sexually Transmitted Diseases\* AND Socioeconomic" yielded 2667 search results. This search provided risk factors but did not have many studies focusing on racial and ethnic groups. Searching "Sexually Transmitted Disease AND Socioeconomic AND risk factors AND African Americans AND Income AND condoms" yielded 87 search results. The search yielded 44 results after only including articles published in 2015 or later. Of these 44 results, three articles are used from this Sage Journals search.

#### Inclusion and Exclusion Criteria

To be included in this review, studies had to measure STIs. All STIs were considered in this review. All genders, sexualities, and age groups were included in the data search. To be included in this review, African Americans had to be a part of the study population. Articles that did not include African Americans were excluded from this review. To be included in this review, studies had to take place in the United States. Studies that took place outside of the United States or analyzed other countries were excluded. To be included in this review, articles were peer reviewed studies. Articles that were not peer reviewed and literature reviews were excluded to ensure sources were reviewed by experts. To be included in this review, articles in PubMed were published in 2013 or later and articles in Sage Journals were published in 2015 or later. Articles that were published before 2013 in PubMed and before 2015 in Sage Journals were excluded to keep the data recent and as accurate as possible.

Fig 1. Article Selection Process



#### Results

As STIs continue to be a major public health issue in the United States, it is important to understand why STIs disproportionately affect some groups of people more than others.

Identifying why STIs disproportionately affect African Americans more than any other racial group can guide public health professionals to find effective preventative methods and design better interventions to address systemic issues. While there are many multifaceted risk factors that contribute to high STI rates among African Americans, there are three significant overarching factors that contribute to higher rates of STIs in African Americans. The first overarching finding was that African Americans living in unstable housing and earning lower income have an increased risk of STI acquisition. The second finding was that a lack of proper education about STIs contributed to higher STI rates. The third finding was that African Americans are at high risk for illicit drug usage which is correlated with risky sexual behavior. See Table 1: Detailed Summary of Articles Reviewed for additional information.

### Housing and Income

Unstable housing and public housing are associated with more risky sexual behavior that influence HIV and STD rates (Widman et al., 2014). African Americans living in unstable housing have higher rates of unprotected sex and more sexual partners in African Americans. Approximately 55% of individuals living in unstable housing have had more than one sexual partner in the past 3 months and 71% of individuals living in unstable housing also reported in

engaging in unprotected sex in the past 3 months (Widman et al., 2014). Living in unstable or public housing is associated with lack of access to STI testing. However, African Americans in unstable housing are also more likely than those in stable housing to have been diagnosed with any STI in the past 9 months and are 1.4 times more likely to have been tested for HIV in the past 6 months (Grieb et al., 2013). Conversely, individuals who live in public housing are less likely to test for an STI when travel time was  $\geq$  48 minutes (Bonney et al., 2012). Distance and access to testing sites due to location may contribute to higher STI rates associated with housing conditions and their locations (Bonney et al., 2012).

Furthermore, living in public housing may correlate with other factors that can make African Americans more vulnerable to STIs. African American women living in public housing are more vulnerable to HIV infection due to intersectional discrimination based on racism, classism, gender power dynamics, and community conditions (Rimmler et al., 2022). Earning less income can impact the likelihood of acquiring STIs. High STI risk was associated with race/ethnicity and low-income status while lower STI risk was associated with higher incomes (Harling et al., 2013). STI rates were the highest amongst African Americans compared to other ethnic groups and the highest in areas where African Americans experience economic segregation (Harling et al., 2013). High levels of race-income disparity make race-based sexual segregation more severe which leads to higher STI rates in African Americans (Owusu-Edusei et al., 2013). Low income households are more likely to struggle with obtaining STI testing due to cost and transportation barriers (Alarcon et al., 2020). Furthermore, only one in eight young adults living in low-income areas in San Francisco could recall having been vaccinated for HPV

(Rojo et al., 2023). It was also found that individuals were less likely to seek healthcare due to being classified as low income (Alarcon et al., 2020).

### STI Education and Attitudes

STI acquisition is strongly correlated with proper education regarding STIs. Education about STIs and attitudes towards seeking medical care impacts behavior surrounding sex and the likelihood of engaging in safe sex. African Americans have the highest rates of Cervical Cancer caused by Human Papilloma Virus (HPV), an extremely common STI (Sanders Thompson et al., 2012). HPV is preventable with a vaccination; however, African Americans are less likely to initiate or complete the HPV vaccination series due to a lack of awareness and education about the HPV vaccination (Sanders Thompson et al., 2012). Furthermore, there are common misconceptions about STIs. Among African American women who were reinfected with chlamydia, participants discussed that they did not have sufficient knowledge about STIs before being reinfected (Craft-Blacksheare et al., 2014). After reinfection, participants view of condoms and risk associated with STIs positively changed (Craft-Blacksheare et al., 2014).

#### Substance Abuse

In the United States, African Americans of all ages and genders are disproportionately affected by the risk of illicit drug use which often correlates with risky sexual behavior. African American women who used substances such as alcohol and cannabis had a higher number of male sexual partners which increases the risk of contracting an STI (Lee et al., 2017). African American women were found to engage in sexual behaviors often while under the influence of alcohol thus increasing the risk for unsafe sexual behaviors (Lee et al., 2017). Substance abuse is

a large issue in African Americans adolescents and correlates with greater young adult substance problems and increased risky sexual behavior (Zebrak & Green, 2017). Furthermore, among an HIV clinic, African American men reported more drug use and drug-related negative consequences compared to other racial groups in the clinic (Regan et al., 2023).

Table 1: Detailed Summary of Articles Reviewed

	Author(s)	Year	Article Title and Journal	Purpose of Article	Sample Info	Type of Research	Research Findings	Limitations of Article
1.	J. Alarcon, T. B. Loeb, A. B. Hamilton, N. J. Moss, C. M. Curley, M. Zhang, et al.	2020	Barriers to Testing for Sexually Transmitted Infections among HIV-Serodiscor dant Couples: The Influence of Discrimination	The purpose of this article is to discuss the challenges African American couples that have one HIV positive partner face in getting tested for HIV.	91 sexually active African American couples were recruited in Los Angeles and socioeconomic status, past STI status, and discrimination experiences were evaluated	Cross-Sectio nal Research (survey)	The study found that only recent experiences of discrimination predicted the likelihood of participants obtaining a baseline STI test. Those	The study cannot apply to all African

			Journal of Ethnicity and Disease				individuals with no recent experiences of discrimination were three times more likely to obtain a baseline STI test	sample were HIV positive.
2.	L. E. Bonney, H. L. Cooper, A. M. Caliendo, C. Del Rio, J. Hunter-Jone s, D. F. Swan, et al.	2012	Access to health services and sexually transmitted infections in a cohort of relocating African American public housing residents: an association between travel time and infection.  Journal of Sexually Transmitted Diseases	The purpose of this article is to discuss the associations between sociodemographic status and travel time with the likelihood of testing positive for a sexually transmitted infection.	The population studied was 108 sexually active African American adults living in public housing in Atlanta, Georgia. The study oversampled alcohol users and illegal drug users. Participants were asked in a survey about their sexual habits and lifestyle. Qualifying sexually active participants were tested.	Cross-Sectio nal Research (survey)	The study found that over 37% of the sampled population were positive for at least one of the three sexually transmitted infection. The study found that women with an infection had longer travel times to the nearest testing center than women without infection. When travel times were less than 48 minutes, longer	The travel times were gathered by self-report methods. The study also gathered prevalence of STIs at a specific period instead of longitudinally.

							were associated with a greater likelihood of testing positive for a sexually transmitted infection. However, the study also found that when travel times were greater or equal to 48 minutes, the likelihood of testing positive for a sexually transmitted infection became lower	
3.	M. Craft-Blacks heare, F. Jackson and T. K. Graham	2014	Urban African American women's explanations of recurrent chlamydia infections  Journal of Obstetric, Gynecologic & Neonatal Nursing	The purpose of this study was to identify reasons of high chlamydia recurrence rates in African American women	Participants were chosen from three urban health clinics in Michigan. Participants included adolescents aged 15 to 19.	Qualitative study	The results showed that participants did not have sufficient knowledge about STIs. After being diagnosed of reinfection, participants view on condoms and risk of STIs	The sample size was very small limiting variability of results. The interview questions did not address relationship issues, self-esteem, or parent involvement, which are factors

							positively changed.	that could contribute to STI reinfection.
4.	S. M. Grieb, M. Davey-Roth well and C. A. Latkin	2013	Housing stability, residential transience, and HIV testing among low-income urban African Americans Journal of Aids Education and Prevention	The purpose of this study is to examine the relationship between HIV testing and housing stability and residential transience	Participants included 620 low-income African Americans in urban areas	Cross Sectional (survey)	The results of the study showed that those who lived in unstable housing have poor access to healthcare and are less likely to have access to STI testing than the general population	The limitations of this study are the sample size did not include African Americans in rural areas. Sexual behaviors and substance abuse behaviors were self-reported and may be inaccurate due to social desirability bias.
5.	G. Harling, S. Subramanian, T. Barnighausen and I. Kawachi	2013	Socioeconomic disparities in sexually transmitted infections among young adults in the United States: examining the interaction between income and race/ethnicity.  Journal of Sexually Transmitted Diseases	The purpose of this article is to evaluate the relationship between socioeconomic risk factors associated with race and STI acquisition.	Participants were selected from 80 US high schools and included students 7 <sup>th</sup> to 12 <sup>th</sup> grade. Participants were interviewed 1 year later then 4-5 years later after the original interview.	Nationwide Cohort study	The results showed that STI diagnosis was associated with race/ethnicity and low-income status. Negative STI risk was associated with higher incomes but was stronger for non-whites. The study also found that	Researchers interviewed students during a specific point in time in a specific location which could result in misclassification in data.  Participants self-reported their STI history and income status which could have been biased or incorrect.  Participants were also interviewed

							within single STI, rates were the highest amongst African Americans and the highest in areas where African Americans experience geographic and economic	over the course of 5 years which could have caused some misjudgment in their self-reported data.
6.	J. Y. Lee, J. S. Brook, K. Pahl and D. W. Brook	2017	Substance Use and the Number of Male Sex Partners by African American and Puerto Rican Women Journal of Community Health Research	The purpose of this study is to examine the relationship between substance abuse and number of male sexual partners	The participants were 343 female participants. 50% of participants identified as African American and 50% of participants identified as Puerto Rican. This sample was a community sample from New York	Cross sectional study (survey)	The results found that Alcohol use, cannabis use, marital status, and race/ethnicity, and being African American were significantly related to having a higher number of male sex partners in the past year.	Limitations of the study included that the study only included those who identified as women and cannot be generalized to the entire African American population or other genders.
7.	K. Owusu-Eduse i, Jr., H. W. Chesson, J. S. Leichliter, C. K. Kent, and S. O. Aral	2013	The association between racial disparity in income and	The purpose of this article is to examine the relationship between racial disparities, income	Participants were chosen from Black and White populations categorized as high and low	Quantitative analysis	The study found that chlamydia, gonorrhea, and syphilis rates for Blacks were substantially	Limitations in the study include missing data from some counties and high asymptomatic rates for some

			reported sexually transmitted infections.  American  Journal of Public Health	disparities, and STI rates.	income in the United States		higher than for Whites. Racial disparities in income were associated with racial disparities in chlamydia and gonorrhea rates and syphilis rates.	STIs like chlamydia which leads to a lack of testing to confirm cases.
8.	T. Regan, J. Gette, N. McAfee, and J. Parker	2023	Substance use disparities by age, race, sex, and sexual orientation among persons living with HIV in the Southern U.S.  International Journal of STDS and AIDS	The purpose of this study was to examine the association between those living with HIV and their substance abuse habits	Participants were chosen from an HIV clinic in Southern United States and was mostly composed of men.	Cross-Sectio nal (survey)	The study found that African Americans reported more drug use and more negative consequences associated with drug use. The study also found that alcohol related negative consequences were higher in African Americans than any other racial group	Limitations of the study included the study taking place at an HIV clinic which disproportionately affects males. There were very little women included in the study which makes the results less generalizable

9.	S. Rimmler, C. Golin, J. Coleman, H. Welgus, S. Shaughnessy, L. Taraskiewicz, et al.	2022	Structural Barriers to HIV Prevention and Services: Perspectives of African American Women in Low Income Communities  Journal of Health Education and Behavior	The purpose of this study was to examine HIV testing access and services to African Americans in low-income areas	The sample included seven focus groups with 48 African American women from 10 public housing communities in a small city in the southeastern United States	Qualitative study	The study found that African American women living in public housing are vulnerable to HIV infection due to intersectional discrimination based on racism, classism, gender power dynamics, and community conditions.	Limitations from the study are that only African Americans in public housing were surveyed and not African Americans from other low-income areas.
10.	E. M. Rojo, K. D. Taylor, and W. McFarland	2023	Low Human Papillomavirus Vaccination in a Low-Income Urban Population  Journal of Clinical Infectious Diseases	The purpose of this study was to explore the relationship between race and low-income status.	The sample included low-income, sexually active men and women in San Francisco who participated in the National HIV Behavioral Surveillance survey	Cross-sectional (survey)	The study found that 82.2% of participants were African American and only 12.5% of participants recall receiving the HPV vaccine	Limitations in the study were that there were no transgender or men who have sex with men who participated in the study
11.	V. L. Sanders Thompson, L. D. Arnold,	2013	African American Parents' HPV	The purpose of the study is to examine the	The population studied in included 30	Cross-Sectio nal (survey)	The results found that most parents	The lack of diversity in sample could

	and S. R. Notaro		Vaccination Intent and Concerns  Journal of Health Care Poor Underserved	factors that influence African American parents' reasons for not choosing to vaccinate their daughter for HPV.	African American parents from the St Louis area and had a daughter nine to seventeen years of age with no history of HPV infection.		felt that they could overcome barriers to vaccination for their daughters, except vaccine costs and lack of insurance.	result in participants making socially desirable comments.
12.	L. Widman, S. M. Noar, C. E. Golin, J. F. Willoughby and R. Crosby	2014	Incarceration and unstable housing interact to predict sexual risk behaviors among African American STD clinic patients.  International Journal of STD and AIDS	The purpose of this study is to evaluate how housing and incarceration status affects sexual risk behaviors.	Participants were recruited in a publicly funded STD clinic. 293 African Americans participated in the study (159 men and 134 women).	Cross Sectional computer-ba sed study	The study found that unstable housing and frequent incarceration was associated with more risky sexual behavior that influence HIV/STD rates.	The data in this study relied on self-report methods, participants could have underreported sexual risk behaviors due to judgment. The study also only collected individual data on incarceration and housing and not data surrounding geographical poverty and homelessness in populational data.

13.	K. A. Zebrak and K. M. Green	2017	The role of young adult social bonds, substance problems, and sexual risk in pathways between adolescent substance use and midlife risky sexual behavior among urban African Americans  Journal of Psychology and Addictive Behaviors	The purpose of this study is to explore the relationship between substance abuse, risky sexual behavior, and social bonds throughout a lifespan starting in 1966	Participants were 1242 individuals in a Chicago neighborhood. The participants started the study as first graders and their sociodemographic characteristics were recorded throughout their lives	Longitudinal study	The study found that when African American adolescents began using substances at a young age, they were at a greater risk for risky sexual behaviors as they got older.	The participants were all from an urban city which limits the generalizability to all African Americans in other areas. The experiences of the participants may have been inaccurate due to the study taking place over a long period of time.
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### **Discussion**

The purpose of this literature review is to analyze the risk factors associated with STIs among African Americans in the United States. This literature review compiles the risk factors associated with African Americans being disproportionately affected by STIs. Due to the lack of research about STIs that focus on African Americans, these risk factors are misunderstood by many. The greatest risk factors impacting African Americans' STI rates are housing conditions, low-income status, education about STIs, and substance abuse. It is important to recognize that STIs are not caused by being African American, but that African Americans are disproportionately affected by risk factors.

African Americans have a higher rate of STIS than any other racial group (African American Health Program, 2014). African Americans are more impacted by risk factors that contribute to high STI rates than the general population (centers for Disease Control and Prevention, 2020b). In 2019, the African American poverty rate was 1.8 times greater than the general population (Creamer, 2021). African Americans living in racially segregated areas have unequal access to a wide range of services and healthcare facilities are more likely to close in these areas (Williams, 2001). Tobacco and alcohol companies heavily target their advertising in these racially segregated areas resulting in African Americans being at high risk for substance use(Moore et al., 1996; Primack et al., 2007). Racial residential segregation and systemic discrimination contribute to limiting access to quality education and health literacy among African Americans (Muvuka et al., 2020). African Americans are also less likely than other racial/ethnic groups to trust the health care system due to negative past experiences by health

care providers and health researchers (Muvuka et al., 2020). Further research is necessary in determining the most effective interventions that lower STI rates in African American communities.

When analyzing low-income populations, all ethnic groups had an increased risk of STIs and as income increased, STI risk decreased (Harling et al., 2013). However, this gradient was stronger among the minority populations (Harling et al., 2013). When analyzing education differences and perceived STI risk in different ethnic groups, black females enrolled in, or who graduated from, college had significantly higher probabilities of having an STI compared with white females who had less than a high school diploma (Annang et al., 2010). Compared to white peers, African American women experience greater chances of contracting an STI and experience higher rates of unprotected sex when using alcohol (Guthrie & Low, 2000).

#### Limitations

This literature review only examined studies conducted in the United States, therefore, the results may not be generalizable to all African Americans. Research done on the topic of STIs and African Americans was mostly done in the 1980s and 1990s and had to be excluded from this literature review. This review only analyzed 13 research studies and there are other important studies that may contribute to the risk factors that impact STI acquisition in African Americans. Furthermore, African Americans may be less likely to contribute to scientific research due to distrust in medical research and poor treatment in past research studies (Brandon et al., 2005). There are also little research studies evaluating the relationship between STIs besides HIV on African Americans who identify as gay, bisexual, or transgender. Additional

research for African Americans who identify as gay, bisexual, or transgender is important because this group is at a higher risk for barriers and discrimination associated with intersectionality (Safer et al., 2016). Most studies focused on either male or female samples instead of a hybrid gender sample. Studies on STIs also only sample small cities or communities. These limitations make the results less generalizable to the general African American population due to the lack of diversity in gender and geography in the samples. Many of the results reviewed relied on self-report STI data, which may be inaccurate or biased. Since STIs are highly stigmatized, there may also be less research in this field due to participants having to share intimate details about their sexual behaviors to contribute to research. Recorded STI rates among African Americans may also be inaccurate due to the many barriers discussed that may prevent African Americans from getting tested for STIs.

### *Implications*

Compared to other racial groups, African Americans have the highest STI rates and are disproportionately affected by risk factors (Centers for Disease Control and Prevention, 2020a). There should be more research on effective interventions to reduce STI rates in African American communities. Medical practitioners should be aware of these risk factors and recommend more frequent routine STI testing for the African Americans affected by the risk factors discussed. Policymakers should consider implementing low cost or discounted transportation services to STI testing clinics in low-income areas. Policymakers should also consider free full panel STI testing for low-income areas. There is currently literature about implementing programs for racial groups disproportionately affected by STIs to make screening

more accessible and less costly (Stoecker et al., 2022). Literature on bundled chlamydia low-cost treatment and testing for African American Adolescence called "Check It" is associated with lower medical costs and benefits high risk groups (Stoecker et al., 2022). Another study found that an intervention made for African Americans was associated with improved attitudes related to alcohol, marijuana, and sexual risk, as well as improved knowledge in African American Adolescents (Agley et al., 2021). Interventions providing sexual health and substance abuse education specifically targeting African Americans can be beneficial in preventing STIs in African American communities. It is important for STI prevention plans and interventions to be designed to understand barriers that African Americans face.

#### Conclusion

This study analyzed housing conditions, low-income classification, education, and substance abuse as risk factors for STI acquisition among African Americans. This literature review calls for action to further research about the systemic STI risk factors that disproportionately affect African Americans compared to other groups. Affordable and accessible STI testing, access to safe sex resources, and quality sexual and substance abuse education are necessary reduce STI rates among African Americans. By better understanding the multifaceted risk factors discussed, policymakers and health promotion specialists can design more effective programs and interventions to reduce STI rates in these communities.

#### References

- African American Health Program. (2014). *STI/HIV and AIDS*. Retrieved July 7th from <a href="https://aahpmontgomerycounty.org/sti-hiv-and-sti/#:~:text=In%202014%2C%2055.4%25">https://aahpmontgomerycounty.org/sti-hiv-and-sti/#:~:text=In%202014%2C%2055.4%25</a> %20of%20gonorrhea,Blacks%20than%20Whites%20in%202014.
- Agley, J., Xiao, Y., Jayawardene, W., Gay, A., King, R., Horne, K., & Walker, R. (2021). HIV/AIDS and Substance Use Prevention for African American Young Adults: Field Evaluation of "Color it Real". *SAGE Open*, *11*(2), 215824402110197. https://doi.org/10.1177/21582440211019734
- Alarcon, J., Loeb, T. B., Hamilton, A. B., Moss, N. J., Curley, C. M., Zhang, M., Jordan, W. C., Lockett, G., Carey-Grant, C., & Wyatt, G. E. (2020). Barriers to Testing for Sexually Transmitted Infections among HIV-Serodiscordant Couples: The Influence of Discrimination. *Ethnicity & Disease*, 30(2), 261-268. https://doi.org/10.18865/ed.30.2.261
- Annang, L., Walsemann, K. M., Maitra, D., & Kerr, J. C. (2010). Does Education Matter? Examining Racial Differences in the Association between Education and STI Diagnosis among Black and White Young Adult Females in the U.S. *Public Health Reports*, 125(4 suppl), 110-121. https://doi.org/10.1177/00333549101250s415
- Barrow, R. Y., Ahmed, F., Bolan, G. A., & Workowski, K. A. (2020). Recommendations for Providing Quality Sexually Transmitted Diseases Clinical Services, 2020. *MMWR Recomm Rep*, 68(5), 1-20. <a href="https://doi.org/10.15585/mmwr.rr6805a1">https://doi.org/10.15585/mmwr.rr6805a1</a>
- Bonney, L. E., Cooper, H. L., Caliendo, A. M., Del Rio, C., Hunter-Jones, J., Swan, D. F., Rothenberg, R., & Druss, B. (2012). Access to health services and sexually transmitted infections in a cohort of relocating African American public housing residents: an association between travel time and infection. *Sex Transm Dis*, *39*(2), 116-121. <a href="https://doi.org/10.1097/OLO.0b013e318235b673">https://doi.org/10.1097/OLO.0b013e318235b673</a>
- Brandon, D. T., Isaac, L. A., & LaVeist, T. A. (2005). The legacy of Tuskegee and trust in medical care: is Tuskegee responsible for race differences in mistrust of medical care? *J Natl Med Assoc*, 97(7), 951-956. <a href="https://www.ncbi.nlm.nih.gov/pubmed/16080664">https://www.ncbi.nlm.nih.gov/pubmed/16080664</a>
- Brown University. (2023). *Safer Sex*. Retrieved June 30th from <a href="https://www.brown.edu/campus-life/health/services/promotion/sexual-health-safer-sex/safer-sex/safer-sex">https://www.brown.edu/campus-life/health/services/promotion/sexual-health-safer-sex/safer-sex</a>
- Centers for Disease Control and Prevention. (2019). *African American health*. Retrieved 6/28 from <a href="https://www.cdc.gov/vitalsigns/aahealth/infographic.html">https://www.cdc.gov/vitalsigns/aahealth/infographic.html</a>
- Centers for Disease Control and Prevention. (2020a). *African Americans/Blacks*. <a href="https://www.cdc.gov/nchhstp/healthdisparities/africanamericans.html#:~:text=In%202018%2C%20the%20overall%20rate,cases%20per%20100%2C000%20population%2C%20respectively">https://www.cdc.gov/nchhstp/healthdisparities/africanamericans.html#:~:text=In%202018%2C%20the%20overall%20rate,cases%20per%20100%2C000%20population%2C%20respectively</a>.
- centers for Disease Control and Prevention. (2020b). *STD health equity*. Retrieved July 7th from <a href="https://www.cdc.gov/std/health-disparities/default.htm">https://www.cdc.gov/std/health-disparities/default.htm</a>
- Centers for Disease Control and Prevention. (2021a). *CDC estimates 1 in 5 people in the U.S. have a sexually transmitted infection*. Retrieved June 30th 2023 from

- https://www.cdc.gov/nchhstp/newsroom/2021/2018-STI-incidence-prevalence-estimates-press-release.html
- Centers for Disease Control and Prevention. (2021b). *HIV and Substance Abuse*. Retrieved June 30th 2023 from https://www.cdc.gov/hiv/basics/hiv-transmission/injection-drug-use.html
- Cleveland CLinic. (2023). *Sexually Transmitted Infections*. Retrieved June 30th from <a href="https://my.clevelandclinic.org/health/diseases/9138-sexually-transmitted-diseases--infections-stds--stis">https://my.clevelandclinic.org/health/diseases/9138-sexually-transmitted-diseases--infections-stds--stis</a>
- Craft-Blacksheare, M., Jackson, F., & Graham, T. K. (2014). Urban African American women's explanations of recurrent chlamydia infections. *J Obstet Gynecol Neonatal Nurs*, 43(5), 589-597. https://doi.org/10.1111/1552-6909.12484
- Creamer, J. (2021). *Inequalities Persist Despite Decline in Poverty For All Major Race and Hispanic Origin Groups*. Retrieved July 21st from <a href="https://www.census.gov/library/stories/2020/09/poverty-rates-for-blacks-and-hispanics-reached-historic-lows-in-2019.html#:~:text=In%202019%2C%20the%20share%20of,23.8%25%20of%20the%20poverty%20population.</a>
- Grieb, S. M., Davey-Rothwell, M., & Latkin, C. A. (2013). Housing stability, residential transience, and HIV testing among low-income urban African Americans. *AIDS Educ Prev*, 25(5), 430-444. <a href="https://doi.org/10.1521/aeap.2013.25.5.430">https://doi.org/10.1521/aeap.2013.25.5.430</a>
- Guthrie, B. J., & Low, L. K. (2000). A Substance Use Prevention Framework: Considering the Social Context for African American Girls. *Public Health Nursing*, *17*(5), 363-373. https://doi.org/10.1046/j.1525-1446.2000.00363.x
- Harling, G., Subramanian, S., Barnighausen, T., & Kawachi, I. (2013). Socioeconomic disparities in sexually transmitted infections among young adults in the United States: examining the interaction between income and race/ethnicity. *Sex Transm Dis*, 40(7), 575-581. <a href="https://doi.org/10.1097/OLQ.0b013e31829529cf">https://doi.org/10.1097/OLQ.0b013e31829529cf</a>
- Lee, J. Y., Brook, J. S., Pahl, K., & Brook, D. W. (2017). Substance Use and the Number of Male Sex Partners by African American and Puerto Rican Women. *J Community Health Res*, 6(3), 192-196. <a href="https://www.ncbi.nlm.nih.gov/pubmed/29707589">https://www.ncbi.nlm.nih.gov/pubmed/29707589</a>
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5922791/pdf/nihms935101.pdf
- Malek, A. M., Chang, C. C., Clark, D. B., & Cook, R. L. (2013). Delay in Seeking Care for Sexually Transmitted Diseases in Young Men and Women Attending a Public STD Clinic. *Open AIDS J*, 7, 7-13. https://doi.org/10.2174/1874613620130614002
- Moore, D. J., Williams, J. D., & Qualls, W. J. (1996). Target marketing of tobacco and alcohol-related products to ethnic minority groups in the United States. *Ethn Dis*, 6(1-2), 83-98.
- Muvuka, B., Combs, R. M., Ayangeakaa, S. D., Ali, N. M., Wendel, M. L., & Jackson, T. (2020). Health Literacy in African-American Communities: Barriers and Strategies. *HLRP: Health Literacy Research and Practice*, *4*(3), e138-e143. <a href="https://doi.org/10.3928/24748307-20200617-01">https://doi.org/10.3928/24748307-20200617-01</a>
- Owusu-Edusei, K., Jr., Chesson, H. W., Leichliter, J. S., Kent, C. K., & Aral, S. O. (2013). The association between racial disparity in income and reported sexually transmitted

- infections. *Am J Public Health*, *103*(5), 910-916. https://doi.org/10.2105/AJPH.2012.301015
- Planned Parenthood. *Why Support Comprehensive Sexuality Education?* Retrieved June 30th from <a href="https://www.plannedparenthood.org/files/6914/0080/0572/2013-04UpdatedWhyCompeSexEd\_handout.pdf">https://www.plannedparenthood.org/files/6914/0080/0572/2013-04UpdatedWhyCompeSexEd\_handout.pdf</a>
- Primack, B. A., Bost, J. E., Land, S. R., & Fine, M. J. (2007). Volume of Tobacco Advertising in African American Markets: Systematic Review and Meta-Analysis. *Public Health Reports*, 122(5), 607-615. https://doi.org/10.1177/003335490712200508
- Regan, T., Gette, J., McAfee, N., & Parker, J. (2023). Substance use disparities by age, race, sex, and sexual orientation among persons living with HIV in the Southern U.S. *International Journal of STD & AIDS*, 34(7), 476-483. https://doi.org/10.1177/09564624231162150
- Rimmler, S., Golin, C., Coleman, J., Welgus, H., Shaughnessy, S., Taraskiewicz, L., Lightfoot, A. F., Randolph, S. D., & Riggins, L. (2022). Structural Barriers to HIV Prevention and Services: Perspectives of African American Women in Low-Income Communities. *Health Educ Behav*, 49(6), 1022-1032. https://doi.org/10.1177/10901981221109138
- Rojo, E. M., Taylor, K. D., & McFarland, W. (2023). Low Human Papillomavirus Vaccination in a Low-Income Urban Population. *Health Education & Ehaption*. <a href="https://doi.org/10.1177/10901981231179938">https://doi.org/10.1177/10901981231179938</a>
- Ruiz-White, I., Kramer, L., Philips, L., Wong, B., Lonergan, K., & Moreno, F. (2023). Racial and Ethnic Disparities in Physical and Mental Health Care and Clinical Trials. *J Clin Psychiatry*, 84(4). https://doi.org/10.4088/JCP.23ah14887
- Safer, J. D., Coleman, E., Feldman, J., Garofalo, R., Hembree, W., Radix, A., & Sevelius, J. (2016). Barriers to healthcare for transgender individuals. *Current Opinion in Endocrinology, Diabetes & Diabetes & 23*(2), 168-171. https://doi.org/10.1097/med.000000000000227
- Sanders Thompson, V. L., Arnold, L. D., & Notaro, S. R. (2012). African American parents' HPV vaccination intent and concerns. *J Health Care Poor Underserved*, *23*(1), 290-301. <a href="https://doi.org/10.1353/hpu.2012.0007">https://doi.org/10.1353/hpu.2012.0007</a>
- Stoecker, C., Monnette, A., Qu, Z., Schmidt, N., Craig-Kuhn, M. C., & Kissinger, P. J. (2022). Cost-effectiveness of Check It: A Novel Community-Based Chlamydia Screening and Expedited Treatment Program for Young Black Men. *Clin Infect Dis*, 74(12), 2166-2172. <a href="https://doi.org/10.1093/cid/ciab818">https://doi.org/10.1093/cid/ciab818</a>
- Van Gerwen, O. T., Muzny, C. A., & Marrazzo, J. M. (2022). Sexually transmitted infections and female reproductive health. *Nat Microbiol*, 7(8), 1116-1126. https://doi.org/10.1038/s41564-022-01177-x
- Widman, L., Noar, S. M., Golin, C. E., Willoughby, J. F., & Crosby, R. (2014). Incarceration and unstable housing interact to predict sexual risk behaviours among African American STD clinic patients. *Int J STD AIDS*, *25*(5), 348-354. <a href="https://doi.org/10.1177/0956462413505999">https://doi.org/10.1177/0956462413505999</a>

- Williams, D. R. (2001). Racial Residential Segregation: A Fundamental Cause of Racial Disparities in Health. *Public Health Reports*, *116*(5), 404-416. https://doi.org/10.1093/phr/116.5.404
- World Health Organization. *Sexually Transmitted INfections*. Retrieved June 30th from https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis)
- Zebrak, K. A., & Green, K. M. (2017). The role of young adult social bonds, substance problems, and sexual risk in pathways between adolescent substance use and midlife risky sexual behavior among urban African Americans. *Psychol Addict Behav*, *31*(7), 828-838. https://doi.org/10.1037/adb0000313