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Low Prospects and High Risk: Structural Determinants of Health Associated with Sexual Risk Among Young African American Women Residing in Resource-Poor Communities in the South

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Abstract

African American women at increased risk of HIV/sexually transmitted infection (STI) may engage in risky sex as a coping mechanism for depressed economic conditions. This study examines the association between high-risk sexual behavior and structural determinants of sexual health among a sample of young African American women. 237 young African American women (16–19 years old) from economically disadvantaged neighborhoods in North Carolina were enrolled into a randomized trial testing the efficacy of an adapted HIV/STI prevention intervention. Logistic regression analyses predicted the likelihood that young women reporting lack of food at home, homelessness and low future prospects would also report sexual risk behaviors. Young women reporting a lack of food at home (22 %), homelessness (27 %), and low perceived education/employment prospects (19 %) had between 2.2 and 4.7 times the odds as those not reporting these risk factors of reporting multiple sex partners, risky sex partners including older men and partners involved in gangs, substance use prior to sex, and exchange sex. Self-reported

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structural determinants of sexual health were associated with myriad sexual risk behaviors. Diminished economic conditions among these young women may lead to sexual risk due to hopelessness, the need for survival or other factors.

Keywords

African American; Youth; Women; Structural determinants; Sexual health; Risk

Introduction

Hard to say...around here, you gotta take life day by day.

-Inner-city youth's attitude toward the future (MacLeod 1987, p. 61).

The disproportionate rate of HIV and other sexually transmitted infections (STIs) among young black or African American (hereafter referred to as African American) women is a public health concern (Centers for Disease Control and Prevention 2014). Although annual HIV diagnoses rates in the United States remained stable from 2008 to 2011 (Centers for Disease Control and Prevention 2013), the rate of infection increased in some populations while decreasing in others, including among young African American women (Centers for Disease Control and Prevention 2013). These inequities suggest that factors other than those at the individual-level contribute to this health disparity (Centers for Disease Control and Prevention 2014).

High-risk sex among African American youth has been found to be more prevalent when compared to other racial and ethnic groups (Centers for Disease Control and Prevention 2012a, b). However, other factors, beyond individual risk behaviors, may explain this high risk behavior among African American youth (Hallfors et al. 2007; Halpern et al. 2004). Among low-income African Americans, high-risk sex may reflect attempts to survive depressed economic conditions. Women in low-resource communities may feel hopeless and engage in risky behaviors as a coping mechanism for their low future expectations given these adverse conditions (Oman et al. 2013). A focus on structural determinants of health and sexual health elucidates the relationship between survival and sexual risk, and low future outlook and sexual risk. Structural determinants of health include those "physical, social, cultural, organizational, community, economic, legal or policy aspects of the environment that impede or facilitate efforts to avoid disease transmission" including education, employment, income, and job and food security (Dean and Fenton 2010, p. 1). This study examines the association between high-risk sexual behavior and poverty (e.g., lack of food at home and homelessness), low future outlook or hopelessness regarding education and employment, and high-risk sexual behavior among a sample of young African American women residing in resource-poor communities in the southeast.

High-risk sex refers to behaviors that compromise sexual health and may include number of sexual partners, risky partner characteristics, and exchange sex (i.e., sex in exchange for money or other goods). Previous research on STI/HIV risk and exchange sex has typically focused on sex work and sex work professionals (Pyett and Warr 1997; Vanwesenbeeck 2001). However, economically-motivated relationships extend beyond sex work, to include

starting or remaining in sexual relationships based on the economic benefits to doing so, particularly receiving material support (Dunkle et al. 2004; Hunter 2002; Luke 2005; Silberschmidt and Rasch 2001; Wojcicki 2002). The term *survival sex* is often used in instances where the exchange of sex for material or financial need is not pursued professionally but as a result of poverty and economic dependence (Muir 1991). Survival sex is defined to include the exchange of sex for money, food, shelter, and other wants and needs (Walls and Bell 2011), and significantly increases risk for HIV and other STI acquisition (Marshall et al. 2010; Shannon et al. 2010; Walls and Bell 2011). Dunkle et al. (2010) assessed the association between economically motivated relationships, transactional sex, and high risk sexual behavior among a sample of unmarried African American and white women. They found one-third of the sample reported economic motivations to remain in a relationship, and this motivation was associated with low levels of education, economic hardship, and high-risk sexual behavior.

In addition to economic motivations to engage in sexual risk behaviors, high-risk sex among youth may result from a sense of hopelessness or depressed future outlook, as indicated by several ethnographies of inner-city life (Anderson 1999; Bolland 2003; MacLeod 1987; Wilson 1996). According to Greene (1993), the effect of poverty and violence inhibits inner-city adolescents' long-term planning and aspirations by impairing their sense of security, safety, and hope. Low future outlook—perceived limited expectations for future advancement and prosperity in education, employment, and social status—has been associated with sexual risk in economically-deprived environments and often assessed via ethnographic research methods. In instances where quantitative approaches are employed, the focus has been on males (Kagan et al. 2012), incarcerated youth (Schmeige et al. 2011), youth in psychiatric institutions or demonstrating severe mental distress (Cotton and Rangle 1996; Kazdin et al. 1983; McLaughlin et al. 1996; Reifman and Windle 1995), a broad cross-section of socioeconomic conditions (Kashani et al. 1997), or violent consequences of low future outlook or hopelessness (Bolland et al. 2001; DuRant et al. 1994, 1995).

One recent study by Sipsma and colleagues (Sipsma et al. 2013) addressed the limitation of previous research on the effects of future expectations on sexual risk behavior. In their study, Sipsma et al. (2013) used a longitudinal approach with a national sample of adolescents to examine multidimensional classes of future expectations and sexual risk behaviors—a model that also included poverty as a predictor. Although the authors found that future expectations may explain sexual risk behaviors (i.e., number of sexual partners and inconsistent contraception use) over time, they did not include other sexual risk behaviors associated with HIV and other STIs like having an older partner, substance use prior to or during sex, or exchange sex.

Based on the extant literature, it is important to investigate the association of structural determinants of health with HIV/STI-related sexual risk behaviors among economically-disadvantaged young African American women. We hypothesize that youth reporting attributes associated with poverty (i.e., lack of food at home and ever having been homeless) and hopelessness [i.e., low perceived prospects for completing high school (H.S.), obtaining a general-equivalency degree (GED) or a job] are more likely to report behaviors and relationships that compromise their sexual health (including multiple sex partners, older sex

partners, partners involved in a gang, substance use prior to sex, and exchange sex) than youth not reporting attributes of poverty and hopelessness.

Methods

Participants and Procedures

Participants were part of a larger study funded by the Centers for Disease Control and Prevention (CDC) to adapt and test the efficacy of an evidence-based behavioral intervention for African American female adolescents (Wechsberg et al. 2013). The study was conducted between May 2010 and October 2012, and only baseline data is presented in these analyses. In summary, African American adolescent females were eligible to participate if they were 16–19 years of age, had dropped out of school or considered dropping out, did not have a H.S. diploma or GED, had sexual intercourse with a male in the previous 3 months, used alcohol or drugs in the previous 3 months, planned to remain in the study area for the next year, and provided informed consent or assent if a minor. All adolescents recruited into the study provided written consent to participate, and the study protocol was approved by the Institutional Review Board of RTI International.

A convenience sample of youth was recruited from mostly inner-city economically disadvantaged communities in Wake County (Raleigh) and Durham County, in North Carolina. Assessment of US Census data identified distressed communities within Raleigh and Durham on the basis of elevated poverty and unemployment rates. Poverty rates for whites in Durham and Raleigh are 8.9 and 10.6 %, respectively, while the rates for African Americans are 23.2 and 19.7 % (U.S. Census Bureau. 2012). In terms of HIV disparities, Durham ranks third out of the 100 counties in NC with an incidence of 28.2 new diagnoses per 100,000 person-years and Wake ranks 16th with an incidence of 16.5/100,000 person-years (North Carolina HIV/STD Surveillance Report 2012). Young women in this study were recruited through a combination of street outreach, collaboration with community service providers, flyers, Facebook marketing, and participant referral. Participants received a \$30 incentive for the baseline visit. Participants also received \$15 for each of five eligible referrals who were enrolled within the first 90 days of receiving participant referral coupons.

Measures

The Young Women’s Risk Behavior Assessment (YWRBA) was adapted from the Revised Risk Behavior Assessment (RRBA; Wechsberg 1998) and used interviewer- and self-administered techniques. Interviewers collected data on less sensitive topics via computer-assisted personal interview (CAPI) technology and participants used audio computer-assisted self-interview (ACASI) technology for more sensitive topics (e.g., sexual behavior). Both techniques have been effectively incorporated in previous studies (Wechsberg et al. 2011, 2012) to minimize social desirability bias (Turner et al. 1998). Participants were assessed on several demographic and relationship variables including age, education, employment status, barriers to employment, and relationship status (“Do you have a main male sex partner now?”). A description of study variables assessing structural determinants of sexual health and risky sexual behaviors is provided below.

Structural Determinants of Health—Attributes of poverty were assessed via the indicator variables “lack of food at home” and “homelessness”. *Lack of food at home* was assessed by asking participants how often people in their household go without food. Responses were collapsed into two categories, 1 = lack of food at home (“it happens but not every month,” “every month but not every week,” and “every week”) and 0 = does not lack food at home (“it never happens”). *Homelessness* was assessed by asking participants “Have you ever been homeless?” In addition, participants who responded “living in a shelter because homeless” or “homeless, on the street, in parks, abandoned buildings, etc.” when asked “What kind of a place do you live in now?” were also classified as having ever been homeless.

Hopelessness was assessed via the indicator variable “*low perceived prospects* for a H.S. diploma or GED or a job.” Perceived prospects was assessed by asking participants how likely it was that they will (a) graduate from H.S. or get their G.E.D. some day and (b) get a good job some day. Response options ranged from (4) “it will happen” to (1) “it will not happen”. Responses to each question were collapsed into two categories: it will happen (coded 1) versus all other responses (coded 0). Participants who responded “it will happen” to either question were coded 1 (high perceived prospects) and all other responses were coded 0 (low perceived prospects).

Sexual Risk Behaviors—The outcome variable, *risky sexual behavior*, was assessed nine ways: whether participants reported having (1) two or more sex partners in the past 3 months, (2) two or more sex partners in the past 30 days, (3) a main sex partner 3 or more years older than themselves, (4) a main sex partner involved in a gang, (5) unprotected vaginal sex with a main partner in the past 3 months, (6) unprotected vaginal sex with a main partner in the past 30 days, (7) substance use prior to or during sex in the past 3 months, (8) substance use prior to or during sex in the past 30 days, and (9) exchange sex. Exchange sex was measured by answering “yes” to the question: “Have you ever had sex to receive money, drugs, clothes, food, transportation, a place to stay, or other things from a male other than a main sex partner?”

Data Analysis

Separate logistic regression analyses examined the association between each sexual risk behavior and the structural predictors of sexual risk, while controlling for age, an established covariate with sexual risk behaviors.

Results

Participant Characteristics

This sample of 237 young African American women ranged in age from 16 to 19 years with a mean age of 17.6 years (SD = 1.0). Sixty percent of this sample was below grade level for their age and the majority of teens were actively seeking employment (Table 1). The most common challenges to securing employment were finding that businesses were not hiring, or lacking requisite job skills, experience, or education. Approximately one-fifth (21.5 %) reported living in a household where individuals go without food, 27 % reported ever having

been homeless, and 19 % reported low perceived future prospects for education and employment. Approximately half (48.1 %) of the sample reported at least one of the structural determinants, 13.9 % reported two structural determinants (i.e., any two of three structural determinants), and 2.5 % reported all three structural determinants. Among those reporting a main male sex partner, 74 % reported their main sex partner was involved in a gang, 73 % reported unprotected sex with a main partner in the past 3 months, and 56.6 % reported substance use prior to or during sex in the past 3 months. A small, percentage (15 %) reported ever having had sex to receive money, drugs, clothes, food, transportation, a place to stay, or other things from a male other than a main sex partner.

Regression Analyses

Separate logistic regression analyses examined the association between each sexual risk behavior and the structural predictors of sexual risk, while controlling for age (Table 2). Those young women reporting a lack of food at home were at increased risk of reporting two or more sex partners in the past 3 months (AOR 2.7, CI 1.4–5.1) and in the past 30 days (AOR 3.5, CI 1.7–6.9), a main sex partner who is three or more years older than them (AOR 2.8, CI 1.3–5.9) or who is involved in a gang (AOR 4.7, CI 1.6–13.9), and substance use prior to sex in the past 3 months (AOR 3.1, CI 1.3–7.5) and in the past 30 days (AOR 2.5, CI 1.1–6.0). Those young women reporting ever having been homeless were at increased risk of reporting a main sex partner who is three or more years older than them (AOR 2.4, CI 1.2–4.9) and ever engaging in exchange sex (AOR 3.1, CI 1.5–6.5). Those young women reporting low perceived future prospects for education and employment, an indicator of hopelessness, were at increased risk of reporting two or more sex partners in the past 3 months (AOR 2.2, CI 1.1–4.2) and in the past 30 days (AOR 3.8, CI 1.8–7.7), substance use prior to or during sex in the past 3 months (AOR 2.8, CI 1.0–7.6) and in the past 30 days (AOR 2.8, CI 1.0–7.6) and ever engaging in exchange sex (AOR 3.2, CI 1.5–7.1). None of the structural determinants of health were found to predict unprotected vaginal sex with a main partner in the past 3 months or 30 days (not shown).

Discussion

This study examined the association between structural determinants of health and myriad sexual risk behaviors among a sample of young African American women residing in economically deprived communities. Approximately half (48 %) of the sample reported having ever been homeless, living in a household with insufficient food, and/or low perceived prospects for education and employment. The data indicate that lacking sufficient food and shelter were associated with risky sexual practices that may be understood in this context as survival sex. Risky sexual behaviors associated with food insecurity and homelessness were reporting multiple partners, older partners, gang-affiliated partners, and engaging in sex in exchange for money, food, a place to stay or other goods or services. Furthermore, those young women endorsing limited future prospects for obtaining education and employment were at risk of also reporting multiple partners and exchange sex.

Previous research suggests young women may be proactive in seeking multiple partners to meet their material or financial needs (Hunter 2002; Maganja et al. 2007), and this may

explain the association between having risky partners and food insecurity, homelessness, and perceived low future prospects for education and employment. Whereas one qualitative study describes fear as a barrier for some women in refusing sex with a partner they are financially dependent on (Nkosana and Rosenthal 2007), some young women may engage in risky sex as a means to gain power and protection in resource-poor communities (Miller-Johnston et al. 1999). It is interesting to note that, in the current study, nearly three-quarters of the young women reporting a main partner reported having a main sex partner involved in a gang. Furthermore, the current study found young women who reported having a main sex partner involved in a gang had 4.7 times the odds as those not reporting a gang-affiliated main sex partner of reporting a lack of food in the home, suggesting that perhaps young women take on gang-affiliated partners who may be able to provide for them.

Given the estimation that hopelessness is “an expectation that highly desired outcomes will not occur or that negative ones will occur...and that nothing is going to change things for the better” (Joiner and Wagner 1995, p. 778), it is not surprising that youth who report low future expectations for education or employment were more likely to report multiple partners and substance use prior to or during sex. Some argue that a sense of hopelessness among economically-disadvantaged youth incites them to abandon long-range planning for short-term attainment (Bolland 2003), as reflected in the opening quote “Hard to say... Around here, you gotta take life day by day” (MacLeod 1987, p. 61). Others argue that these youth do not see the benefit of “being careful for themselves or others” if the expectation of failure is likely (Bolland 2003, p. 146; Lorion and Saltzman 1993).

The association between low perceived prospects for education and employment and having multiple sex partners and engaging in substance use prior to or during sex may provide additional support for the notion that young women in resource-limited settings engage in risky sexual practices as a means for survival. Previous research suggests that youth who have a limited future outlook are more likely to engage in risky behavior including risky sex (Bolland 2003; Lorion and Saltzman 1993; Mandarin et al. 2003). For example, Mandarin et al. (2003) found that African American youth with shorter perceived life expectancy were less likely to delay their first sexual experience than those youth with a more positive outlook on their mortality.

In this study the three most prevalent sexual risk behaviors were having a main partner involved in a gang (74 %), unprotected sex with a main sex partner in the past 3 months (73 %) and having multiple partners in the past 3 months (38 %). Risk-reduction interventions are clearly needed for this population of young African American women. Previous literature focuses on depression as a predictor of risky sexual practices, thereby arguing for a more individual-level approach to prevention with youth. We argue that a correlate of depression, hopelessness, may explain sexual risk in impoverished communities, and propose structural-level solutions to reduce sexual risk and improve sexual health among vulnerable populations. While individual-, group-, and community-level interventions may be viewed as the most viable approach to reduce sexual risk, structural factors such as homelessness, socioeconomic status, and class adversely affect participation in evidence-based interventions designed to change individual behaviors (Gandelman and Dolcini 2012).

We suggest that structural-level solutions may be needed to improve the sexual health of at-risk groups, such as young African American women.

Study Implications

The National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention (NCHHSTP) at the CDC is focused on structural approaches that can be applied in combination with behavioral and medical approaches typically designed for the individual (Dean and Fenton 2010). The NCHHSTP Strategic Plan aims to address structural factors that affect individual behavior as opposed to a sole focus on the behavior itself (Centers for Disease Control and Prevention 2010; Dean and Fenton 2010). The term “social determinants” and “structural determinants” of health are often used interchangeably and have come to be known as any approach that attempts to alter the environment in which health risk occurs. These approaches involve policies that address the conditions in which individuals live (e.g., poverty, unemployment, inadequate educational and health resources), and can include policy, legal, and microfinance interventions (Dean and Fenton 2010; Gandelman and Dolcini 2012). The World Health Organization’s (WHO) Commission on Social Determinants of Health (2008) proposed that interventions targeting social and structural barriers to health aim to improve daily living conditions and address the inequities in the distribution of money, resources, and power. The WHO also suggests that national, state, and local prevention partners embrace this approach to prevention. In their editorial addressing social determinants of health in the prevention and control of HIV/AIDS and other communicable diseases, Dean and Fenton (2010) argue that it is “increasingly unacceptable for those planning and delivering prevention services to claim that addressing SDH is outside of their jurisdiction, thereby absolving themselves of further action” (p. 4). Gandelman and Dolcini (2012) propose both short-term and long-term strategies to address social determinants of sexual health including incorporating job skills training into existing evidence-based interventions, providing housing assistance for homeless or displaced persons, implementing microfinance programs (Sherman et al. 2006), and longer-term strategies that reduce poverty, and sustain improved educational opportunities, stable housing, and healthcare access.

In addressing the adverse effects of homelessness on the health of people living with HIV/AIDS, the CDC, in collaboration with the Department of Housing and Urban Development (HUD), found that providing rental assistance to homeless and unstably housed persons living with HIV/AIDS was associated with positive outcomes for housing status, health care utilization, and mental and physical health in a randomized controlled trial (Wolitski et al. 2010). Adimora et al. (2013) highlight successful structural interventions implemented with women to reduce sexual risk and STIs (Baird et al. 2012; Hanenberg et al. 1994; Swendeman et al. 2009) including microfinance interventions and government policy initiatives. For example, a randomized controlled trial in Malawi demonstrated reductions in HIV and HSV-2 infections as a result of cash payment to adolescent girls for staying in school. In this study, the mechanism by which the intervention worked was by using cash as a way to reduce the need to engage with older partners. Hence, young girls reported younger partners with whom they engaged in less frequent sexual activity (Baird et al. 2012). This finding supports our current study findings that structural factors such as lack of food at

home and ever having been homeless significantly increased the likelihood young girls had an older partner.

The overwhelming majority of the young women in this study were unemployed, but many were seeking employment and cited multiple barriers to obtaining a job including places not hiring, and lacking the requisite job skills, experience, and/or education needed to secure a position. Interestingly, given these obstacles and that 60 % of the sample was below grade level, less than one-fifth of the sample perceived themselves to have limited prospects for future education and employment, suggesting resiliency on the part of these youth. However, groups at risk for negative sexual health outcomes, given the adverse economic conditions they live in, require interventions that support their resiliency and create conditions where they can thrive and not just strive.

Study Limitations

Limitations to the study should be acknowledged. Given the cross-sectional data analyzed in this study we are not able to establish a causal relationship between our proposed predictors and outcomes. Although temporal ordering cannot be established for these relationships, from a theoretical perspective, indicators of poverty like lack of food and homelessness are most likely antecedents of sexual risk rather than outcomes of sexual risk. It is possible that, in the case of future prospects for education and employment, some young women engaged in sexual practices that placed their educational trajectory, and hence, their employment prospects, at risk. With the exception of including age as a covariate, this study did not include other individual-level variables that may have been associated with sexual risk behavior. Finally, this study consisted of a very narrow age range (16–19 years of age) and the sample was homogeneous, all young African American women from the southeastern part of the United States. Therefore, findings may have limited generalizability and replication with diverse populations would be needed.

Conclusion

In this sample of economically-disadvantaged young African American women, self-reported structural determinants of health were associated with myriad sexual risk behaviors. Diminished economic conditions among these young women may lead to sexual risk due to hopelessness, the need for survival or other factors. As young African American women continue to be at increased risk for STIs including HIV, our study suggests a critical need to address structural conditions implicated in the health disparities for STIs among this group.

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Table 1Characteristics of an economically-disadvantaged sample of young African American women, $N = 237^a$

	n	%
Education (below grade level for age)	143	60.3
Currently employed	43	18.1
Unemployed, but seeking employment ($n = 194$)	175	90.2
Top 3 challenges to getting a job		
Places not hiring at all	72	30.4
Do not have job skills or experience	65	27.4
Do not have a H.S. degree or other credential	61	25.7
Currently has a main male sex partner	167	70.5
Structural determinants of sexual health		
Lack of food	51	21.5
Homelessness	64	27.0
Low perceived prospects for H.S./G.E.D./job	44	18.6
Sexual risk behavior		
2 sex partners in tde past 3 months	90	38.0
2 sex partners in tde past 30 days	49	20.7
Main sex partner 3 years older ($n = 167$)	66	39.5
Main sex partner involved in a gang ($n = 225$)	167	74.2
Unprotected sex with main partner in past 3 months ($n = 152$)	111	73.0
Unprotected sex with main partner in past 30 days ($n = 138$)	100	72.5
Substance use prior/during sex, past 3 months ($n = 152$)	86	56.6
Substance use prior/during sex, past 30 days ($n = 137$)	63	46.0
Exchange sex	35	14.8

^aUnless otherwise indicated

Table 2

Structural determinants of sexual health among a sample of young African American women residing in economically-deprived communities in the southeast, $N= 237$

	<u>Lack of food at home</u>		<u>Homelessness</u>		<u>Low perceived prospects for H.S./G.E.D/job</u>	
	AOR	CI	AOR	CI	AOR	CI
2 sex partners in the past 3 months	2.7**	1.4–5.1	1.5	0.8–2.6	2.2*	1.1–4.2
2 sex partners in the past 30 days	3.5***	1.7–6.9	1.7	0.8–3.3	3.8***	1.8–7.7
A main sex partner 3 years older	2.8*	1.3–5.9	2.4**	1.2–4.9	1.8	0.7–4.3
A main sex partner involved in a gang	4.7*	1.6–13.9	1.2	0.6–2.3	1.4	0.6–3.1
Substance use prior/during to sex, past 3 months	3.1*	1.3–7.5	1.5	0.7–3.1	2.8*	1.0–7.6
Substance use prior/ during to sex, past 30 days	2.5*	1.1–6.0	1.2	0.6–2.5	2.8*	1.0–7.6
Exchange sex	1.6	0.7–3.5	3.1**	1.5–6.5	3.2**	1.5–7.1

Adjusted odds ratio (AOR); odds ratio adjusted for age; confidence interval (CI)

* p .05

** p .01

*** p .001