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Sexual Concurrency among Young African American Women

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Abstract

Young African American women are disproportionately affected by HIV/AIDS, STIs, and engage in greater sexual concurrency than other race/ethnicities. It is important to evaluate behaviors and characteristics associated with the risk of sexual concurrency so interventions can target factors most likely to affect positive change. An emphasis on correlates of concurrency beyond individual-level factors has been suggested. The purpose of this study therefore was to identify individual- and partner-level characteristics associated with sexual concurrency among high-risk, young African American women. Data were collected from 570 African American adolescent women (aged 15–21) recruited from a STD clinic, a family planning clinic, and a teen clinic located in Atlanta, GA from March 2002 through August 2004. Logistic regression analysis was conducted in 2012 to evaluate correlates of sexual concurrency. Results show that almost one-quarter of participants reported sexually concurrent partnerships and 28.4% suspected male partner concurrency. Logistic regression results indicated the number of lifetime sexual partners and relationship factors were the primary contributors to engaging in concurrency in this sample. These findings suggest relationship factors may be important contributors to the prevalence of sexual concurrency among young African American women. Interventions targeted toward sexual health among young African American women may need to specifically address partner/relationship factors. Through these findings we hope to better understand sexual risk taking and develop strategies that would overcome barriers to existing interventions aimed at improving the sexual health outcomes of young, African American women.

Keywords

African American; adolescent women; sexual concurrency

INTRODUCTION

Marked disparities in HIV and other sexually transmitted infections (STI) exist among young African American women. High-risk heterosexual contact is the predominant form of HIV transmission, accounting for 75% of new HIV infections (Centers for Disease Control

and Prevention, 2009a; Durant, et al., 2007; Rangel, Gavin, Reed, Fowler, & Lee, 2006). In 2008, African American women aged 15 to 19 had the highest rates of Chlamydia compared to any other age group or sex; a 9.8% increase from 2007 to 2008 (Centers for Disease Control and Prevention, 2009b).

Root causes affecting rates of STI/HIV among young African American women are multifaceted and cannot be solely explained by individual-level factors (Ellen, Aral, & Madger, 1998). Conventional risk factors, such as number of partners, condom use, and alcohol and drug use, fail to fully account for the observed racial disparities in STIs/HIV and suggest sexual networks and connectivity, a main determinant of population-level epidemics, may better explain this racial disparity (Adimora & Schoenbach, 2005) (Hallfors, Iritani, Miller, & Bauer, 2007). Sexual networks with sexual relationships that overlap in time allow faster disease transmission than those comprised only of sequential sexual partnerships (Koumans, et al., 2001; M. Morris & Kretzschmar, 1997; Potterat, et al., 1999). Recent evidence derived from mathematical modeling and computer simulations suggest sexual concurrency, defined as simultaneous sexual relationships with a boyfriend and another male partner, among and within the African American community could account for observed HIV/STI disparities (Martina Morris, Kurth, Hamilton, Moody, & Wakefield, 2009) and small changes in the level of sexual partnership concurrency may have a marked effect on HIV and other STI transmission. The prevalence of concurrent sexual partnerships is substantial, ranging from 10% to 41% (Cooper & Orcutt, 2000; Crosby, et al., 2000; Howard, Fortenberry, Blythe, Zimet, & Orr, 1999; Kraut-Becher & Aral, 2003; Lescano, Vazquez, Brown, Litvin, & Pugatch, 2006; Paik, 2010; Rosengard, Adler, Gurvey, & Ellen, 2005), With African Americans markedly more likely to report concurrent sexual partnerships compared to Whites (Giordano, et al., 2005) In a study of patients seeking care at an adolescent clinic in Baltimore, 26% of young African American women aged 14 – 19 reported concurrent partners in the previous six months and 46% suspected their male partners had concurrent partnerships (Jennings, Glass, Parham, Adler, & Ellen, 2004).

High rates of sexual concurrency indicate that young African American women are an important segment of the African American community to target for risk-reduction interventions. Studies suggest that for more high risk young African American women, such as those with concurrent sexual partners, interventions targeted to influence a broader range of behaviors including personal, relational, and cultural factors may be more effective than those focused exclusively on individual-level risk factors (DiClemente, Salazar, & Crosby, 2007; DiClemente & Wingood, 2003; DiClemente, et al., 2004; Locke & Newcomb, 2008; Merson, O'Malley, Serwadda, & Apisuk, 2008). Conceptual frameworks such as the socio-ecological model examine the individual's behavior within his or her social and physical environment. Relevant to the study of STI/HIV risk, this framework includes a focus on peer and relationship influences. A focus beyond the individual is needed in the study of sexual risk behavior (DiClemente, Salazar, Crosby, & Rosenthal, 2005) and can help to identify characteristics of young African American women and their relationships that may be associated with sexual concurrency so interventions can target the most salient contributors. The purpose of this study was to identify individual- and partner-level characteristics associated with sexual concurrency among high-risk young African American women. For this study, concurrency was conceptualized as reporting simultaneous sexual relationship (i.e., vaginal sex) with a boyfriend and another male partner.

METHODS

Participants

This study sample (N=570) was part of a larger randomized control trial (N=715) investigating a STI/HIV risk reduction intervention. Only baseline data, collected prior to

randomization to study conditions, were used for this study. Participants were recruited from a county STD clinic, a family planning clinic, and an adolescent health clinic in Atlanta, GA from March 2002 to August 2004. Eligibility requirements were being a young African American woman, 15 to 21 years, and reporting sexual activity (i.e., vaginal sex) within the last 60 days. Being married, pregnant or planning to become pregnant in the next 12 months were exclusion criteria. For the present data analysis, an additional inclusion criteria included being sexually active with a main sex partner. Of 847 eligible young women, 715 elected to participate in the study; an 84% participation rate. The study protocol was approved by the Institutional Review Board at Emory University.

Data Collection

Data collection consisted of a 60-minute baseline survey administered via audio computer-assisted self-interviewing technology (A-CASI). Questions on the survey included an array of variables representing sexual activity history, alcohol and drug use, relationship characteristics, and history of emotional, physical, and sexual abuse (included in Table 1). Utilizing A-CASI technology has been shown to reduce bias associated with reporting sensitive information (Turner, et al., 1998), and also mitigates difficulties associated with low literacy. Participants were compensated \$50 for their participation.

Measures

Concurrency—Concurrency, the dependent variable, was defined as having a main sexual partner (boyfriend) and a current casual sex partner simultaneously. Concurrency was operationalized based on responses to two questions regarding current sexual relationship: “Do you have a boyfriend?” and “Do you currently have a casual sex partner?” Response choices were “yes” (1) and “no” (0). If participants responded “yes” to both questions, they were classified as having concurrent sexual partnerships. All others were classified as non-concurrent. Respondents who reported no vaginal sex with the current, main partner were excluded from further analysis (n=28), leaving a data analytic sample of 570 participants.

Demographics—Family aid was assessed by asking whether participants received any of the following: WIC (women, infants, and children), TANF (temporary assistance for needy families), food stamps, or section 8 housing. Response options were “yes” (1) and “no” (0). Responding ‘yes’ to any of the four options were coded as “yes” (1) for family aid; responding “no” to all four options were coded as “no” (0) for family aid.

Sexual History—STI history was assessed by asking if a health care provider ever told the participant that they tested positive for and STI. Response options were “yes” (1) and “no” (0). Respondents also indicated their age at first sex, number of lifetime male sex partners, and the number of times having sex high on drugs or alcohol in the past 60 days.

Sexual Sensation Seeking—Sexual sensation seeking was assessed using a 9-item scale (Spitalnick, et al., 2007). Sample items include: “When it comes to sex, I’m willing to try anything,” and “Stopping to use a condom during sex takes the fun out of sex.” Participants rated each item from 1 (strongly disagree) to 4 (strongly agree), with higher values indicating higher levels of sensation seeking. Cronbach’s alpha was 0.72.

Self Esteem—Self esteem was assessed using a 10-item scale (Rosenberg, 1965). Sample items included: “I feel I am a person of worth,” and “I take a positive attitude towards myself.” Five items on the scale were reverse scored, for example “I feel useless at times” and “I feel I do not have much to be proud of.” Response options ranged from 1 (*strongly disagree*) to 4 (*strongly agree*). Scale scores ranged from 10 to 40 with higher scores indicating higher levels of self-esteem. Cronbach’s alpha was 0.84.

Depression—Depressive symptomatology was measured with the 8-item Center for Epidemiological Studies-Depression (CES-D) scale (Santor & Coyne, 1997). Items asked how often in the past seven days respondents had experienced depressive feelings, including “I felt sad,” “I had crying spells,” and “I felt lonely.” Response options were: “less than 1 day” (1), “1–2 days” (2), “3–4 days” (3), and “5–7 days” (4). Scale scores ranged from 8–32 with scores ≥ 16 suggesting a clinically significant level of psychological distress; however, this was not a clinical diagnosis of depression. Cronbach’s alpha was 0.89.

Substance Use—Lifetime use of alcohol and marijuana use were each assessed with single items asking “In your lifetime have you ever tried alcohol.” and “In your lifetime have you ever tried marijuana.” Being a current cigarette smoker was assessed by asking, “Do you smoke cigarettes.” Response items for all 3 were “no” (0) and “yes”(1).

Abuse History—Abuse history included three separate questions. “Have you ever been emotionally abused?” “Have you ever been physically abused?” and “Has anyone made you have vaginal sex when you didn’t want to?” Response options were “yes” (1) and “no” (0).

Partner- and Relationship-level

Suspected main partner concurrency—All respondents were asked, “During your relationship with your boyfriend, has he had vaginal sex with another girl?” Response options were “yes” (1) and “no” (0). Respondents who responded “don’t know” (6) were considered to have missing data on this item.

Future of Relationship—Perceived investment in the main partnership was assessed by a self-developed 4-item scale. Items included, “I see myself marrying my current boyfriend.”, “I’ll stay with my current boyfriend until someone better comes along.”, “It would be nice if my relationship succeeded, but I won’t do much more than I’m doing to help it succeed.”, and “It doesn’t matter if my relationship succeeds. I refuse to do any more than I’m doing now to keep the relationship.” Response options ranged from 1 (strongly disagree) to 4 (strongly disagree); higher scores indicated higher levels of perceived investment in or success of the main partnership. Cronbach’s alpha for the scale was 0.64.

Relationship details—Respondents were asked to enter 1) the relationship length (in months) with their main partner and 2) the number of times having sex when the main partner was high or drunk in the past 60 days.

Partner age—General partner age was assessed with the item “In general how old are the people you have sex with, are they...” Response options were: “much younger than you 5+ years” (1), “younger than you, 2–4 years” (2), “about the same age” (3), “older than you, 2–4 years” (4), and “much older than you, 5+ years (5). Response categories were dichotomized into (1) younger than you/about the same age and (2) older than you.

Data Analysis

Each of the individual-level and partner/relationship-level independent variables were analyzed for their relationship with concurrency using Spearman correlations and chi-square analyses (see Table 1 for a complete list of variables). Variables significantly associated with concurrency ($p < .05$) at the bivariate level were subsequently included in logistic regression analysis, testing the relation of these significant independent variables and concurrency. Logistic model was used to calculate adjusted odds ratios (AOR) and their corresponding 95% confidence intervals (CIs).

RESULTS

Of the 715 adolescent females who completed the study, a total of 598 reported having a boyfriend; 28 of whom had *not* had vaginal sex with their main male sex partner. Therefore, a total of 570 young African American women comprise the data analytic sample on which all analyses were conducted.

The average age of participants was 17.7 years (SD = 1.7) and 31.1% (n=221) had a high school diploma, GED, or had some college or technical school experience. Almost a quarter (25.2, n=144) reported sexually concurrent partnerships and 28.4% (n=62) suspected male partner concurrency. Table 1 depicts individual and partner/relationship-level independent variables by concurrency status, including statistically significant associations with concurrency.

Based on bivariate analyses, all variables in Table 1 significantly associated with concurrency were entered into a logistic regression model predicting sexual concurrency in blocks. Block 1 included individual-level variables alone (Table 2) while block 2 included both individual and partner/relationship-level variables as predictors of concurrency (Table 3).

Block 1 with individual-level variables only was significant based on the omnibus test of model coefficients ($\chi^2(12) = 48.6; p < 0.001$) and the Hosmer and Lemeshow goodness-of-fit ($\chi^2(8) = 14.5; p = 0.06$). Significant individual-level predictors of sexual concurrency were smoking cigarettes (AOR=1.69, $p = .04$), having a higher number of lifetime sex partners (AOR=1.03, $p = .01$), and having a prior STI (AOR=1.5, $p = .05$).

The Block 2 model including both individual- and partner/relationship-level variables was significant based on the omnibus test ($\chi^2(16) = 66.6; p < 0.001$) and indicated a good fit ($p > .05$) based on the Hosmer and Lemeshow test ($\chi^2(8) = 13.5; p = .09$). Upon including partner/relationship level variables, the only individual level variable significantly predictive of sexual concurrency in the Block 2 model was having a higher number of lifetime sex partners (AOR=1.03, $p = .01$). Significant partner/relationship-level variables predictive of sexual concurrency were suspected main partner concurrency (AOR=1.5, $p = .05$), less commitment to the future of the main partner relationship (AOR=.88, $p = .008$), and reporting general partner age as older (AOR=1.7, $p = .03$).

DISCUSSION

Recent evidence supports the supposition that sexual concurrency within the African American community may play an important role in the observed disparities in STI/HIV among young African American women. In our efforts to identify and better understand key correlates of sexual concurrency among a clinic-based sample of young African American women, findings indicated that relationship factors and lifetime sex partners were primary contributors to engaging in concurrency when considered in combination with other individual- and partner/relationship-level risk factors.

Based on the present study, few individual-level factors were significantly associated with sexual concurrency when considered in conjunction with partner/relationship level factors suggesting that individual-level factors alone may not be as useful as relational factors in understanding young women's engagement in concurrent sexual partnerships. With risky sexual networks being a significant contributor to the disproportionately high STI rates among African American women (Adimora & Schoenbach, 2005) (Laumann & Youm, 1999), it is increasingly important to assess the influence of a broader array of factors, beyond individual risk factors, that may contribute to sexual concurrency (Hallfors, et al.,

2007). As our study highlights, concurrent sexual partnerships are more heavily influenced by the dynamic nature of romantic and sexual relationships than individual-level behaviors.

Young women in this sample were more likely to engage in concurrent sex if perceptions of their current partnership's future as a committed relationship were low. More specifically, if the women were unwilling to exert more effort into the relationship and were not invested in its future success, there was greater risk for concurrent partners. Our findings complement those of Gerressu et al. (2009), who observed that young African Americans who had sexual partners outside of their current relationship did so out of boredom and a seeming inability to end the current relationship. These findings lend further support to the notion that lack of commitment to a sexual partner influences engaging in concurrent sexual partnerships. Whether by an active desire to end a relationship or a passive disinterest ("I'll stay with my boyfriend until something better comes along"), a lack of commitment to one's partner/relationship appear to be an important indicator for engaging in sexual concurrency among young African American women.

Reporting older partners in general was also linked to a greater likelihood of engaging in a concurrent sexual relationship. Young women commonly have sex with older partners (DiClemente, et al., 2002; Kissinger, et al., 2002) and are also at greater risk for STI acquisition (Darroch, Landry, & Oslak, 1999). Similarly, sex with older partners has been related to other risk behaviors including using condoms less often and unprotected vaginal sex among African American young women (DiClemente, et al., 2002). Reduced use of safer sex behaviors coupled with an increased risk for concurrent sexual partners among young women may further increase the acquisition and spread of STIs. Efforts to identify and target high-risk young women may benefit from assessing partner age.

Young women who suspected their main partner had a concurrent sexual relationship were more likely to engage in sexual concurrency with a casual partner. While our study was cross-sectional and therefore cannot establish temporal causality, the findings suggest that either knowing or suspecting that a male partner was also having sexual concurrent partnerships was associated with young women's sexual concurrency. In a study of male and female adolescents attending STI clinics, Adrinopoulos, Kerrigan, and Ellen (2006) reported one of the reasons adolescents engage in concurrent sexual partnerships was as a reaction to a partner's infidelity or concurrent sexual partnership. Both the present study and others (Andrinopoulos, et al., 2006) suggest that adolescents may respond to known or suspected relationship infidelity by increasing the frequency of their own sexual contacts. Future studies may build on these findings through interventions designed to increase adolescents' repertoire of skills to cope with emotional insults, such as infidelity, with less destructive responses.

While we have assessed a narrow range of individual and relationship-level factors, future research would benefit from including additional community-level characteristics to improve understanding of the determinants of a sexual socio-ecological approach. Such an approach permits contextualizing sexual concurrency in an individual's community and social network, in conjunction with an expanded array of individual- and relationship-level factors. This type of contextualized approach may provide a richer understanding of the determinants of sexual concurrency.

Potential overlap between the of number of lifetime sexual partners and concurrency may exist, since it may be that if one has a concurrent relationship(s), one may have a greater number of lifetime partners since those with concurrent relationships will have more partners than those without concurrent relationships within the same time frame. Future studies should also account for this possibility.

Limitations

Findings from this study are limited since participants were not directly asked the reasons that they engaged in concurrent sex, what they hoped to gain (if anything) from the concurrent relationship, or whether there was emotional attachment to the concurrent partner. We were also unable to assess young women's and male partners' motivations and attitudes toward concurrency. Also, the sample consisted of young women who were already seeking services at local sexual health clinics, and therefore may not be generalizable to individuals who are not visiting similar clinics, or to individuals who did not meet the eligibility criteria for the parent study (e.g., sexually active in the past 60 days). In spite of these limitations, these findings highlight potential areas from which to develop an intervention to reduce the occurrence and negative impact of sexual concurrency among high-risk young African American women.

Implications

These findings suggest that relationship factors are important factors contributing to the prevalence of sexual concurrency among African American adolescent women. Interventions targeted toward sexual health among young African American women may need to specifically address partner/relationship factors. Through these findings we hope to better understand sexual risk taking and help develop strategies that would overcome barriers to existing interventions aimed at improving the sexual health of young, African American females.

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Table 1

Demographic and risk characteristics by concurrency (N = 570)

Characteristics & Risk Factors	Concurrency n = 144 n (%)	No Concurrency n = 426 n (%)	p-value
<i>Individual-level</i>			
Age, mean (SD)	17.81 (1.7)	17.67 (1.7)	.39
Receive government assistance	78 (54.2)	213 (50.0)	.39
Alcohol, lifetime	134 (93.1)	356 (83.6)	.005
Marijuana, lifetime	124 (86.1)	329 (77.2)	.023
Smoke cigarettes, current	53 (36.8)	79 (18.5)	.001
Abuse (emotional), lifetime	102 (70.8)	246 (57.7)	.005
Abuse (physical), lifetime	84 (58.3)	188 (44.1)	.003
Abuse (sexual), lifetime	46 (31.9)	89 (20.9)	.007
Self Esteem, mean (SD)	5.09 (.4)	5.11 (.2)	.05
Depression, mean (SD)	17.32 (7.0)	16.32 (7.0)	.14
Age at first sex, mean (SD)	14.23 (1.7)	14.69 (1.7)	.005
Times sex high/drunk, past 60d, mean (SD)	3.53 (7.9)	1.84 (6.3)	.02
Sex partners, lifetime, mean (SD)	13.83 (36.5)	5.95 (6.7)	.01
Sexual Sensation Seeking, mean (SD)	18.36 (3.6)	17.09 (4.0)	.001
Prior STI	91 (63.2)	217 (50.9)	.01
<i>Partner- and Relationship-level</i>			
Suspected main partner concurrency	54 (42.9)	105 (27.3)	.001
Future of relationship w/main partner, mean (SD)	11.05 (2.5)	11.91 (2.6)	.001
Relationship length w/main partner (mos), mean (SD)	14.74 (15.7)	15.98 (15.1)	.40
Times sex partner high/drunk, past 60d, mean (SD)	3.91 (7.8)	2.59 (6.5)	.05
General partner age: older	112 (77.8)	248 (58.4)	<.001

Note: Numbers are frequencies unless otherwise indicated.

Table 2
Regression model Block 1 with individual-level variables alone predicting sexual concurrency.

Predictor	SE	Odds Ratio	95% CI		p
			Lower	Upper	
Alcohol, lifetime	.62	1.87	0.85	4.10	.11
Marijuana, lifetime	.31	1.01	0.55	1.87	.95
Smoke cigarettes, current	.52	1.69	1.01	2.84	.04
Abuse (emotional), lifetime	.35	1.42	0.85	2.49	.21
Abuse (physical), lifetime	-.01	0.98	0.58	1.66	.96
Abuse (sexual), lifetime	.17	1.19	0.71	1.97	.50
Age at first sex	-.03	0.63	0.96	0.84	.63
Sex partners, lifetime	.03	1.03	1.03	1.00	.01
Sexual Sensation Seeking	.02	0.41	1.02	0.96	.41
Times sex high/drank, past 60d	.001	0.99	1.00	0.97	.99
Self esteem	.001	1.00	0.95	1.04	.96
Prior STI	.43	1.54	0.98	2.41	.05

Table 3
Regression Block 2 Model with individual- and relationship-level variables predicting sexual concurrency.

Predictor	SE	Odds Ratio	95% CI		p
			Lower	Upper	
<i>Individual-level</i>					
Alcohol, lifetime	.61	1.85	0.82	4.44	.13
Marijuana, lifetime	-.05	0.94	0.50	1.76	.85
Smoke cigarettes, current	.37	1.45	0.85	2.47	.17
Abuse (emotional), lifetime	.30	1.35	0.76	2.41	.30
Abuse (physical), lifetime	-.04	.95	0.55	1.64	.88
Abuse (sexual), lifetime	.21	1.24	0.74	2.08	.40
Age at first sex	-.02	0.97	0.85	1.12	.75
Sex partners, lifetime	.03	1.03	1.00	1.06	.01
Sexual Sensation Seeking	.02	1.02	0.96	1.09	.38
Times sex high/drunk, past 60d	-.007	.99	0.95	1.03	.71
Self esteem	.01	1.01	0.97	1.06	.46
Prior STI	.35	1.42	0.90	2.26	.12
<i>Partner- and Relationship-level factors</i>					
Suspected main partner concurrency	.46	1.58	0.99	2.52	.05
Future of relationship w/main partner	-.12	.88	0.81	.96	.008
Times sex partner high/drunk, past 60d	.009	1.00	0.97	1.04	.65
General partner age	.54	1.72	1.04	2.83	.03