JCHR

Journal of Community Health Research 2017; 6(3): 192-6.

Substance Use and the Number of Male Sex Partners by African American and Puerto Rican Women

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ARTICLE INFO

Short Communication

Received: 18 May 2017
Accepted: 3 Sep 2017

OPEN ACCESS

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ABSTRACT

Introduction: In the United States (US), there are 19 million new sexually transmitted disease (STD) infections each year. Untreated STDs can lead to serious long-term adverse health consequences, especially for young women. Centers for Disease Control and Prevention estimates that undiagnosed and untreated STDs cause at least 24,000 women in the US each year to become infertile. This clearly is a public health issue of great concern for young women.
Methods: The current cross-sectional study included a community sample consisting of 343 female participants (50% African Americans, 50% Puerto Ricans) at their mean age of 39 years. Regression analyses were conducted to examine the associations of time-varying factors within-person (e.g., substance use) and fixed effects factors between-persons (e.g., race/ethnicity) with the number of male sexual partners.
Results: Alcohol use (b = 0.14, $p < 0.01$), cannabis use (b = 1.10, $p < 0.01$), marital status – unmarried (b = -0.16, $p < 0.05$), and race/ethnicity – African American (b = -0.20, $p < 0.01$) were significantly related to having a higher number of male sex partners in the past year.
Conclusion: From a public health perspective, treatment and prevention programs for sexual risk behavior focused on substance use as well as socio-cultural factors (i.e., marital status, race/ethnicity) may be more effective than programs focused only on substance use.

Keywords: Cross-sectional study, substance use, race/ethnicity, sexual risk behavior, regression analysis

How to cite this paper:
Yeon Lee J, Brook J.S, Pahl K, Brook D.W. Substance Use and the Number of Male Sex Partners by African American and Puerto Rican Women. J Community Health Research. 2017; 6(3): 192-6.

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Introduction

The Centers for Disease Control and Prevention (CDC) estimates that there are approximately 19 million new sexually transmitted disease (STD) infections each year [1, 2]. The cost of STDs to the United States (US) health care system is estimated to be as much as $17 billion annually [2, 3]. Moreover, untreated STDs can lead to serious long-term adverse health consequences, especially for young women. CDC estimates that undiagnosed and untreated STDs cause at least 24,000 women in the US each year to become infertile [2].

Young women are particularly vulnerable to STDs for several reasons, including their tendency to have multiple sexual partners (concurrent or sequential) and because there are some difficulties in accessing effective STD prevention services [4]. Indeed, less than half of people at risk who should be screened receive recommended STD screening services [2]. This clearly is public health issue with regard to prevention and treatment. Given the adverse consequences of infection which could lead to a serious public health problem, the current study seeks to better understand possible correlates with STD-related risk behavior. More specifically, the current study examines time-varying factors within-person (e.g., substance use) and fixed effects factors between-persons (e.g., race/ethnicity) as related to STD-related risk behavior.

Substance use such as alcohol use and cannabis use have both been found to be positively associated with sexual risk behaviors [5, 6]. Aicken et al. [5] documented that heavy drinking was more common among those reporting both a larger number of sexual partners and two or more partners in the past year. Similarly, Patrick et al. [6] showed that more frequent marijuana use was associated with both a larger number of sexual partners and lesser use of condoms. Married people, on the other hand, are less likely to engage in sexual risk behaviors than those not married [6]. In 2014, STD rates were found to be 6-10 times higher among African American women [7] and two times higher among Hispanic women [8] than White women in the US. Higher educational level was negatively associated with sexual risk behaviors [6].

The present study focuses on the impact of substance use as well as demographic correlates with STD-related risk behavior. We hypothesize that more frequent substance use, unmarried status, race/ethnicity (African American), and lower educational level (non college attendance) will be positively related to a higher number of male sexual partners during the past year among women of color in their late thirties.

Methods

This study included 343 female participants (50% African American, 50% Puerto Rican) who completed the 7th wave of data collection in the Harlem Longitudinal Development Study. The data were collected during 2014 – 2016. The mean age of the participants at this wave was 39.1 years (Standard deviation=1.5 years). We obtained informed assent or consent from all of the participants. The Institutional Review Board of the New York University School of Medicine approved the study.

For the independent variables, the participants were asked about their *ethnicity* (African American=1, Puerto Rican=2), *marital status* (Engaged or married=1, otherwise=0), and *educational level* (college attend or higher=1, otherwise=0). The participants were also asked about the frequency of *alcohol use* and *cannabis use*. Answer options for alcohol use ranged: none at all =0, less than once a week=1, once a week or several times a week=2, 1-2 drinks a day=3, 3-4 drinks a day=4, 5 or more drinks a day=5. Answer options for cannabis use ranged: none at all =0, 1-2 times a month=1, 3-5 times a month=2, 6-9 times a month =3, 10 or more times a month=5. For the dependent variable, the participants reported the number of male sex partners in the past year.

Regression analyses were conducted using the number of male sex partners as the dependent variable and using alcohol use, cannabis use, marital status, race/ethnicity, and college attendance as the independent variables.

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Results

Among the 343 female participants, 0.55% (n = 19) had no male sex partners in the past year. As shown in Table 1, alcohol use (b = 0.14, $p < 0.01$), cannabis use (b = 1.10, $p < 0.01$), marital status – unmarried (b = -0.16, $p < 0.05$), and race/ethnicity – African American (b = -0.20, $p < 0.01$) were significantly related to a higher number of male sex partners in the past year.

Table 1. Parameter estimates from regression analyses: concurrent associations between substance use and the number of male sex partners in the past year among women

	The number of male sex partners in the past year		
	Estimation	**Standard Error**	***p*-value**
Time-varying within-person			
Alcohol use	0.14	0.04	0.0013
Cannabis use	1.10	0.03	0.0021
Marital status – Married	-0.16	0.08	0.0414
Fixed effects between-persons			
Ethnicity	-0.20	0.08	0.0095
College attendance	-0.06	0.08	0.3996

Notes. 1. Puerto Ricans coded higher than African Americans, that is, African Americans were more likely to have larger number of male sex partner in the past year.
2. College attendance refers to current or previous attendance in college.

Discussion

As hypothesized, the findings indicated that women who use substances (i.e., alcohol and cannabis) had a higher number of male sexual partners. Also, unmarried women as compared to married women and African American women as compared to Puerto Rican women both had a higher number of sexual partners. These findings are consistent with the results from other research papers [5, 6, 9].

The current study showed strong associations between substance use and the number of male sexual partners. Intervention programs that wish to reduce sexual risk behaviors among women who use substances need to develop creative and effective ways to work with this population. Entering drug treatment programs may also help these women reduce or recover from their drug abuse or addiction. Entry into drug treatment has been shown by researchers to be associated with reduced rates of involvement in a variety of sexual risk behaviors [10, 11].

It is worth noting that race/ethnicity also makes it important that prevention and intervention programs targeting these women and their risk behaviors may be designed and implemented by utilizing an understanding socio-cultural factor. Since the present study included only African American and Puerto Rican women, interventions should be designed with input from African American and Puerto Rican women. Our findings indicating higher sexual risk behavior among African American women than among Puerto Rican women suggest that issues of high importance to African American women should be taken into consideration in developing intervention programs. This type of approach has been shown to be effective in studies of other sexual risk behavior interventions [12].

In addition to race/ethnicity, unmarried status was found to be associated with elevated sexual risk behavior in this study. Since many studies have documented differences in sexual risk behavioral involvement and in the issues/circumstances underlying sexual risk behavioral involvement based on marital status [6, 13], intervention programs designed to work with such high-frequency drug-using unmarried women should consider this variable.

Conclusion

The sample consisted of an African American and Puerto Rican inner city female population. Further studies should include other ethnic groups

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for generalization to the US population. Our data are also based on self-reports, which can lead to biased results, since people may under-report their experiences with drug use. However, studies have shown that the use of this type of self-report data yields reliable results [14].

From a public health perspective, the present study suggests that treatments designed to reduce or quit drinking alcohol and smoking cannabis may reduce the sexual risk behavior among unmarried African American women. Therefore, treatment and prevention programs focused on substance use as well as socio-cultural factors (i.e., marital status, race/ethnicity) may be more effective than programs focused only on substance use.

Acknowledgments

This research was supported by the following grants from the National Institute of Health: 1K01 DA041609-01A1 awarded to Dr. Lee and 5R01 DA03540-04 awarded to Drs. J.S. Brook and Pahl both from the National Institute on Drug Abuse.

Conflict of Interest

None declared by authors.

References

1. Satterwhite CL, Torrone E, Meites E, et al. Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008. Sexually Transmitted Diseases. 2013;40(3):187-193.
2. CDC. Centers for Disease Control and Prevention. Sexually Transmitted Diseases Surveillance. Available at https://www.cdc.gov/std/stats10/trends.htm Accessed in March 2017. In; 2010.
3. Owusu-Edusei Jr K, Chesson HW, Gift TL, et al. The estimated direct medical cost of selected sexually transmitted infections in the United States, 2008. Sexually Transmitted Diseases. 2013;40(3):197-201.
4. Weinstock H, Berman S, Cates W. Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. Perspectives on Sexual and Reproductive Health. 2004;36(1):6-10.
5. Aicken CR, Nardone A, Mercer CH. Alcohol misuse, sexual risk behaviour and adverse sexual health outcomes: evidence from Britain's national probability sexual behaviour surveys. Journal of Public Health. 2010: 33(2): 262-271.
6. Patrick ME, O'Malley PM, Johnston LD, Terry-McElrath YM, Schulenberg JE. HIV/AIDS risk behaviors and substance use by young adults in the United States. Prevention Science 2012;13 (5): 532-538.
7. CDC. Centers for Disease Control and Prevention. Helath Disparities in HIV/AIDS, Viral Hepatitis, STDs, and TB: African Americans/Blacks. Available at https://www.cdc.gov/nchhstp/healthdisparities/africanamericans.html. Accessed on May 4, 2017. In; 2014.
8. CDC. Centers for Disease Control and Prevention. Health Disparities in HIV/AIDS, Viral Hepatitis, STDs, and TB: Hispanics/Latinos. Avaiable at https://www.cdc.gov/nchhstp/healthdisparities/hispanics.html. Accessed on May 4, 2017. In; 2014.
9. CDC. Centers for Disease Control and Prevention. HIV in the United States: At a Glance. Available at http://www.cdc.gov/hiv/statistics/overview/ataglance.html Accessed in March 2017. In; 2015.
10. MacArthur GJ, van Velzen E, Palmateer N, et al. Interventions to prevent HIV and hepatitis C in people who inject drugs: a review of reviews to assess evidence of effectiveness. International Journal of Drug Policy. 2014; 25 (1): 34-52.
11. Hoffman JA, Klein H, Clark DC, et al. The effect of entering drug treatment on involvement in HIV-related risk behaviors. The American Journal of Drug and Alcohol Abuse. 1998; 24 (2) :259-284.
12. Billioux VG, Sherman SG, Latkin C. Religiosity and HIV-related drug risk behavior: A multidimensional assessment of individuals from communities with high rates of drug use. Journal of Religion and Health 2014;53(1):37-45.
13. Shisana O, Risher K, Celentano DD, et al. Does marital status matter in an HIV hyperendemic country? Findings from the 2012 South African National HIV Prevalence, Incidence and Behaviour Survey. AIDS care 2016; 28 (2): 234-241.

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14. Harrison L, Martin S, Enev T, et al. Comparing drug testing and self-report of drug use among youths and young adults in the general population. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies 2007.

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