Adolescent health brief

Substance Use and Sexual Risk Behavior among South African Eighth Grade Students

Lori-Ann Palen, M.S., a,* Edward A. Smith, Dr.P.H., b
Alan J. Flisher, Ph.D., F.C.Psych. (S.A.), c Linda L. Caldwell, Ph.D., d and
Elias Mpofu, Ph.D. e

aDepartment of Human Development and Family Studies, The Pennsylvania State University, University Park, Pennsylvania
bPrevention Research Center, The Pennsylvania State University, University Park, Pennsylvania
cDivision of Child and Adolescent Psychiatry and Adolescent Health Research Institute, University of Cape Town, Cape Town, South Africa
dDepartment of Recreation, Park and Tourism Management, The Pennsylvania State University, University Park, Pennsylvania
eDepartment of Counselor Education, Counseling Psychology, and Rehabilitation Services, The Pennsylvania State University, University Park, Pennsylvania

Manuscript received February 2, 2006; manuscript accepted April 21, 2006

Abstract: We examined the covariation of substance use and various sexual behaviors in 2204 students from one area of South Africa. There was an association between lifetime substance use and both sexual activity and certain sexual risk behaviors. At the most recent sexual encounter, there was an association between substance use and being unfamiliar with one’s sexual partner, but no association between substance use and condom use. © 2006 Society for Adolescent Medicine. All rights reserved.

Keywords: Adolescent; Covariation; Alcohol drinking; Marijuana smoking; Sexual behavior; Contraception behavior

There is widespread evidence that substance use and sexual intercourse tend to co-occur among U.S. adolescents (e.g., [1,2]), with possible explanations for this covariation including intoxication, Problem Behavior Theory, and the use of intoxication as a rationalization to justify other risk behaviors [3]. In terms of specific sexual risk behaviors, some studies have linked substance use to higher numbers of sexual partners and less consistent condom use [1,2], whereas other studies have failed to find an association [4]. Among South African youth, Flisher and colleagues [5] found that having ever had sex was associated with use of various substances, but that substance use was not associated with the failure to use a condom [6].

The aim of the current study is to determine whether substance use is associated with sexual behaviors among eighth grade students in one area of South Africa. Unadjusted odds ratios were used to describe substance use and sexual behavior with two different time references: lifetime and most recent sexual encounter. For most analyses, the covariation of both sexual behavior and substance use pertains to the same time reference, which is a unique strength of these data that has not been available in previous studies (e.g., [5,6]). This focus may help to resolve contradictory findings in the literature regarding associations between sexual risk behavior and substance use.

Method

Sample

Participants were 2204 eighth-grade students from nine schools chosen to be representative of Mitchell’s Plain, a low-income, predominantly colored township established during the Apartheid era, near Cape Town, South Africa. The data used here were collected as part of a pretest baseline for a randomized trial of a drug and human immunodeficiency virus (HIV) prevention program [7]. The mean

*Address correspondence to: Ms. Lori-Ann Palen, Department of Human Development and Family Studies, The Pennsylvania State University, S-113 Henderson Building, University Park, PA 16802.
E-mail address: lxp201@psu.edu
age of all participants was 14.0 years (SD = .86). Fifty-one percent of the sample was female. Most participants were Coloured (derived from Asian, European, and African ancestry; 86%), with the rest of the students being Black (9%), White (4%), or Other (1%).

Procedure

This study was approved by the Institutional Review Boards of both the Pennsylvania State University and Stellenbosch University. Passive parental consent and adolescent assent procedures were employed. In total, about 3% of eligible adolescents (n = 81) did not participate in the study due to a refusal of consent or assent.

Participants completed assessments on hand-held personal digital assistants (PDAs). About 5% of eligible adolescents (n = 132) did not complete the survey due to repeated school absences.

Measures

Standard measures of lifetime substance use [5,6] were used to create a dichotomous substance use variable indicating whether participants had ever used alcohol and/or marijuana. Participants also indicated whether they had ever had vaginal sexual intercourse; those who had were presented with questions about general sexual history (frequency of condom use, number of sexual partners in the preceding six months) and their most recent sexual encounter (condom use, relationship to partner, use of alcohol or marijuana, rationale for and consequences of this substance use).

Results

In total, 12% of the sample reported having had sexual intercourse in their lifetime. During their most recent sexual encounter, 39% of these adolescents reported using alcohol or marijuana. Among those who used these substances, 23% reported that substances influenced their decision to have sex, and 26% reported using substances in order to feel more comfortable with their partner.

Youth who had ever used alcohol or marijuana in their lifetime were significantly more likely to have ever had sexual intercourse (Table 1). There was also an association between substance use and certain sexual risk behaviors. Sexually active youth who had used alcohol and/or marijuana in their lifetimes were more likely to report sporadic condom use (25% to 75% of the times they have had sex), and more likely to report having had multiple sexual partners in the preceding six months.

In terms of their most recent sexual encounter (Table 2), youth who used alcohol or marijuana during that event were as likely to use condoms as youth who had not used these substances. However, youth who used alcohol or marijuana during their last sexual encounter were more likely to have just met their partner. Although there were some significant gender differences in the odds ratios reported here, the direction of all findings remained the same for boys and girls.

Discussion

The association found between lifetime sexual intercourse and substance use mirrors the results of numerous studies of these behaviors among samples of adults and adolescents in the United States and Africa [1–3,5,8,9]. Lifetime substance use was also associated with greater likelihoods of inconsistent condom use and having multiple sexual partners.

Analyses of the covariation between sexual behaviors and substance use at last sexual intercourse provide a more

| Table 1 | Associations between lifetime substance use and sexual behaviors |
| --- | --- | --- |
| Sexual behavior | Substance users % (95% CI) (n = 1021)* | Nonusers % (95% CI) (n = 1155)* | Unadjusted odds ratio (95% CI) |
| Lifetime sexual intercourse | 19 (16–21) | 5 (4–7) | 3.9 (2.9–5.3) |
| Consistent condom useb (100% in lifetime) | 48 (41–55) | 56 (44–69) | .7 (.4–1.3) |
| Sporadic condom useb (25–75% in lifetime) | 39 (32–45) | 22 (11–32) | 2.2 (1.2–4.4) |
| No condom useb (0% in lifetime) | 13 (8–18) | 22 (11–32) | .5 (.3–1.1) |
| Multiple partners in past 6 monthsb | 40 (33–47) | 20 (10–30) | 2.6 (1.3–5.1) |

* 22 participants had incomplete data on lifetime substance use.

b Among those participants who have ever had sexual intercourse (n = 257).

| Table 2 | Associations between substance use and sexual behaviors at most recent sexual encounter |
| --- | --- | --- |
| Sexual behavior | Substance users % (95% CI) (n = 100)* | Nonusers % (95% CI) (n = 158)* | Unadjusted odds ratio (95% CI) |
| Condom use at last sexual encounter | 67 (58–76) | 69 (62–76) | .9 (.5–1.6) |
| Just met partner at last sexual encounter | 36 (27–46) | 20 (13–26) | 2.3 (1.3–4.2) |

* Two participants did not report lifetime sexual intercourse but did report substance use at last intercourse; one sexually active participant did not report on substance use at last intercourse.
A precise investigation into the relations between these behaviors [3]. Youth who used substances at their last sexual encounter were as likely to use a condom at that encounter as youth who had not been using substances. Although this may seem inconsistent with the above-mentioned association between lifetime substance use and sporadic condom use, it is highly possible that lifetime reports of sex, condom use, and substance use refer to a number of unrelated events during which only one of these behaviors occurred. Also, the odds ratio for condom use at the most recent sexual encounter is consistent with what has been found in diary studies with U.S. samples [4,10]. Consequently, this finding is both plausible and important to consider when promoting risk prevention. We also found that youth who were using alcohol or marijuana at their most recent sexual encounter were more likely to have just met their partner that same day. This makes sense in light of the fact that many of the adolescents in the current sample report that they used substances to feel more comfortable with a sexual partner.

Pragmatically, these findings suggest that interventions may be more effective if they increase their emphasis on the role of substances in casual sex rather than stressing direct links between substance use and failure to use a condom. Programs that emphasize to youth that substance use will lead to nonuse of condoms may be sending a false message, or, at least, a message that some youth will dismiss. Alternatively, program messages may want to focus on the association between substance use and the increased likelihood of having sex with someone you do not know. This message, combined with a message that such “hooking-up” encounters are ripe for the transmission of HIV and other sexually transmitted infections, may be a more salient way of increasing consistency in condom use.

Acknowledgment

This research was supported by National Institutes of Health Grant R01 DA01749.

References