

AIDS, HIV Infection, and Illicit Drug Use within Inner-City Families and Social Networks

ABSTRACT

Objectives. Drug use is commonly depicted and treated as an individual problem. This study describes the extent of drug use, human immunodeficiency virus (HIV) infection, and acquired immunodeficiency syndrome (AIDS) among drug users' sexual partners and family and household members in order to broaden considerations of risk.

Methods. Social network charts and structured interviews were administered to 126 women (predominantly African American and Latino) enrolled in methadone treatment. The charts elicited the prevalence of drug use and HIV infection among subjects' family and household members.

Results. Drug use and HIV/AIDS permeated subjects' sexual, familial, and household relationships. More than half of the women who resided with a sexual partner reported that their partners currently used drugs. Almost one third of the subjects' siblings were drug users. Of the 715 total siblings (all subjects plus their siblings), 69 (9.7%) were known to be HIV positive or to have an AIDS diagnosis.

Conclusions. The sexual, familial, and household expressions of drug use underscore the notion that drug use and attendant risks, including but not limited to HIV infection, might be usefully viewed and treated as an inter- and intracommunity problem rather than as an exclusively individual one. (*Am J Public Health*. 1994;84:271-274)

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Introduction

The identification of illicit drug use, first intravenous heroin and cocaine and more recently crack (a smokable cocaine derivative), as behavior associated with increased risk of human immunodeficiency virus (HIV) infection has resulted in a body of research that includes the study of individual behaviors in the transmission of HIV in addition to factors that are exclusively biological.¹⁻⁷ Because individual human behavior originates in and is perpetuated through social activities and cultural contexts, studies of high-risk behaviors such as needle sharing and unprotected sex suggest the need to further broaden our notions of risk to include the social and cultural aspects of drug use in people's lives.^{8,9} This understanding might then inform the development of culturally appropriate and socially effective interventions that address the problems of drug use, HIV infection, the acquired immunodeficiency syndrome (AIDS).

This paper represents an effort to characterize several important aspects of the social environment in which many drug-using women live (in this case, poor methadone patients in the Bronx). Epidemiological studies and case reports of the prevalence of HIV/AIDS in this area,¹⁰ as well as the prevalence of HIV infection in the methadone program from which our subjects were drawn,⁵ suggested the value of a closer examination of these women's family and social networks. This study was undertaken to explore the relationships between drug use, HIV infection, and social networks, including family members, sexual partners, household members, persons at risk of HIV infection, and friends.

The study was conducted from 1988 to 1990 in a methadone maintenance clinic administered by a teaching hospital in the Bronx, New York. The methadone program, which serves 700 patients, includes the administration of methadone (a substitution treatment for people with histories of opiate addiction), counseling services, an HIV testing and counseling program, and primary health care.

The fieldwork for the study was conducted through the Women's Center, a peer support program operating in the drug treatment program. Created in 1987, the Women's Center program includes support groups that provide women in methadone treatment with an opportunity to speak freely in a group setting about drug use, HIV infection, and personal matters. The program also serves as a field station for research related to social and cultural aspects of drug use, HIV infection, and HIV transmission.

Methods

The study is based on in-depth interviews with 126 women in methadone treatment. The first 30 subjects were participants in the weekly Women's Center peer support group. The remaining 96 were referred from the methadone clinic population by the original 30 subjects, by

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	Sample (n = 126)
Median age, y	35
Median time in methadone treatment, y	2
Race/ethnicity, %	
Latino	62
African American	30
Caucasian	8
Grade level of education, %	
<9	12
9–11	53
≥12	35
Marital status, %	
Married/separated	59
Single/divorced/widowed	41
Source of income, %	
Public assistance	83
Employment	2
Other	15

clinical staff, and by methadone counselors. After their interviews, women not previously in the support group were invited to join as part of their HIV prevention education.

Interviews lasted for 2 hours. Each began with the administration of a kin-chart sociogram (charting kinship and social relations), followed by questions covering demographic items, history of drug use and reproduction, and HIV status. In addition, in completing a mother-child coresidence history, the interviewer inquired about the periods of time during which each woman's children had and had not lived with her, the reasons for separations, a description of both the child's and the mother's relationship to the people with whom the child lived during separation, and whether custody was informal, temporary, or legal.

The charting of kinship and social relations used in this study has its origin in classical anthropological studies of kinship.¹¹ In this charting method, structured with the study participant as the point of reference and stratified by generation, a model is constructed of a subject's kin relations, starting with those in closest biological or social proximity and moving outward to include persons more and more distantly related.

Similarly, in this study, the investigator initiated the construction of a kin-chart-sociogram by asking each subject a sequence of questions designed to identify blood relatives and those related to the subject through marriage. Beginning with the subject's siblings and progressing

	% of Sample
Subject, male partner, and children younger than 18 y ^a	31.0
Subject and partner ^a	19.0
Subject and children younger than 18 y ^a	23.0
Subject alone	11.1
Subject and relatives	9.5
Subject and nonrelatives	6.3

^aHousehold may also include coresiding mothers, in-laws, siblings, nieces, nephews, and drug associates.

through all relatives with whom the subject was personally acquainted, the chart was completed with the identification of the subject's drug-using and non-drug-using associates and friends. Once all of these individuals had been identified and their genders, ages, places of residence, and HIV status (if known) noted, they were assigned attributes. These attributes included drug use and type, friend, sexual partner, household member, member of children's household (if children were residing separately from their mother), serostatus, and knowledge of the subject's serostatus.

Data analyses involved comparisons of proportions. Chi-square tests or, in the case of small numbers, Fisher's Exact Tests were used to determine the two-tailed statistical significance of associations. An alpha level of .05 was used as the indicator of statistical significance. The data were analyzed with SAS software.

Results

Population Characteristics

The population characteristics of the subjects are shown in Table 1. The concentration of ethnic minorities and women on public assistance is noteworthy.

Drug use. Despite their enrollment in a methadone program, 72% of the women in the study reported current illicit drug use. Twenty-five percent of the current drug users reported polydrug use. Crack was more frequently reported to be used on a daily basis (71% of the 41 users) than were either heroin (30% of the 30 users) or injected cocaine (28% of the 43 users), $\chi^2 = 18.808, 2 df (P < .001)$.

HIV serostatus. Eighty-four percent of the 126 women reported having been tested for HIV infection. Of these, 48% stated that

Drug/Use by Partners	Use of Drug by Subject		P ^a
	No	Yes	
Heroin			NS
No	32	11	
Yes	16	4	
Cocaine			.01
No	37	10	
Yes	7	9	
Crack			.001
No	46	8	
Yes	0	9	

^aSignificance of association between subject's and partner's use of drug.

they were HIV positive, 43% stated that they were HIV negative, and 9% stated that they did not know their test results.

Household composition. Subjects reported six principal household membership patterns (see Table 2). Most of the women lived with a family member or members (including children and sexual partners), and half lived with at least one of their children. Only 11% lived alone.

Sexual partners. Half of the women reported living with a sexual partner. Most of these (82.5%) lived with a male partner, and 17.5% lived with a female partner.

Mothers and children. At the time of the interview, 106 women had 250 children under 18 years of age, half of whom were living with their mothers.

The Social Context of Drug Use

Subjects and coresiding sexual partners. Seventy percent of the 63 women in residence with a sexual partner reported that they regularly used illicit drugs and that 57% of their partners did so. Although only a minority of the partners (<25%) used crack or other forms of cocaine, significant positive associations were found between women's use of crack and other forms of cocaine and that of their partners. This pattern differed from that of heroin users; no significant association was found between women's current use of heroin and that of their coresiding sexual partners (see Table 3).

Children and household drug use. Drug use was common in the households with children under the age of 18: of the 142 children who resided with their mothers, 64.8% lived with a mother who reported regular use of illicit drugs, 82.4%

lived with at least one parent who used drugs, and 86.6% lived in households where at least one adult household member was a drug user.

History of drug use in subjects' families of origin. Histories of drug and alcohol abuse were reported in a minority of the women's parents. Among 240 known parents, 7.17% were reported to have abused alcohol and 7.9% were reported to have histories of illicit drug use.

Illicit drug use was widespread among subjects' siblings. One hundred twenty-six women in the study reported a total of 589 siblings (mean = 4.7; range = 0 to 20). Of the 119 women who had one or more siblings, 70.6% reported that at least one had a history of illicit drug use.

Of the 589 siblings, 30.6% were reported to have a history of drug abuse, not including alcohol. Eighty-five percent of these drug-using siblings were reported to have used heroin, some form of cocaine, or both. Only 6.3% of the subjects reported having a sibling who abused alcohol.

HIV Infection

Shared knowledge of positive serostatus. Among the 23 HIV-positive women with coresiding sexual partners (17 male partners and 6 female partners), 87% reported having informed their sexual partners of their serostatus. Seventy-five percent of the 40 HIV-positive women whose mothers were alive at the time of the interview reported having informed their mothers of their serostatus. Of the 27 HIV-positive women who knew their fathers and whose fathers were alive at the time of the interview, 48.1% reported having informed their fathers of their serostatus. Of the 47 HIV-positive women with siblings, 63.8% had shared their serostatus with at least one of their siblings and 34.0% had shared their serostatus with all of their siblings.

Serostatus and drug use. HIV-positive ($n = 50$) and HIV-negative ($n = 46$) women were compared in terms of type of drug used and frequency of use. Significantly more HIV-positive women (46%) than HIV-negative women (24%) reported current use of crack (chi-square test; $P < .03$). No other significant differences in drug use patterns were noted.

HIV infection in households. The presence of HIV infection in this population can be described in the context of the subjects' households. Forty-five percent of the 119 households were reported to have at least one member (including our subjects) who was HIV infected. Among

these 54 households, 33.2% of the 202 household members were reported to be HIV infected (43 households included 1 HIV-infected person, 9 households included 2, and 2 households included 3).

Seventy-one children younger than 18 years lived in 50% of the 54 households with HIV-positive members; 7% of these 71 children were reported to be HIV infected. All were AIDS diagnosed.

HIV infection among siblings. Of the 715 total siblings (all subjects plus their siblings), 9.7% were reported to be HIV infected.

HIV infection, AIDS, and death by violent means. The subjects reported lifetime knowledge of 105 people living with HIV infection, 63 AIDS deaths, and 44 deaths by violent means among a total of 5053 known relatives of all ages. (Subjects were asked to identify family members who were HIV infected and those who were diagnosed with or had died of AIDS. In addition, in the course of constructing the kinchart-sociograms, women volunteered information about relatives who had died by violent means, including accidental death by fire, drowning, electrocution, or motor vehicle accident; homicide; drug-related deaths [overdose]; and suicide.) These HIV infections, AIDS deaths, and violent deaths were reported from among subjects, siblings, husbands, lovers, children, nieces, nephews, aunts, uncles, siblings-in-law, cousins, ex-husbands, ex-siblings-in-law, and stepparents.

Discussion

Drug Use

All data regarding drug use of the respondent or of her family or partner relied entirely on her own report, a clear limitation of the study. We consider it likely that such use was underreported rather than exaggerated. Comparable rates, at least of cocaine use, have been previously described among the same clinic population.¹²

Within subjects' families of origin, almost one third of the subjects' siblings were drug users. The relatively low number of drug users among parents (<8%) in comparison with the high number of their offspring who were drug users (>42%) suggests a marked increase in drug use between generations.

The social character of drug use is further evident in the number of households in which one or more member was a drug user and the number of children

growing up in these households. The widespread presence of drug-using adults in households with minor children supports a perception of drug use and related behavior as normative.^{13,14}

Drug use among sexual partners illustrates its relational character. All of the women who lived with a crack-using partner used crack themselves. The positive association of women's cocaine and crack use with their partners' use of the same drugs suggests some of the difficulties drug-using women may have when they try to stop using cocaine or crack.

HIV Infection

The familial and residential impact of HIV infection among African-American and Latino inner-city residents is reflected in our data in the number of subjects, subjects' relatives, and household members infected with HIV. The generational character of the HIV epidemic in New York City is reflected in the high number of infected siblings (largely of the subjects' generation).

The number of HIV-positive women who had shared knowledge of their serostatus with sexual partners and other family members suggests the persistence of familial intimacy. It also emphasizes the need for supportive services, not only for those who are HIV infected but for their family members as well.

The impact of the AIDS epidemic is reflected in our data through the number of persons reported to be HIV infected, which, according to the reports of our subjects, far exceeds the cumulative number of deaths attributed to violence throughout their lifetime.

Conclusions

The development of risk reduction strategies might profitably involve individuals or groups from drug users' social environments and communities, including active drug users and their organizations (as in Europe and Australia), for the purpose of community education, prevention, and support.^{15,16} Meaningful employment may also contribute to decreased drug use by providing alternate social networks and enhanced self-esteem.

Finally, these findings encourage the provision of intensive and extensive primary prevention services, improved access to health care, and drug treatment options that incorporate the social nature of drug use and its expression in sexual relationships, households, families, and communities. □

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