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Sexual Histories of Heterosexual Couples with One HIV-Infected Partner

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Abstract: Ninety-eight heterosexual couples enrolled in a HIV transmission study, at least one of whom was HIV-infected, were interviewed about sexual behavior. Although males and females were interviewed separately, there was agreement between them on the number of sexual contacts, the practice of anal intercourse, and condom use. These findings of strong reliability are encouraging, but do not necessarily imply that the data are valid. (*Am J Public Health* 1990; 80:990-991.)

Introduction

The best way to prevent the spread of infection from human immunodeficiency virus (HIV) is voluntary behavioral change.¹ Before recommending strategies to promote such changes, one must first establish the kinds of behavior currently practiced. To do so, AIDS (acquired immunodeficiency syndrome) researchers rely almost exclusively on interviewing techniques, but many question the validity and reliability of this methodology.² For example, in a study of the reproductive histories of a group of women, Hornsby and Wilcox³ established that daily logs of sexual behavior were more accurate than comparable data collected through retrospective interviews. Similar results were found by both Udry and Morris⁴ and Kunin and Ames,⁵ who determined that recent and frequent reporting of sexual behavior produced the most precise results. However, AIDS epidemiologists may not have the opportunity to collect data on a regular basis and are thus forced to rely on retrospective reports of behavior even though the accuracy of these reports (especially for a variety of sexual practices) has not been established. Here I report on the reliability of such data, comparing reports of sexual behavior between men and women in couples of which at least one partner was HIV seropositive.

Methods

Since 1985 we have been conducting a study of the heterosexual transmission of acquired immunodeficiency

syndrome (AIDS) in California in which we enroll the opposite sex partners of individuals infected with HIV. Although the study began by enrolling the female partners of HIV-infected men,⁶ in 1987 we began to enroll participants as couples. Individuals who test positive for HIV at a variety of sites and who also have heterosexual partners are referred to the study as part of their post-test counseling. Enrollment is voluntary; study protocol is described elsewhere.⁶

Interviewers are female and are matched to couples by ethnicity. They are trained in group and individual sessions that include role playing and interpretation of interview responses. Results were reliable across interviewers. To ascertain number of sexual contacts, the interviewer asks how many times the couple has sexual intercourse in a typical week or month. Deviations from this number throughout the relationship are noted. The total number of contacts is estimated by multiplying the duration of the relationship by the typical reported amount and weighting this number by changes in sexual activity over time. Individuals in the couple are interviewed separately on the same day.

Behaviors considered in this report are: vaginal intercourse, anal intercourse, and condom use. Continuous responses were compared using Pearson's correlation coefficient, and categorical responses were compared using the Kappa coefficient and its corresponding confidence limits as described by Fleiss.⁷ HIV infection was ascertained from serological tests using enzyme immunoassays with Western Blot confirmation.

Results

This report includes data from 98 couples, 68 percent of which were monogamous at entry into the study. Most of the men and women reported only one partner in the six months prior to entry into the study. Median number of partners since 1978 (the beginning of the AIDS epidemic) was five for the women and 10 for the men. The overall male-to-female transmission rate from the study which began in 1985 was 24 percent. Seventy-seven of the couples included infected men and their female partners; 12 (16 percent) of these women were infected. Twenty-one of the couples were infected women and their male partners; none of these men were infected. The reported risk group of the infected partner of the 98 couples varied and is described in Table 1. Sixty-three percent of the couples were White, 20 percent Latino, 7 percent Black, 1 percent Asian, and the remainder were couples of mixed ethnicity. Average income for the couples was \$20-29,000 per year; average level of education was 13

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TABLE 1—Risk Group of the HIV-Infected Index Case in 98 Heterosexual Couples

Characteristics	Male	Female
	N = 77 (%)	N = 21 (%)
Bisexual	27 (35)	
Bisexual + Intravenous Drug Use	11 (14)	
Intravenous Drug Use	24 (31)	3 (14)
Heterosexual Partner		10 (48)
Hemophilic or Transfusion-associated	6 (8)	5 (24)
No Identified Risk	9 (12)	3 (14)

school years. The couples had been together from one month (four contacts) to 19 years (greater than 3,000 contacts).

The total number of vaginal intercourse contacts reported by the man and the woman were highly correlated ($r = .84$, 95% CI = .64, 1). Because the couples knew they were to be interviewed about their sexual behavior, they may have discussed responses to anticipated questions. In fact, some of their responses were identical, but there was still agreement between those partners with non-identical responses ($r = .72$, 95% CI = .44, 1). Women reported more vaginal contacts than their male partners for the duration of the relationship, but this was not a significant difference (mean estimated number of contacts was 540 by women versus 508 by men). Agreement was stronger for the couples with briefer relationships.

Number of anal intercourse contacts was compared as a continuous variable, with somewhat less strong agreement ($r = .44$, 95% CI = .13, .74). Responses on anal intercourse as a dichotomous variable (ever versus never) compared using the Kappa coefficient, agreed well (Kappa = .76, 95% CI = .56, .95) (Table 2). Responses on condom use treated as a dichotomous variable (Table 3) also agreed well (Kappa = .74, 95% CI = .54, .94). Two couples who disagreed about the practice of anal intercourse also disagreed about the practice of condom use. The small number of couples and high levels of agreement precluded analyzing differences by risk group of the index case, ethnicity, gender, number of sexual partners, or duration of the relationship.

Discussion

In this group of heterosexual couples with one HIV-

TABLE 2—Practice of Anal Intercourse Reported by Men and by Women Heterosexual Partners, N (proportion)

		Men		
		Ever	Never	Total
Women	Ever	34 (.35)	5 (.05)	39 (.4)
	Never	5 (.05)	54 (.55)	59 (.6)
	Total	39 (.4)	59 (.6)	98

Kappa = .76 (95% CI = .56, .95)

TABLE 3—Condom Use reported by Men and Women Heterosexual Partners, N (proportion)

		Men		
		Ever	Never	Total
Women	Ever	45 (.46)	6 (.06)	51 (.52)
	Never	7 (.07)	40 (.41)	47 (.48)
	Total	52 (.53)	46 (.47)	98

Kappa = .74 (95% CI = .54, .94)

infected partner, agreement about sexual practices was observed. Couples agreed somewhat better on the number of contacts of vaginal than anal intercourse. These patterns are similar to those observed by Seage, *et al*⁸ in homosexual couples.

Participation was voluntary and the results might not apply to all heterosexual couples with one infected partner. In addition, this evidence of good reliability does not necessarily imply validity. For example, measurements were not independent because couples may have discussed responses prior to the interview.

The occasional disagreement among partners suggests that researchers still must be cautious in relying on the reports of sexual behaviors they are examining. We intend to examine this phenomenon further by assessing willingness to discuss HIV risk and serostatus between partners. Kegeles, *et al*⁹ found that HIV-infected homosexual men were not completely forthcoming in discussing their antibody status with non-primary partners. These results remain to be examined between heterosexual partners.

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