Rethinking AIDS

VOLUME 5, NUMBER 9 DECEMBER 1997

Sex, Lies & HIV Transmission

New Book by Medical Psychologist Stuart Brody Concludes That Rectal Intercourse and Unsterile Needles — Not Vaginal Intercourse — Are Real Heterosexual HIV Risk Factors

"The risk of transmitting HIV through vaginal intercourse is near zero among healthy adults," medical psychologist Stuart Brody writes in his new book, *Sex at Risk: Lifetime Number of Partners, Frequency of Intercourse, and the Low AIDS Risk of Vaginal Intercourse* (Transaction Publishers, 1997), which the *Wall Street Journal* favorably reviewed on page A22 of its December 8 edition.

"I'm not saying that it is impossible for unprotected vaginal intercourse to transmit HIV from a positive to a healthy adult negative partner," Brody told *RA* in a telephone interview from his Los Angeles-area home. "Anything's possible. It's possible to be struck by lightning. But the two risks share an analogous probability, effectively zero. If healthy, HIV-negative Americans want to worry about unprotected vaginal intercourse, they should worry about the drive over to their encounters. If their partners have never injected drugs or received rectal intercourse or blood therapy, they are more likely to be killed in an automobile accident on the ride over than they are to become HIV-positive."

Researchers Are Loathe to Ask Heterosexuals About Rectal Intercourse, and Practitioners Are Just as Loathe to Admit It.

Sex at Risk represents an expansion of several articles Brody has published in academic journals, including his famous 1995 paper, "Lack of evidence for transmission of HIV through vaginal intercourse" (*Archives of Sexual Behavior* 24[4]:383-393).

Brody does not outright reject a causal role for HIV in AIDS. "I stand on middle ground on that issue," he told *RA*. "Although I certainly recognize that there are several documented cases of AIDS without HIV, and the near universal presence of other pathogens in AIDS cases, I am a bit more conservative about HIV than say, [UC-Berkeley molecular biologist Peter] Duesberg, who considers HIV to be harmless." He also says that he has not found a single example of AIDS in a person who has been appropriately cleared of risks, and that the characterization of AIDS patients as "previously healthy is absolute nonsense."

Many scientists who *do* outright reject the HIV-AIDS model also admire Brody. Rather than accept coital transmission without question, he has applied scientific scrutiny to the published studies claiming to document it. In a rigorous review of the literature, Brody found no evidence that a vaginal transmission capacity for HIV had ever been conclusively established, and is the first authority to stress this point.

He did, however, find documentation that he felt established HIV transmission via receptive anal intercourse and drug injections. "The data show that frequency of receptive anal intercourse with an HIV-positive man and frequency of drug-injecting correlates with seroconversion," Brody says. "And that makes those activities HIV risk factors. But frequency of unprotected vaginal intercourse with an HIV-positive person does not correlate with seroconversion, so that activity does not qualify as a risk factor. Everybody thinks that unprotected vaginal intercourse with an HIV-positive person will put you at risk for becoming HIV positive yourself. But this just isn't the case."

Should the Authors of Heterosexual HIV Transmission Studies Believe Every Participant Who Denies IV Drug Use and Rectal Intercourse?

Are the Rare HIV Seroconversions Observed in Heterosexual Transmission Studies Due to Rectal Intercourse and IV Drug Use?

Brody is an expert at risk factor analysis, and has worked with physicians and medical scientists to identify factors which qualify as medical risks, and to identify potential study subjects who have been exposed to risks that might confound the results. He says that it is easy to see which risks must be considered in vaginal transmission studies of HIV. Since anal intercourse and drug injecting correlate with HIV seroconversion, investigators seeking to document coital transmission must be very careful to identify and exclude sub-

jects who are exposed to those factors, and to account for *dissimulation*, which Brody defines as "the phenomenon whereby respondents do not reveal their risk exposures, because they have forgotten about their exposures, they have misunderstood the question, or — as is usually the case — they have lied to interviewers."

"Research and experience have shown us that people lie often and for many reasons, and that the content of these lies includes the IV [drug] and anal intercourse risk factors for HIV transmission," he writes. "Such lying is one of the factors contributing to an inflated estimate of vaginal HIV transmission."

Studies published by the time of his 1995 paper put the coital transmission frequency for HIV at one per 500 unprotected contacts (male-to-female) and one per 1,500 (female-to-male) (Blattner, *FASEB* 5:2340-2348, July 1991); the latest study revises these figures to one per thousand and one per 8,000, respectively (Padian N, *Am J Epidemiol* 146:350-357, 1997).

These minute transmission frequencies are "ludicrous *over*estimates," Brody says. He is convinced that — small as they are — they would be even lower if the investigators had taken the proper steps to identify risk exposures and had accounted for dissimulation.

Since HIV prevalence is high among anal sex recipients and drug injectors, but low among the general American population, Brody says that researchers who seek risk-free HIV-positive subjects should expect to attract some people from the risk categories who deny their risks. "This is a one of the basic problems in risk factor epidemiology," he says.

And since frequency of vaginal intercourse does not correlate with HIV seroconversion, studies claiming to document vaginal transmission should be accepted only if they demonstrate that the study subjects had been properly screened for factors that *do* correlate with seroconversion, and account for dissimulation.

All heterosexual HIV transmission studies to date have relied on questionnaires or interviews to identify risk exposure, and the investigators have almost always accepted all denials as accurate. Brody considers this to be sloppy risk factor analysis. "It is not so easy to get all people who inject drugs or who participate in rectal intercourse to admit to these activities," he says. "Lots of research has been done on the topic of accurate responses to questions about taboo subjects. It's very embarrassing for both the interviewer and the respondent. Appreciable numbers of smokers, for example, will not admit to smoking. It is unfortunate that this knowledge has not been applied to HIV risk factor assessment."

The studies involve HIV-negative test subjects who engage in regular heterosexual contact with HIV-positive partners. Participants identify themselves as monogamous heterosexuals who don't inject drugs. The women deny or are not asked about receptive rectal intercourse. Participation requires frequent HIV testing, at which time subjects estimate their number of unprotected copulations since the previous test. Some studies, like those of Nancy Padian, compile the number of reported contacts preceding negative tests in order to calculate transmission frequencies.

A 1993 report of 79 women having regular sex with HIV-positive men is a typical example (Saracco A, *J AIDS* 6:497-502). Although each of the women said they never used condoms, only eight seroconverted after an average of 1.76 years of observation. Most denied having practiced rectal intercourse, and all denied having injected drugs. The authors of this study assumed all risk denials were accurate, and concluded that they had documented instances of coital transmission.

The "gross exaggeration of AIDS risk to healthy, non-IVDU heterosexuals constitutes unethical behavior."

Yet they stated that frequency of rectal intercourse, but not coitus, correlated with seroconversion. In light of this, plus what is generally known about dissimulation, Brody concludes that the seroconverting women in such studies who denied both activities are lying.

Brody demonstrates that about one million Americans inject drugs, and that about 10% of all American females, as well as some unknown fraction of men, have experienced receptive anal intercourse. "A total liar rate of 5% is more than adequate to account for all the cases of HIV transmission and AIDS which are classified as heterosexual."

Brody concludes that the rare seroconversion observed in HIV coitus transmission studies represents participants who have not been forthright in their self-appraisal of risk exposure, or who have not been asked the specific questions that would have identified their risks. For example, he says that men who have been raped in prison might not consider themselves to have ever had sex with a man. The question, "Have you ever had sex with a man?" would not identify all these recipients of anal intercourse.

Brody says he's not found any properly constructed studies on the topic of heterosexual HIV transmission. He suspects that political and social pressures compel researchers to accommodate as best they can the politically correct assertion that "everyone is at risk for HIV and AIDS."

"HIV researchers who publish these papers do not seem to be serious about accurately accounting for anal intercourse and drug injecting," he says. "The very studies that claim to document vaginal transmission show that coitus frequency does not correlate with seroconversion, but that frequency of receptive anal intercourse does." A properly constructed study would recognize that an apparent case of coital transmission might really be a case of anal transmission in disguise. But the heterosexual HIV transmission studies that Brody has found do not do this.

Brody's analysis has a significant effect on the HIV risk typically advanced by critics, which is based on official transmission rates (1-per-1,000 man-to-woman and 1-per-8,000 woman-to-man) and HIV prevalence in the general US population (1-per-5,000 men and 1-per-10,000 women). Using these figures, healthy, drug-free Americans having

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regular unprotected coitus with positive partners have barely any chance of becoming positive. And single acts of unprotected coitus with random, drug-free partners have preposterously low risks of seroconversion: 1-in-10 million for women (1/1,000 x 1/5,000), and 1-in-80 million for men (1/8,000 x 1/10,000). These risks are less than that of being struck by lighting during the course of a year, which is one in a million (250 of 250 million Americans are struck by lightning each year; *Discover*, May 1996, p. 82).

Brody predicts that if researchers took care to compile accurate data, they would find that the actual unprotected coital transmission frequencies would each be on the order of the annual American lightning risk, around once every million contacts.

"Everybody thinks that unprotected vaginal intercourse with an HIV-positive person will put you at risk for becoming HIV-positive yourself. This just isn't the case."

And so would be the chance of finding an HIV-positive person from among the general American population. The best data available for the HIV prevalence in the general American public are those tracked by the CDC for first-time blood donors, Gays and drug injectors are officially discouraged from donating, and potential blood donors are given questionnaires that ask about histories of drug injecting and male homosexual sex. Positive respondents are rejected. which show an HIV rate of one-per-7,500 for the most recent year, 1994 (one-per-5,000 men, and one-per-10,000 women). "But women are not asked about rectal intercourse, there is the same problem with dissimulation, blood donors are not a representative sample of the population, and many people from the risk groups use blood donations as a way to get free HIV tests," Brody says. "So I expect the true HIV rate for Americans free of injected drugs and receptive anal intercourse to be far less than one in 7,500." He expects that accurate evaluation would identify no more than one HIV-positive risk-free American per million.

Combining those figures, Brody says that a risk-free American who has a single act of unprotected coitus with a random risk-free partner is about as likely to become HIV-positive as "be struck multiple times by lightning in one year, or win several state lotteries."

Scientists and physicians ignore these facts, and instead promote the politically correct idea that "everyone is at risk." "Ideological knowledge about AIDS is far more likely to filter through society than scientific knowledge," he writes. The idea that HIV is vaginally transmitted was developed before any data were generated. Now that data have been generated, they do not support this concept, though most researchers refuse to reconsider it.

For instance, in some African regions, researchers find relatively high HIV-positive rates in the general population (about 5%), and assume this is due to coital transmission combined with rampant promiscuity. According to Brody, vaginal transmission is just too inefficient to explain high HIV rates in a heterosexual population. He offers a better explanation for high African HIV rates: the widespread use in underdeveloped regions of unsterile hypodermic equipment to provide vaccinations and blood transfusions. This "effectively places the African patient in a situation not unlike that of IV-drug users anywhere sharing unsterile hypodermic equipment." He also notes that "starvation, pathogen-laden drinking water, and rampant tropical infections such as malaria make for different immune functions than those of healthy Westerners."

"A total liar rate of 5% is more than adequate to account for all the cases of HIV transmission and AIDS which are classified as heterosexual."

In industrial nations, like the United States, where HIV-positive rates are low in the general population, health officials, professors, and researchers attribute this to relative sexual moderation among American heterosexuals.

The data do not support this view, either, Brody says. Since frequency of coitus does not correlate with seroconversion, it doesn't matter how promiscuous a population is, so long as anal intercourse is not a central activity. For HIV-positive Americans who have neither been transfused nor treated for hemophilia, Brody considers receptive anal intercourse and unsterile needles to account for effectively all cases officially listed as "heterosexual HIV transmission."

Brody considers a positive HIV test (within the bounds of its accuracy) to ef-

fectively indicate receptive anal intercourse or injections with unsterile needles in cases where in-utero transmission and transfusions can be excluded. This is not to say that everyone who injects drugs or receives anal intercourse will test HIV-positive. In some cities, the rates can get as high as 30% for gay men and 50% for drug users, but never near 100%. However, the data support the following conclusion: effectively 100% of Americans who test HIV-positive have received anal sex, injected drugs, had a blood transfusion, been treated for hemophilia, or been prenatally exposed, he says. The problem is that far less than 100% of these people will admit to the activities that involve sex or drugs.

Brody concludes that seroconverting women in transmission studies who deny drug injecting and rectal intercourse are lying.

None of the HIV coital transmission studies so far have addressed Brody's main arguments. Moreover, no studies have compared the tiny proposed HIV transmission frequencies to those of other microbes known to be coitally contagious, such as chlamydia and gonorrhea, which transmit about half the time (one per two).

Brody blames "politically correct thought" which "impedes scientific progress when taboo themes, regardless of their validity, cannot be pursued." He views the "everyone is at risk for HIV and AIDS" campaign as an attempt by the American government to "micromanage everyone's lives," and fears the consequences of subjecting the public to mass screenings with HIV tests. "When you test people from a population with an extremely low base rate, a relatively high fraction of positive results are false, due to testing inaccuracies. In some special cases, and this may be true for HIV, *most* of the positive results you get are false. So you run the risk of creating more heart attacks from false positives than identifying people who really *are* positive."

The following example illustrates Brody's point. The CDC calls the HIV antibody testing battery (two ELISAs and one Western blot) "greater than 99% accurate" (CDC Fax Information Service, Document 320310, Jan. 1993; phone 800-458-5231). Putting aside all the criticisms about the validity of these tests, let's assume an accuracy of 99.9% and consider the implications of testing a population of 7,500 in which only one person is truly positive. When we test the 7,499 truly negative people, we should expect 7,499 x 0.999 = 7,493 accurate results: that would mean 7,493 true negatives, and 6 false positives. But when we test that one truly positive person, we should expect 1 x 0.999 = 0.999, or one, accurate result: a true positive. So, in addition to the expense and trouble of testing 7,500 people just to identify a single truly positive person, we should expect to obtain six times more false positives than true positives.

This inefficiency does not hold true in high-risk populations, though. In a population where 30% of the people are truly positive, out of 7,500 people, that comes out to 2,250 truly positive people, and 5,000 truly negative people. If we test the 2,250 truly positive people, we should expect 2,250 x 0.999 = 2,248 accurate results: that would mean 2,248 true positives and two false negatives. If we test the 5,000 truly negative people, we should expect 5,000 x 0.999 = 4,995 accurate tests: 4,995 true negatives, and five false positives. So for 2,250 true positives, we get five false positives, and for 4,995 true negatives, we get two false negatives.

"For this reason," Brody says, "HIV tests should be offered only to people with the risks: gay recipients of anal intercourse, drug injectors, hemophiliacs, transfusion recipients, and women who have had receptive anal intercourse with a man from one of the other risk groups, or who is known to be HIV-positive."

Normally, testing for diseases that cluster in risk groups is limited to the risk groups. Men and young girls aren't screened for breast cancer, for example, though some men and young girls have developed breast cancer. But, as is so often the case, special regard is afforded HIV and AIDS. In his book, Brody concludes that the "gross exaggeration of AIDS risk to healthy, non-IVDU heterosexuals is not only psychologically damaging, but also constitutes unethical behavior on the part of many public health officials, journalists, and others."

— Paul Philpott

***Sex at Risk* is available for $32.95 (232 pages, hardcover, alkaline paper) in book stores, by phone (888-999-6778), and on the internet (www.amazon.com). Brody's web page (www.usinter.net/~tcibr) contains references to his fifty-plus academic papers.**

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