Measuring concurrent partnerships

We are encouraged that UNAIDS is developing new indicators to measure concurrent sexual partnerships (Feb 20, p 621).[1] However, we believe that adding a measure of coital frequency to the agency's proposed list of questions would provide an important improvement. Each additional act of intercourse is associated with a significantly increased risk of infection and thus coital frequency is crucial to the risk of HIV acquisition.[2]

Consider a scenario in which a man with two partners has sex with one of them only a few times a year and with the other a dozen times a year. This man would be regarded as practising concurrency according to the UNAIDS definition, but even if such behaviour were universal among men *and* women in a population, it would be very unlikely to generate a significant AIDS epidemic. New modelling research suggests that sustained heterosexual HIV transmission requires that a significant number of overlaps be long enough and coitally frequent enough so that a relatively large number of people have sex with someone who also has another partner,[3] particularly while some of these individuals are in the highly risky "acute phase" of early HIV infection.[2]

Little research on coital frequency in concurrent partnerships has been done, but some studies suggest that it may be quite high in some high-HIV-prevalence heterosexual populations that practise concurrency—even when overall partner numbers are low.[4]

We recommend that, in addition to the questions listed by UNAIDS, an additional one such as the following be asked for each overlapping partner: "Let's talk about this partner. During the past year, how often do/did you have intercourse with him/her? (a) only once; (b) more than once, but less than once per month; (c) about once per month; (d) a few times per month; (e) about once per week; (f) about two or three times per week; (g) more than two or three times per week."

Furthermore, we recommend that UNAIDS and others explore better ways to collect more accurate self-reported data on intimate sexual behaviour. Under-reporting of risky sexual activity, especially by women, is a significant problem, particularly if strict confidentiality is not perceived by interviewees.[5]

We declare that we have no conflicts of interest.

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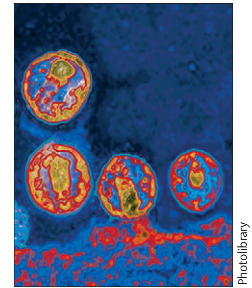
The UNAIDS Reference Group on Estimates, Modelling and Projection[1] has done a great favour to those of us interested in, and concerned about, the role of concurrent regular sexual partnerships in HIV-1 epidemics. Hitherto the field was plagued by lack of consensus on measurement or even the importance of such partnerships. Those who used complex definitions have not found the expected association with HIV infection.[2] The UNAIDS Reference Group should be commended for going for simplicity in their recommendations. I do, however, have some comments.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An important aspect of concurrency is that it facilitates transmission during the acute phase of infection (primary HIV-1 infection) since it ensures that at least one person is exposed.[3] This period is variable in duration, but peak viraemia and probability of transmission are both higher than at any other stage of HIV infection.[4] When defining concurrency, one should perhaps talk about virological concurrency. This takes into account that people becoming infected at the end of a relationship are highly infectious for perhaps 3 months into any new relationship that starts immediately after the previous one. Serial monogamy with short duration between relationships can also lead to such transmission, but onward transmission is likely to be less than in concurrency because concurrency is more often accompanied by extensive sexual networking.

The UNAIDS Reference Group has made a wise recommendation that concurrency should be assessed 6 months before the interview date in any population study. The intent of the 6-month timepoint is to avoid bias resulting from time-censored sexual partnerships. However, this also ensures that anyone acquiring HIV at a time when they are having concurrent relationships will have developed antibodies to HIV which will be detected at the time of the survey.

Finally, every survey should ask whether the respondent believes that one or more of their regular partners had other partners during their relationship.[5]

I declare that I have no conflicts of interest.

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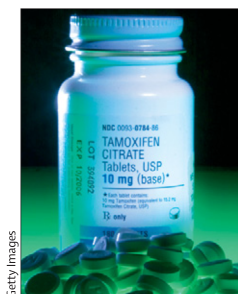

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Authors' reply

We agree with Helen Epstein and colleagues' recommendation that sexual partner histories include a question on coital frequency—a recommendation that the UNAIDS Reference Group also made, along with recommending that information about the type of partnership, age and location of the partner, and condom use with the partner be collected.[1]

However, we believe that the wording of the proposed question merits further consideration because respondents may use inconsistent methods to estimate the average number of events over a period of time.[2] We suggest a question that asks the respondent to recall events more directly, such as "How many times have you had sexual intercourse with this partner in the past 2 weeks?" Although this question may give a less complete picture of each individual's coital frequency, it may give more accurate population estimates about coital frequency within different partnership configurations.

We would also like to echo Epstein and colleagues' recommendation that surveyors do more to ensure privacy and confidentiality in sexual behaviour surveys, including choice of private survey venues, careful selection and training of fieldworkers, consideration of novel survey methods that make responses confidential, and communication of the confidentiality measures to the respondent. The privacy conditions in which the interview occurred should be recorded in the dataset.

C P Hudson's notion of "virological concurrency" is similar to the concept of "gap length" that has gained prominence in published work on sexually transmitted infections (STIs).[3] However, the importance of the gap between partnerships may be different for STIs, where infection may be cured and followed by reinfection, and HIV, where infection lasts for life. For HIV, given its high transmissibility during early infection, the relevant interval is not the gap between when a partnership ends and a subsequent partnership begins, but the period between when an individual becomes infected and a subsequent partnership begins, which is difficult to establish.

When infection occurred is also relevant to Hudson's point about ensuring HIV antibodies have developed by the time of the survey. Because we cannot date when infection occurred, it is impossible to conclude that an HIV-positive respondent reporting concurrent partnerships became infected while having concurrent partnerships. The reason for recommending that the indicator be calculated 6 months before the interview date is to be able to identify concurrent partnerships using actual reported acts of sexual intercourse, rather than speculation as to whether a partnership is ongoing.

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Anthracycline-based adjuvant chemotherapy in breast cancer

Kathy Albain and colleagues (Dec 19, p 2055)[1] present interesting data from the SWOG-8814,INT-0100 trial on the addition of adjuvant cyclophosphamide, doxorubicin, and fluorouracil (CAF) chemotherapy to tamoxifen in postmenopausal women with endocrine-responsive, node-positive breast cancer and on whether tamoxifen should start with or after chemotherapy.

The primary outcome measure was disease-free survival (DFS)—as recommended by Hudis and colleagues[2]—but the appropriateness of summary outcome measures such as DFS has been questioned by Cuzick,[3] who made the point that combining efficacy and safety outcomes can lead to a substantial loss of information and mix important signals with irrelevant noise. As an example, the 458 DFS events in 1116 patients in the combined CAF plus tamoxifen groups comprised 318 relapses, 27 new primary breast cancers, and 113 deaths from causes other than breast cancer. In the tamoxifen alone group there were 179 events in 361 patients (149 relapses, nine new primary breast cancers, 21 deaths from causes other than breast cancer). From these figures, one can calculate that breast cancer events (recurrence or new primary breast cancer)—a measure of efficacy—are substantially reduced by addition of CAF: 31% (345/1116) versus 44% (158/361); odds ratio 0·56 (95% CI 0·44–0·73, p<0·0001). By contrast,