

Researchers argue that unsafe injections spread HIV more than unsafe sex

Three recent studies challenge the assumption that the main cause of the spread of HIV in Africa is unprotected sex. They argue that it is unsafe injections, which transmit the infection on a far larger scale than has previously been thought.

Most experts assume that unsafe sex between men and women is responsible for 90% of HIV infections in sub-Saharan Africa. The medical reuse of contaminated needles and syringes is thought to account for another 5%. The authors of the controversial trio of papers recently published in the *International Journal of STD and AIDS* (2003;14;144-73) take a radically different view.

Using data culled from two decades' worth of studies, researchers led by Pennsylvania-based consultant David Gisselquist estimate that sexual transmission causes only 30% of the HIV infections in Africa. They also argue that contaminated needles and syringes used for medical treatments led to 48% of the HIV infections through 1988, when, Gisselquist says, scientists first labelled unprotected sex as the main driver of the African epidemic.

Gisselquist and his colleagues highlighted their argument with anomalies in the epidemiology of HIV south of the Sahara. For example, they note that HIV spread by 12% a year in Zimbabwe during the 1990s, while other sexually transmitted diseases declined by 25% and condom use increased. They mention the occurrence of HIV in infants whose mothers are not infected. And they point out that African countries with the best access to medical care sometimes have the highest rates of HIV infection.

"Botswana makes a tremendous effort to get health care to rural districts," says Gisselquist. "Yet, the country has the highest prevalence of HIV in the world and it is fairly evenly distributed across urban and rural districts. In most countries, there is a huge disparity between urban and rural rates of HIV."

Such examples are "associations, not cause and effect," says Catherine Hankins, Associate Director of Strategic Information at UNAIDS. She also disputes the methodology the researchers used to estimate the contribution of unsafe injections: "They don't present new data or findings — they take data from studies designed to answer other kinds of questions."

While estimates of 5% versus 48% are "not even in the same ballpark," says Hankins, there is common ground. Experts agree that non-sexual transmission of HIV infection needs to be accurately assessed. To date, no epidemiology study, in Africa or elsewhere, has attempted to determine the proportion of HIV coming from unsafe injections. "In the absence of appropriate data," says Yvan Hutin of the Blood Safety and Clinical Technology Department at WHO, "various opinions can be expressed."

To get a better handle on the problem, on 13 March WHO and UNAIDS brought together several experts, including Gisselquist, for a two-day workshop focused on unsafe injection practices and HIV infection. The participants reaffirmed that unsafe sexual practices are responsible for the vast majority of HIV infections in sub-Saharan Africa, and that the promotion of safer sex must remain the mainstay of prevention programmes (see WHO News, p. 311). They also discussed ways to determine the magnitude of the problem of unsafe injections, collect the necessary scientific data and eliminate it altogether. Hutin, who heads the Safe Injection Global Network, or SIGN, estimates that 6.4 billion sets of needles and syringes are needed each year in developing countries to ensure that all injections are safe. ■

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