

# Voluntary counseling and testing reduced unprotected intercourse among adults in 3 developing countries

The Voluntary HIV-1 Counseling and Testing Efficacy Study Group. Efficacy of voluntary HIV-1 counselling and testing in individuals and couples in Kenya, Tanzania, and Trinidad: a randomised trial. *Lancet*. 2000 Jul 8;356:103-12.

## QUESTION

In adults in developing countries, is a voluntary counseling and testing (VCT) program as effective as a health-information program in reducing risk behavior associated with sexual transmission of HIV-1?

## DESIGN

Randomized (allocation concealment unclear\*), unblinded,\* controlled trial with mean 14-month follow-up.

## SETTING

Nairobi, Kenya; Dar es Salaam, Tanzania; and Port of Spain, Trinidad.

## PARTICIPANTS

4293 participants (3120 as individuals and 1173 as couples) who were  $\geq 18$  years of age (mean age 29 y) and were not known to be infected with HIV-1. First follow-up data at a mean of 7.3 months were available for 2550 participants as individuals (82%) and for 1001 as couples (85%).

## INTERVENTION

Participants were stratified by site, sex, and couple or individual status and allocated to VCT ( $n = 1563$ , 589 as couples)

or health information ( $n = 1557$ , 584 as couples). VCT involved personalized risk assessment, development of a plan for risk reduction with a counselor, and ELISA testing of serum samples for HIV-1. The control intervention involved watching a 15-minute video and participating in a group discussion led by a health-information officer about HIV-1 transmission and condom use. Participants in both groups received 25 condoms and a brochure showing correct condom use and could return any time for more condoms. All participants engaged in a baseline interview to assess HIV-1 risk behavior.

## MAIN OUTCOME MEASURE

Rate of unprotected intercourse assessed during follow-up interviews.

## MAIN RESULTS

Between baseline and the first follow-up, rates of unprotected intercourse with non-primary partners decreased more in participants who received VCT than in those who received the health-information control intervention (for men: relative rate reduction 35% vs 13%,  $P = 0.01$ ; for women: relative rate reduction 39% vs 17%,

$P = 0.009$ ). Among couples, men in the VCT group reported a greater reduction in rates of unprotected intercourse with enrollment partners than did men in the control group (relative rate reduction 25% vs 15%,  $P = 0.008$ ), but rates of unprotected intercourse with nonenrollment partners were not reduced. Rates of unprotected intercourse with nonprimary partners decreased more in HIV-infected men than in uninfected men; among HIV-infected women, rates with primary partners decreased.

## CONCLUSION

In adults in developing countries, a voluntary counseling and testing program was more effective than a health-information program in reducing risk behavior associated with sexual transmission of HIV-1 at a mean of 7.3 months of follow-up.

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\*See Glossary.

## COMMENTARY

In the absence of a suitable vaccine for HIV control, attempts to alter and thus reduce high-risk behavior remains a primary effort for physicians and patients. The study by the Voluntary HIV-1 Counseling and Testing Efficacy Study Group selected patients from 3 developing countries to test whether counseling and free condoms reduce rates of infection more than does standard health-information dissemination. Data are dependent on patient recall of unprotected sex (noncondom) and follow-up serologic findings for case confirmation.

Although rate reductions of unprotected intercourse with VCT seem reasonable, the nature of HIV-1 infection means that this intervention could only be expected to make a small contribution to the efforts to control or eliminate the disease in a community. Even if no errors occurred in the data recall set or during sampling or date recording, the failure to affect the sexual behavior practices of  $\geq 60\%$  of persons suggests that with a reservoir of HIV infection in the community the rates of infection are unlikely to differ after 1 year. This would be especially true if free condoms were no longer available and the counseling services were stopped. The study sample size is large, but it pales when compared with total populations

at risk in developing countries, where most estimates of current prevalence range from about 1% to 13% but are higher in some countries (1). These rates will increase as illicit drug use becomes more prevalent and as economic and cultural development ensues.

Individual physicians may take comfort in risk reductions in some of their patients as a result of the counseling techniques described here, but they must be prepared for longer-term follow-up, the inevitable failures to reduce incidence, and the consequences of condom cost and use. This study is commendable for its methods and data analysis, but attrition rate and behavioral-change failure rate detract from its effectiveness. Such community-based programs may continue to be used, however, pending an effective vaccine and vaccination program.

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## Reference

1. Joint United Nations Programme on HIV/AIDS (UNAIDS). Report on the global HIV/AIDS epidemic, June 2000. ([http://www.unaids.org/epidemic\\_update/report/](http://www.unaids.org/epidemic_update/report/)).