

Promoting self-testing for HIV in developing countries: potential benefits and pitfalls

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The prevalence of the human immunodeficiency virus (HIV) in developing countries is a growing problem. By 2003, an estimated 38 million people worldwide were infected with HIV, with approximately 14 000 new infections occurring each day.¹ Some 2.3 million children worldwide are infected with HIV and they account for 18% of all deaths related to the acquired immunodeficiency syndrome (AIDS).² I should like to add to the discussion on preventive measures for reducing the prevalence and incidence of HIV by weighing the potential benefits of promoting self-testing for HIV in developing countries and the concerns that need to be raised.

Research reveals two common reasons why people do not attend HIV counselling: limited HIV testing services, and social stigma and discrimination associated with HIV infection.¹ Both these factors play a prominent role in the lack of HIV awareness among people in developing countries and may lead to errors in HIV reporting. People living in remote areas remain unscreened if local testing services are not available, because they cannot afford the time involved to go to far-off facilities and the consequent loss of pay. Other concerns such as lack of privacy, overworked clinics and physicians' reluctance to test are cofactors in low screening rates. Self-testing will help overcome these objections and is a convenient option compared with the conventional methods of testing.

People's ignorance of their HIV status creates serious problems. Research shows that approximately 25% of HIV-positive people in the United States are transmitting the virus to others, as they are unaware of their status.¹ This proportion is likely to be higher in developing countries, in view of lower literacy rates. Marks et al. report from their study in

the United States that people modify their behaviour and engage in fewer high-risk sexual encounters once they know they are HIV positive.³ Because it is easy to use, self-testing can help more and more people to know their HIV status: they might modify their behaviour and thus contribute to lowering the incidence of new cases. Home testing of HIV could transform the landscape of dating and also affect other safer sex practices by encouraging would-be partners to learn each other's HIV status before having sex. Self-testing of HIV could thus play a very important public health role by decreasing the sexual transmission of HIV: preliminary studies show that 80% of people whose positive results were detected by a rapid test in a hospital, emergency department or a clinic sought care.⁴

Some researchers have examined the merits of self-testing and the need to increase its availability. Spielberg et al. report that self-testing is a quick and cost-effective method for HIV detection and may prove beneficial in both industrialized and developing countries; they explain the benefits of one self-testing kit for HIV in detail.¹ The US Food and Drug Administration (FDA) has agreed to consider the sale of home-testing kits for HIV and a few social organizations, such as the San Francisco AIDS Foundation, also support their introduction. Similar steps should be taken in other countries, especially the developing ones, to tackle the growing menace of HIV infection.

To support the introduction of home-testing kits in developing countries demands a collective effort from organizations such as WHO, UNESCO, local government agencies and local social groups. It is important that efforts should be made to make information

about self-testing methods freely available. It is also essential to provide self-testing kits at reasonable prices so that cost is not a barrier to use in areas that are already plagued with poverty and lower standards of living. In such parts of the world, providing free or discounted samples may prove beneficial.

Home-testing kits alone are not sufficient: the purpose of increasing HIV awareness will only be achieved if pre-test and post-test counselling are provided. At HIV testing clinics, the outcome is usually delivered in person; in the event of a positive test result, an expert is on hand to provide assistance and information. The manufacturers of home tests should provide telephone counselling facilities with toll-free numbers and referral information with the testing kit, as well as a web site that contains exhaustive information concerning the kit and answers to frequently asked questions about it. They could also furnish the contact details of local social organizations that provide counselling, so a client would have the choice of either contacting the organizations by telephone or going there personally for assistance. Although telephone counselling is not as effective as personal interaction, in some cases the anonymity offered by the telephone service may make it easier for a person with a positive test result to open up and reveal distressing feelings and information.

A study by Frank et al. reports that anonymous HIV home collection kits with pre-test and post-test telephone counselling can provide a safe and effective alternative to conventional testing methods.⁵ Numerous studies document the effectiveness of telephone counselling in crisis intervention and suicide prevention. Although Wright et al. report that no increase in suicide rates was observed after home-testing kits were approved by

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the FDA in 1996, it is necessary for the telephone counsellors to be thoroughly trained to deal with all possible situations, including those related to suicidal tendencies.⁴ The counsellors should be able to provide information on treatment options and places where the client can seek help; they should also suggest face-to-face counselling and give details of its availability.

In developing countries, it is important to develop culturally appropriate strategies to increase the effectiveness of counselling. In rural areas where the availability of telephones and computers is limited, other strategies such as group counselling sessions will be necessary.

Another potential problem with home testing is the possibility of abuse: family members, employers or others could send someone's blood sample for testing without his or her knowledge. In some countries, there are laws against testing without consent and discrimination on the basis of HIV status, and those involved can be prosecuted. Other countries, however, especially in the developing world, may not have such protection. Social reform is necessary, and social groups and other organizations should urge governments to consider this issue as a high priority.

Although the results obtained from home-testing kits are very reliable, there are still chances of getting a false-positive or a false-negative result. If the client has any doubts, he or she should repeat the test and if possible go to a voluntary counselling and testing centre.

Knowledge of HIV-positive status may not be a guarantee of access to care; however, this should not discourage people from seeking to know their status. It is too early to predict the effect of home testing on the existing social stigma associated with HIV infection, and it is possible that the test's emphasis on privacy may perpetuate, not end, the stigma.⁶ It is therefore important for social groups and government organizations to assume direct responsibility in efforts to encourage people to clarify their HIV status, beginning with programmes to increase awareness about HIV so as to increase acceptance of people affected by it.

Home-testing kits can preserve secrecy, but education and advocacy will be required to improve disclosure rates as it is possible that a person may not wish to share a positive result. Providing information to clients with the home-testing kits may also help in increasing disclosure rates. Once people become aware of their HIV status, a good coun-

sellor may be able to encourage them to start early treatment: it is important to conduct more research to explore such issues. Research will also be needed to determine whether women who test positive for HIV are at an increased risk of domestic violence or social harassment, in view of the male-dominated societies in some developing countries, especially in rural areas.

It is high time for more research on the feasibility, safety and cost-effectiveness of self-testing to be carried out. At the same time, efficient strategies should be devised to counter possible pitfalls and help home testing to realize its full potential and increase its acceptance rates. With HIV prevalence increasing at an alarming rate, exploring this option may prove beneficial. Home testing may not provide the final solution, and a more comprehensive HIV prevention strategy will be required; however, it may prove an effective tool to increase social awareness of HIV when used hand-in-hand with voluntary counselling and testing. ■

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References

1. Spielberg F, Levine RO, Weaver M. Self-testing for HIV: a new option for HIV prevention? *Lancet Infect Dis* 2004;4: 640-6.
2. De Cock KM, Bunnell R, Mermin J. Unfinished business – expanding HIV testing in developing countries. *N Engl J Med* 2006;354: 440-2.
3. Marks G, Crepaz N, Senterfitt JW, Janssen RS. Meta-analysis of high-risk sexual behavior in persons aware and unaware they are infected with HIV in the United States: implications for HIV prevention programs. *J Acquir Immune Defic Syndr* 2005;39:446-53.
4. Wright AA, Katz IT. Home testing for HIV. *N Engl J Med* 2006;354:437-40.
5. Frank AP, Wandell MG, Headings MD, Conant MA, Woody GE, Michel C. Anonymous HIV testing using home collection and telemedicine counseling. A multicenter evaluation. *Arch Intern Med* 1997;157:309-14.
6. Home testing could change the outlook of HIV prevention. *AIDS Policy Law* 1996;11:9.

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