HIV

Don't overlook condoms for HIV prevention

P J Feldblum, M J Welsh, M J Steiner

The attention of the international community is being diverted from the hard work of primary prevention

The 2002 international AIDS conference highlighted tremendous clamour for antiretroviral therapy, while little attention was paid to primary prevention by behavioural intervention. The international community seems diverted from the hard work of primary prevention, but progress on treatment access must not come at the expense of prevention by behaviour change, including condom promotion. Condoms are effective for HIV prevention. Targeted condom programmes can be extremely cost effective. The provision of condoms to those most in need remains hindered by multiple hurdles, including provider bias, ready physical access, and myth/rumour. Still, hopes for better access to HIV treatment in the future cannot divert us from the prevention needs of the present. We urge donors to do more now to learn how best to promote condoms as part of a package of comprehensive primary HIV prevention through behaviour change.

> The number of condoms procured by leading donors has diminished over the past 5 years, and was no greater in 2000 than it was in 1990.

About 3.5 million new HIV infections occurred worldwide in 2001.[1] The number of HIV infected people in Africa has approximately doubled since 1996. How should we assign priorities in our response to the pandemic? At the 2002 international AIDS conference in Barcelona, the greatest clamour was for antiretroviral therapy (ART); the loudest advocacy was that lack of access to ART in resource poor settings must change.[2] Little attention was paid to primary prevention by behavioural intervention. Using the CD Rom of all conference abstracts,[3] we found that a mere 3% of the presentations focused on condoms and interventions (searching for the terms "condom" and "intervention"), whereas 15% of the presentations focused on ART (using the terms "antiretroviral therapy" or "HAART"). While the life saving benefit of ART is undeniable and treatment is an essential element of comprehensive HIV/AIDS programmes, we are concerned that the attention of the international community is being diverted from the hard work of primary prevention. Progress on treatment access must not come at the expense of prevention by means of behaviour change, including condom promotion.

CONDOMS WORK

As documented by solid epidemiological studies, condoms are effective for HIV prevention.[4] Consistent condom use by HIV serodiscordant couples results in near zero transmission rates to the seronegative partner. Condom manufacturing and packaging processes have improved to the point that the initial quality of most devices is no longer questioned.[5] Moreover, population level data from Thailand show the magnitude of health impact that can be achieved with targeted condom programming.[6 7] During 1989–93, when reported condom use increased from 14% to 94% of commercial sex acts, cases of five STIs in men fell 79%.[6] Reductions in HIV incidence and prevalence in Uganda have resulted from a suite of behavioural changes including partner reduction, delayed onset of intercourse in youth, and increased condom use, all of which have moved in salutary directions.[8] Similar changes seem to be under way in Zambia.[9] Some high risk groups in Asian countries, including Cambodian military and policemen and Indian truckers and factory workers, report fewer partners and more condom use during the past 5 years.[10] Although it takes more than distributing condoms to reduce HIV incidence, and the relative contributions of different kinds of behaviour change cannot be assigned precisely, condom promotion has been a critical component of all population level HIV success stories to date.[11]

CONDOMS ARE COST EFFECTIVE

Condom distribution programmes can operate on a fairly large scale in resource poor environments with affordable programme costs, as attested by the widely reported successes of social marketing of condoms around the world.[12 13] Population Services International (PSI), one of the world's largest and most successful condom social marketing programmes with over 330 million devices sold in 2001, reports that the cost per condom sold in sub-Saharan Africa is less than US$0.12, including procurement, promotion, distribution, and overheads (John Berman, personal communication of 1997–2001 PSI sales data, 2002). Furthermore, condom programmes targeted at high risk people can be particularly cost effective. On the basis of disability adjusted life years, a combination of condom distribution and STD treatment for sex workers has been shown by mathematical modelling to be two orders of magnitude more cost effective than ART.[14] Distribution of plastic female condoms, more costly than latex male devices, also appears to be a relatively inexpensive intervention.[15] Condom cost effectiveness holds even at the current lower cost of generic ART drugs of about US$1 per person per day.[16]

OBSTACLES TO CONDOM USE PERSIST

Unfortunately, the provision of condoms to those most in need is hindered by several continued hurdles. On the supply side, bias against condoms and negative attitudes towards STI clients can be widespread among healthcare providers themselves,[17 18] which serves to limit access during clinical contacts.[19] In a simulated client study of men presenting with urethral discharge in pharmacies in Accra, Ghana, only 6% were counselled to use condoms.[20]

Secondly, physical access to condoms remains a key impediment in many places. It is estimated that two thirds of the world's population has ready and easy access to condoms.[13] But that sort of gross geographic treatment ignores gaps in availability at important delivery points. For example, in western Kenya clients of sex workers indicated they do not have access to condoms in the places where sexual encounters are arranged.[21] In KwaZulu-Natal, South Africa, condoms were not available at half of the non-clinical outlets (pharmacies, groceries, bars, truck stops) checked.[22] A review of survey data from eight African countries found that non-availability of condoms at the time of sex is one of the main reasons for non-use.[23] Unfortunately, not nearly enough condoms reach that region, hardest hit by HIV.[24] The number of condoms procured by leading donors has diminished over the past 5 years, and was no greater in 2000 than it was in 1990.[25]

Thirdly, these supply-side hindrances are compounded on the demand side by stigma, myth, and rumour surrounding

condoms, ultimately resulting in low uptake and inconsistent use in many areas.[18] Researchers repeatedly hear that condoms are ineffective; laden with holes; laced with pathogens; liable to become stuck in women; and cause promiscuity. Overall, too few coital episodes with a risk of STI transmission are protected by condoms.[26] The best way to attack these problems is still unclear, given conflicting research results from behavioural interventions[27] that are in any event so intensive as to be irrelevant to the problems of developing countries.

CONCLUSIONS

Promoting condoms is undeniably difficult, yet hopes for better access to HIV treatment in the future cannot divert us from the prevention needs of the present. Vast numbers of adolescents and young adults enter the sexual and reproductive arena annually. Condoms are efficacious and, broadly speaking, currently available. We can and must make rapid progress on the fundamental necessity for making condoms readily available when and where people need them. Reaching men with effective condom promotion messages is key in communities where sexual decision making is male dominated. High risk groups must remain a key target in nascent, concentrated, or generalised epidemics, even as we make strides to eliminate barriers to use in the general population. To strike a better balance between prevention and treatment, we urge donors to do more now to learn how best to promote condom use as part of a package of comprehensive primary HIV prevention through behaviour change.

ACKNOWLEDGEMENTS

Partial support for this work was provided by Family Health International (FHI) with funds from the US Agency for International Development (USAID). The views expressed in this article, however, do not necessarily reflect those of USAID. FHI is an international non-profit organisation that conducts research and provides technical assistance in health, family planning, STIs, and AIDS.

Sex Transm Infect 2003;**79**:268–269

Authors' affiliations

P J Feldblum, M J Welsh, M J Steiner, Family Health International, PO Box 13950, Research Triangle Park, NC 27709, USA

Correspondence to: Paul Feldblum, Family Health International, PO Box 13950, Research Triangle Park, NC 27709, USA; pfeldblum@fhi.org

REFERENCES

1 **Joint United Nations Programme on HIV/AIDS**. *Report on the global HIV/AIDS epidemic*. Geneva: UNAIDS, 2002.
2 **Steinbrook R**. Beyond Barcelona—the global response to HIV. *N Engl J Med* 2002;**347**:553–4.
3 **Abstracts on Disk**. XIV International AIDS Conference. Produced by Marathon Multimedia, supported by Bristol-Myers Squibb, 2002.
4 **National Institute of Allergy and Infectious Diseases.** *Scientific evidence on condom effectiveness for sexually transmitted disease (STD) prevention*. Summary of a workshop sponsored by the National Institute of Allergy and Infectious Diseases in Herndon, Virginia, June 2000. Available: www.niaid.nih.gov/dmid/stds/condomreport.pdf. 5 September 2002.
5 **McNeill ET**, Gilmore CE, Finger WR, *et al*, eds. *The latex condom*. Research Triangle Park, NC: Family Health International, 1998.
6 **Hanenberg R**, Rojanapithayakorn W, Kunasol P, *et al*. The impact of Thailand's HIV control programme, as indicated by the decline of sexually transmitted diseases. *Lancet* 1994;**344**:243–5.
7 **Rojanapithayakorn W**, Hanenberg R. The 100% condom program in Thailand (editorial review). *AIDS* 1996;**10**:1–7.
8 **Hogle JA**, ed. *What happened in Uganda? Declining HIV prevalence, behavior change, and the national response*. Washington, DC: US Agency for International Development, 2002.
9 **Agha S**. Declines in casual sex in Lusaka, Zambia: 1996–1999 (research letter). *AIDS* 2002;**16**:291–3.
10 **Family Health International**. Behavioral Surveillance Surveys. Available: www.fhi.org/en/aids/wwdo/wwd12a.html, 12 February 2003.
11 **Cohen SA**. Flexible but comprehensive: Developing country HIV prevention efforts show promise. *Guttmacher Report* 2002 (October):1–2, 14.
12 **Gardner R**, Blackburn RD, Upadhyay UD. *Closing the condom gap*. Population Reports, Series H, No 9. Baltimore, MD: Johns Hopkins University School of Public Health, Population Information Program, 1999.
13 **Schellstede WP**, Feinberg MP, Dallabetta G. Condom availability: barriers to access, barriers to use. In: Mindel A, ed. *Condoms*. London: BMJ Books, 2000:160–74.
14 **Creese A**, Floyd K, Alban A, *et al*. Cost-effectiveness of HIV/AIDS interventions in Africa: a systematic review of the evidence. *Lancet* 2002;**359**:1635–42.
15 **Marseille E**, Kahn JG, Billinghurst K, *et al*. Cost-effectiveness of the female condom in preventing HIV and STDs in commercial sex workers in rural South Africa. *Soc Sci Med* 2001;**52**:135–48.
16 **Marseille E**, Hoffmann PB, Kahn JG. HIV prevention before HAART in sub-Saharan Africa. *Lancet* 2002;**359**:1851–6.
17 **Broomhall L**, Liku J, Okawa R, *et al*. A systems approach to the study of condom promotion by STI service providers in western Kenya. Presented at XIV International Conference on AIDS, Barcelona, 7–12 July, 2002: poster MoPeE3759.
18 **Welsh MJ**, Feldblum PJ, Kuyoh MA, *et al*. Condom use during a community intervention trial in Kenya. *Int J STD AIDS* 2001;**12**:469–74.
19 **Adeokun L**, Mantell JE, Weiss E, *et al*. Promoting dual protection in family planning clinics in Ibadan, Nigeria. *Int Fam Plann Perspect* 2002;**28**:87–95.
20 **Adu-Sarkodie Y**, Steiner MJ, Attafuah J, *et al*. Syndromic management of urethral discharge in Ghanaian pharmacies. *Sex Transm Infect* 2000;**76**:439–42.
21 **Voeten HACM**, Egesah OB, Ondiege MY, *et al*. Clients of female sex workers in Nyanza Province, Kenya: A core group in STD/HIV transmission. *Sex Transm Dis* 2002;**29**:444–52.
22 **Gilmour E**, Karim SSA, Fourie HJ. Availability of condoms in urban and rural areas of KwaZulu-Natal, South Africa. *Sex Transm Dis* 2000;**27**:353–7.
23 **Agha S**, Kusanthan T, Longfield K, *et al*. Reasons for non-use of condoms in eight countries in sub-Saharan Africa. Presented at XIV International Conference on AIDS, Barcelona, 7–12 July, 2002: poster WePeD6359.
24 **Shelton JD**, Johnston B. Condom gap in Africa: evidence from donor agencies and key informants. *BMJ* 2001;**323**:139.
25 **Chaya N**, Amen K-A, Fox M. *Condoms count: meeting the need in the era of HIV/AIDS*. Washington, DC: Population Action International, 2002.
26 **Steiner MJ**, Cates Jr W, Warner L. The real problem with male condoms is nonuse (editorial). *Sex Transm Dis* 1999;**26**:459–62.
27 **Stephenson JM**, Imrie J, Sutton SR. Rigorous trials of sexual behavior interventions in STD/HIV prevention: what can we learn from them? *AIDS* 2000;**14(suppl 3)**:s115–24.