

HIV/AIDS

HIV/AIDS prevention in Uganda: why has it worked?

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HIV/AIDS prevention

The World Health Organisation's 2004 report *Changing History* describes the HIV/AIDS pandemic as "the world's leading public health challenge" and anticipates catastrophic social and economic consequences in many developing countries.¹ This infection, the leading cause of death among 15 to 59 year olds worldwide¹ and the second leading cause of serious sickness and disability in the world,² infects an estimated 14 000 people each day. In noticeable contrast with escalating HIV rates in many nations, a unique programme in Uganda, one of the nations worst hit by the HIV epidemic, has resulted in a profound decline in national HIV seroprevalence from reported rates as high as 30% in the early 1990s³⁻⁴—the highest in the world at the time⁴—to an estimated 5% in 2001.⁵ Given the proportions of the global HIV/AIDS pandemic, a public health crisis that is only in its early phases,⁶ many organisations and groups have endeavoured to explicate factors contributing to the national success of Uganda's strategy.

In the late 1980s, when the sequelae of rising HIV rates were becoming increasingly evident, public health programmes tackling HIV/AIDS were started. The strategy of risk reduction through the promotion of barrier protection became the mainstay of most behavioural interventions. Uganda, however, "went against the current"⁷ and chose an adaptable strategy that was designed to target all segments of the population through an "ABC" approach to sexual behaviour change: delayed sexual debut for youth (A, abstinence), partner reduction for the sexually active (B, be faithful), and factual information regarding condom use for those who were infected or involved in risky lifestyles (C, condoms).^{5, 8} The recent recognition of the remarkable diminution in HIV/AIDS in Uganda at a time of escalating rates of HIV seroprevalence in neighbouring countries⁵ has led to intense debate and discussion about specific determinants accounting for the remarkable decline in this infectious illness.

Conclusions drawn from this discussion have been varied and even contradictory: some conclude that promotion of delayed sexual debut was a pivotal factor in HIV reduction,^{9, 10} while others claim that partner reduction was the lever that changed the course of history for Uganda⁸; some suggest that increased barrier protection is responsible for progress in the war against HIV,¹¹ while others say that success is attributable to injection safety resulting from cleaner needles¹²; and yet others deny the extent of HIV/AIDS decline claiming that reported HIV rates were inaccurate¹³ or that there is statistical misinterpretation because AIDS mortality has resulted in decreased seroprevalence.¹¹

Discussion of the Ugandan success story has recently evoked much passion, but a major loser in this imbroglio may be medical science. Any discussion of sexual behaviour inherently entails strongly held beliefs; therefore, carefully accumulated data published in the peer review literature over the past few years^{5, 8, 9, 14} may be in danger of being trumped by philosophical perspectives, economic interests, and sexual ideology. The net result of apparently conflicting and mutually exclusive claims relating to the AIDS situation in Uganda is serious: confusion regarding determinants of the declining HIV seroprevalence data has the potential to paralyse forward action in the HIV/AIDS crisis. Observers and public policy makers must resolve the current tension of conflicting information by careful analysis of evidence, critical scientific thinking, and deductive reasoning. To apply such analysis, primary principles of scientific scrutiny should be invoked.

SCIENTIFIC SCRUTINY OF CONFLICTING CLAIMS

Firstly, application of fundamental inquiry to hypotheses, results, and conclusions is in order. Basic questions should be clarified, including: (a) what factors are unique in the Ugandan programme relative to other nations?; (b) if HIV decline is attributable predominantly to condom promotion, why

are surrounding countries that have higher rates of condom sales and condom use experiencing escalating rates of HIV?; and, (c) if delayed sexual debut and partner reduction are not factors in success, why has Uganda's president, many of the health officials, and various scientific papers attributed the success to these factors?.

Secondly, an important element of scientific inquiry is reproducibility. For example, data from other nations instituting programmes incorporating sexual behaviour change through partner reduction show similar trends as Uganda of declining STD rates,^{8, 15} while condomcentric programmes have not met with desired objectives in most nations.¹⁶

Thirdly, it is vital to examine and understand the normal cycle of information generation, which generally moves from presentation of preliminary results at meetings and conferences through to detailed analysis, peer review, and potential publication. This is of particular concern as premature dissemination of preliminary information presented at a well publicised conference meeting has recently been used to refute high quality existing evidence about the ABC initiative.¹⁷

SCIENTIFIC VALIDITY OF CONFERENCE PROCEEDINGS

In the *Journal of the American Medical Association*, Schwarz *et al* report that despite the fact that papers presented at conferences and meetings are usually just beginning the process of scientific scrutiny, "abstracts at scientific meetings receive substantial attention in the high-profile media."¹⁸ Furthermore, press releases often "exaggerate the perceived importance of findings"¹⁹ and rarely highlight study limitations or conflicts of interest. A clear illustration is provided by conference reporting of the sequelae of hormone use. With the Women's Health Initiative (WHI) finding that long term hormone replacement therapy (HRT) posed more risk than benefit for menopausal women,^{20, 21} concern has mounted about potential dangers associated with oral contraceptives, agents containing significantly higher doses of oestrogen relative to HRT. At the 2004 American Society for Reproductive Medicine's annual scientific conference, a presentation was made, based on WHI generated data, that suggested oral contraceptives users are less likely to develop cardiovascular disease.²² After worldwide media attention, the director of the WHI released a definitive statement through the US Department of Health and Human Services²³ stating that the presenting group had "flaws in both the design

and interpretation."²³ This latter corrective statement, however, was not reported extensively in the media; as a result, many doctors and consumers may have been left with a false perception of evidence related to hormone use.

A recent conference presentation,¹⁷ which endeavoured to interpret HIV decline in Uganda, has also received worldwide media coverage. This presentation discussed recent data and concluded that condom use and AIDS mortality were primarily responsible for declining HIV in Uganda, apparently disregarding previous presented evidence showing that delayed sexual debut and monogamy were pivotal factors.⁹ Without prior evaluation by the scientific community, without disclosure of conflicts of interest, and without reporting on study limitations, headlines such as "Abstinence programmes do not reduce HIV prevalence in Uganda"¹¹ or "Condom use and deaths explain lower HIV prevalence"²⁴ appeared in medical journals, on physician information web sites, and in periodicals throughout the world, thus obscuring the issue of HIV decline in Uganda and potentially impairing forward movement to tackle the pandemic.

Review of the presented data, however, suggests that there are serious concerns related to the scientific interpretation of this abstract. For example, the locally devised ABC programme in Uganda was developed in 1986 and most of the decline in HIV incidence occurred from the late 1980s to about 1994; Wawer *et al's* abstract reflects data collected from 1994 to 2003, a time period that followed the major decline in HIV incidence. As well, basic epidemiological principles show that mortality is the primary means for prevalence reduction in chronic disease including HIV/AIDS; mortality rates do not explain the aetiology of declining HIV incidence between 1986 and 1994, nor do they explain the lower HIV seroprevalence relative to other nations with higher rates of condom use. Furthermore, the recent increase in sexual risk taking behaviour (including a decline in abstinence and increase in multiple partners) since 1994 as well as the increased use of condoms—as discussed in the conference presentation—coincides with the recent increase in foreign sex education programmes that emphasise condom use and minimise the original ABC approach of the Ugandan administration.²⁵ Dr Edward Green, a research scientist at Harvard recently commented, "the unique indigenous program that Uganda developed is being gradually destroyed... infection rates will start going up

again and then experts will say ABC never worked."²⁵ It is evident that scientific queries regarding this presentation abstract need to be addressed before adoption of conclusions into policy design. Furthermore, a call for clarity is in order as the scientific community must remain fully cognisant of the relative significance of various stages of the information cycle and responsibly transmit scientific information to the consuming public.

At a time of exploding and spreading rates of HIV and other STDs throughout many areas of the world,¹⁶ what is unique in the original Ugandan model that allowed incidence rates of HIV to decline so precipitously? Our analysis of the situation in Uganda leads us to believe that the success of this programme can be attributed to three broad based principles: (1) HIV/AIDS was openly addressed; (2) sexual behaviour change was specifically targeted; and (3) the programme was adaptable across population groups.

OPEN ACKNOWLEDGMENT OF PROBLEM

Beginning in 1986, the devastating impact of HIV/AIDS was acknowledged at the highest level of government in Uganda and prevention programmes were established across governmental ministries and non-governmental organisations. Ongoing, candid public media campaigns ensued and "community mobilization for a grass-roots offensive against HIV"⁵ occurred. Information and a call for fundamental behaviour change was communicated by both health workers and influential people from a range of local community groups. While high level political support was fundamental, personal communication networks in both urban and rural settings "predominated in communicating about AIDS."⁹ Furthermore, it is these personal and community networks that are credited as being critical "to bridge the motivational gap between AIDS prevention activities and behaviour change sufficient to affect HIV incidence."⁵ Open acknowledgement of the pandemic had the following results: in contrast with some other nations where myths and denial has contributed to confusion about HIV/AIDS, Ugandans were highly likely to report personal knowledge of someone who had or had died of AIDS⁹; knowledge of public figures with AIDS has led to "a remarkably accepting and non-discriminatory response to AIDS"⁵; and the concept of "prevention-to-care" resulted in a community based approach to caring for people living with HIV/AIDS.⁵

TARGETING SEXUAL BEHAVIOUR CHANGE

Recognising that most HIV infection occurred through consensual sexual acts and that national HIV/AIDS rates might be affected if population level change in risk taking behaviours was mobilised,⁹ the Ugandan government introduced an ABC approach to sexual behaviour change. This model, which provided direct advice to specific populations on HIV/AIDS avoidance through behaviour change, was promoted as a "patriotic duty".⁵ Steering clear of a focus on "values", this approach unapologetically recommended the promotion of health through delayed sexual debut for adolescents and partner reduction for the sexually active.⁸ Subsequent analysis of HIV surveillance and behavioural data confirms that these were the pivotal factors in reducing HIV incidence in Uganda and, furthermore, that a population wide reduction in casual sex "reduced the size of high-risk sexual networks and the efficiency of HIV transmission".⁵ Targeted promotion of sexual behaviour change in the form of direct education about consistent condom use for those already infected and for high risk groups resulted in an increase in condom use by both commercial sex workers and those reporting non-regular sexual partners.⁵

ADAPTABLE APPLICATION

A crucial factor in the ABC strategy's success is its broad applicability, and thus the ability to specifically and locally target sexual behaviour change. Rather than applying a unilateral approach to all populations, this strategy addresses the needs of high risk groups through the promotion of risk reduction in the form of barrier protection, while at the same time directly targeting other population groups and promoting sexual behaviour change in the form of risk avoidance. In Uganda, for example, there is strong evidence that programmes specifically promoting sexual deferral for adolescents and partner reduction for couples, changes conforming to traditional and cultural beliefs,⁷ substantially affected HIV incidence.^{5, 8, 9} The value of an HIV/AIDS prevention programme that can be adapted to the needs of specific groups and the limitations of an unilateral "condomcentric" approach to sexual behaviour change is highlighted by Dr David Wilson, a senior monitoring and education specialist for global HIV/AIDS: "As AIDS educators, we often publicly promote approaches that we would not countenance in our personal lives, such as the notion that it is acceptable for our spouses or children to have multiple partners, provided condoms are used."²⁶

CONCLUSION

While HIV/AIDS remains a complex epidemiological problem, which will require multifaceted initiatives aimed at issues ranging from the empowerment of women in developing nations to the needs of injecting drug users in North American cities, the Ugandan example suggests that broad based programmes focusing on sexual behaviour change can significantly affect population level HIV/AIDS rates. To do this, however, the pervasive problem of STDs must be openly tackled; direct recommendations for sexual behaviour change must include delayed sexual debut for adolescents, partner reduction, and risk reduction through barrier protection; and programmes must emphasise components of the original ABC strategy that are most appropriate for local settings and specific audiences.

Postgrad Med J 2005;**81**:615–617.
doi: 10.1136/pgmj.2005.034868

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Funding: none.

Conflicts of interest: none.

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