Welcome to the twenty-fifth issue of *HIV This Week*! In this issue, we cover antiretroviral treatment (good news for pregnant women; predicting adherence in Brazil), evidence-informed decision making (the Thai case study: why cost-effectiveness is only one part of the puzzle), HIV prevention (evidence for evaluation; best-evidence programming in the USA; proximate determinants and HIV prevalence in your bed), voluntary counselling and testing (low uptake in Zimbabwe), basic science (the role of dendritic cells; cytotoxic T lymphocytes: who are they killing?), HIV/Malaria/TB (malaria and people living with HIV: out-of-pocket expenses in TB/HIV co-infection in rural Malawi), HIV research (Africanist visions; research production: who is doing it?), child health (Malawi shows the way), gender (sexual violence in Lesotho; microfinance and gender-based violence in South Africa; migration in China), living with HIV (church goer support in Ghana), male circumcision (reviewing the evidence), and epidemiology (viral resistance in drug-naïve persons worldwide).

To find out how you can access a majority of scientific journals free of charge, please see the last page of this issue or check the *HIV This Week* blog on the UNAIDS website at [http://hivthisweek.unaids.org](http://hivthisweek.unaids.org).

We want to be as helpful to you as we can, so please let us know what your interests are and what you think of *HIV This Week* by sending a comment to hivthisweek@unaids.org or by posting one on the *HIV This Week* blog. If you would like to recommend an article for inclusion in *HIV This Week*, please let us know.

Don’t forget that you can find a wealth of information on the HIV epidemic and responses to it at [http://www.unaids.org](http://www.unaids.org).

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### 1. Antiretroviral treatment


A single dose of nevirapine during labour reduces perinatal transmission of HIV-1 but often leads to viral nevirapine resistance mutations in mothers and infants. Lockman and colleagues studied the response to nevirapine-based antiretroviral treatment among women and infants who had previously been randomly assigned to a single, peripartum dose of nevirapine or placebo in a trial in Botswana involving the prevention of the transmission of HIV-1 from mother to child. All women were treated with antenatal zidovudine. The primary end point for mothers and infants was virologic failure by the 6-month visit after initiation of antiretroviral treatment, estimated within groups by the Kaplan-Meier method. Of 218 women who started...
antiretroviral treatment, 112 had received a single dose of nevirapine and 106 had received placebo. By the 6-month visit after the initiation of antiretroviral treatment, 5.0% of the women who had received placebo had virologic failure, as compared with 18.4% of those who had received a single dose of nevirapine (P=0.002). Among 60 women starting antiretroviral treatment within 6 months after receiving placebo or a single dose of nevirapine, no women in the placebo group and 41.7% in the nevirapine group had virologic failure (P<0.001). In contrast, virologic failure rates did not differ significantly between the placebo group and the nevirapine group among 158 women starting antiretroviral treatment 6 months or more post partum (7.8% and 12.0%, respectively; P=0.39). Thirty infants also began antiretroviral treatment (15 in the placebo group and 15 in the nevirapine group). Virologic failure by the 6-month visit occurred in significantly more infants who had received a single dose of nevirapine than in infants who had received placebo (P<0.001). Maternal and infant findings did not change qualitatively by 12 and 24 months after the initiation of antiretroviral treatment. The authors conclude that women who received a single dose of nevirapine to prevent perinatal transmission of HIV-1 had higher rates of virologic failure with subsequent nevirapine-based antiretroviral therapy than did women without previous exposure to nevirapine. However, this applied only when nevirapine-based antiretroviral therapy was initiated within 6 months after receipt of a single, peripartum dose of nevirapine. Editors’ note: These study results are encouraging because they suggest that the risk that single dose nevirapine will compromise subsequent treatment success for women can be reduced if antiretroviral treatment is started at least 6 months after childbirth. If confirmed by similar studies, these findings could have important implications for decisions about when to treat women post-partum; however, combining drugs for prevention of mother-to-child transmission would also reduce the risk of resistance and keep treatment options open for women.


Antiretroviral therapy success is highly dependent on the ability of the patient to fully adhere to the prescribed treatment regimen. Garcia and colleagues present the results of a cross-sectional study that evaluates the predictive value of a self-administered questionnaire on adherence to antiretroviral therapy (ART). Study participants were interviewed using a 36-item Patient Medication Adherence Questionnaire (PMAQ) designed to assess knowledge about ART, motivation to adhere to treatment, and behavioural skills. Plasma HIV-1 RNA levels were correlated with the results obtained from the PMAQ. Of the 182 study participants, 82 (45%) were receiving their initial ART regimen. Of the remaining patients, 39 (21%) and 61 (34%) were on a second or additional ART regimen, respectively. An undetectable viral load was documented in 47/62 (76%) patients on their first regimen who reported missing medication on less than 4 days in the last 3 months. The Patient Medication Adherence Questionnaire had a higher predictive value of plasma viral suppression for patients in the initial regimen than for patients in salvage therapy. The overall predictive value of the Patient Medication Adherence Questionnaire to identify adherence was 74%, and 59% for nonadherence, with an overall efficacy of 64%. Of the 74 patients (45%) who did not understand the concept of ART, 80% were failing or had previously failed the ART. Of 35 patients with doubts about their HIV status or skeptical of the benefits of ART, 29 (84%) were nonadherent. Despite the positive predictive value of PMAQ in identifying adherence, self-reported adherence is not a sufficiently precise predictor of treatment success to substitute for viral load monitoring. On
the other hand, the use of such an instrument to identify factors associated with nonadherence provides an excellent opportunity to apply early intervention designed to specifically address factors that might be contributing to the lack of adherence prior to regimen failure. 

Editors' note: The relatively short administration time of this questionnaire which could assist in tailoring adherence counselling, suggests that it should be validated for use as a screening tool in other settings where patients are literate.

2. Evidence-informed decision making

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Much emphasis is put on providing evidence to assist policymakers in priority setting and investment decisions. Assessing the cost-effectiveness of interventions is one technique used by policymakers in their decisions about the allocation of scarce resources. However, even where such evidence is available, other considerations may also be taken into account, and even over-ride technical evidence. ART is the most effective intervention to reduce HIV-related morbidity and prolong mortality. However, treatment provision in the developing world has been hindered by the high costs of services and drugs, casting doubts on its cost-effectiveness. Tantivess and Walt look at Thailand’s publicly-funded antiretroviral initiative which was first introduced in 1992, and explore the extent to which cost-effectiveness evidence influenced policy. The authors review the development of the national ART programme in Thailand between 1992 and 2004. They examine the roles of cost-effectiveness information in treatment policy decisions. Qualitative approaches including document analysis and interview of key informants were employed. Two significant policy shifts have been observed in government-organised ART provision. In 1996, service-based therapy for a few was replaced by a research network to support clinical assessments of antiretroviral medication in public hospitals. This decision was taken after a domestic study illustrated the unaffordable fiscal burden and inefficient use of resources in provision of ART. The numbers of treatment recipients was maintained at 2000 per year throughout the 1990s. It was not until 2001 that a new government pledged to extend the numbers receiving the service, as part of its commitment to universal coverage. Several elements played a role in this decision: new groups of dominant actors, drug price reductions, a pro-active civil society movement, lessons from experience on treatment benefits, and global treatment advocacy. Unlike previous policy discourse, human rights, ethics and equity notions were explicitly raised to support therapy extension. In summary, in the early decision, moving from a relatively limited ART service to a research network was clearly influenced by cost-effectiveness data. But in the 2001 decision to include ART in the universal coverage package, cost-effectiveness arguments were over-ruled by other considerations. The authors conclude that Thai ART policy was shaped by many factors, and was not a simple rational process which relied on evidence. 

Editors’ note: This article clearly illustrates why UNAIDS’ preferred terminology is ‘evidence-informed’ decision making rather than ‘evidence-based’ decision making. Further, the decision this week by the Thai government to approve a generic version of Abbott Laboratories’ protease inhibitor Kaletra (lopinavir/ritonavir), a second line drug, demonstrates that when equity of access for people who fail first line regimens has been prioritised by a government, cost and other considerations can drive decisions about intellectual property.
3. HIV prevention


Preventing HIV infection is an essential goal in tackling the HIV pandemic. Remarkably little is known about how best to reduce HIV incidence because the majority of trials focus on the reduction of risk behaviours and assume an effect on HIV incidence. Hallett and colleagues discuss the evidence for the effectiveness of HIV prevention strategies, exploring the different types of evidence available, including individual and community randomised controlled trials and observational studies. Whilst providing a gold standard for evidence, trials have been limited in their scope and are difficult to interpret and generalise. There have been examples of national level successes in preventing HIV which have been detected in surveillance data and understood through behavioural and modelling studies. These have the advantage of being to scale and indicating effectiveness rather than efficacy. The authors conclude that whilst randomised trials are important because of their scientific rigor, it is also important that evidence from observational epidemiology is not overlooked. Only if good quality and consistent data are available can the history of the HIV epidemic be appropriately analysed. Editors' note: There is a long history of debating the value of observational versus randomised controlled trial evidence. Both are valuable, including negative trial results which are often not published. More attention needs to be paid to qualitative methodologies which not only can produce information that helps explain quantitative findings but also can guide policy making and decisions about programming.


The Centers for Disease Control and Prevention’s HIV/AIDS Prevention Research Synthesis Team conducted a systematic review of US-based HIV behavioural intervention research literature from 2000 through 2004 to identify interventions demonstrating best evidence of efficacy for reducing HIV risk. The authors used standard systematic review methods. Each eligible study was reviewed on the basis of Prevention Research Synthesis Team efficacy criteria that focused on 3 domains: study design, implementation and analysis, and strength of evidence. Eighteen interventions met the criteria for best evidence. Four targeted HIV-positive individuals. Of those targeting populations at risk for HIV, 4 targeted drug users, 6 targeted adults at risk because of heterosexual behaviours only, 2 targeted men who have sex with men, and 2 targeted youths at high risk. Eight interventions focused on women, and 13 had study samples with more than 50% minority participants. Significant intervention effects included increased condom use and reductions in unprotected sexual intercourse, number of sexual partners, injection drug use or needle sharing, and newly acquired sexually transmitted infections. The authors conclude that most of the best-evidence interventions are directly applicable for populations in greatest need of effective prevention programmes; however, important gaps still exist. Editors' note: Scaling up now what is known to be effective and addressing structural determinants, while conducting research to fill remaining knowledge gaps, constitute critical elements in the path to HIV prevention success.

Risk factors for HIV infection can act at one of several causal levels, making interpretation of results problematic. One suggested solution has been a proximate determinants framework, analogous to that used in the study of fertility and child survival. In this framework, risk factors are grouped into "underlying", "proximate" and "biological" determinants. Lewis and colleagues carried out a baseline, cross-sectional survey of HIV serostatus and potential risk factors among 9480 adults in Zimbabwe. Associations were assessed separately for men and women using logistic regression models; data were only included for those who reported sexual debut. The predictive ability of proximate determinants describing both individual and partnership characteristics was assessed along with the predictive ability of the underlying determinants. The significance of the underlying determinants once adjusted for proximate determinants was then evaluated. Finally the relationship between the underlying determinants and some of the key proximate determinants was explored. The two most important proximate determinants for both men and women were lifetime number of sexual partners and symptoms of sexually transmitted infections (p<0.001). After adjustment for all proximate determinants, some underlying determinants were still significant, particularly age group, marital status and community (p<0.001). The authors conclude that whilst the proximate determinants could explain the action of many of the underlying determinants, several of the underlying determinants remained significant after adjustment for the proximate determinants. This suggests that the proximate determinants were not measured completely. One of the most important determinants of an individual’s risk of HIV infection is the HIV status of their sexual partners. This was not measured in this survey and may be related to the individual’s age (as a predictor for the age of the partner), marital status and community prevalence. Hence, partner’s HIV status will be measured in a subsequent survey of this cohort. 

Editors’ note: It has often been said that, although they are highly interrelated, the prevalence of HIV in your bed is more important than that of the community in which you live in determining your risk of HIV exposure. Unknown sero-discordance in stable, exclusive partnerships is responsible for a significant amount of HIV transmission in many settings around the world. Effectively assisting couples to learn their HIV status together in a supportive fashion and to implement and maintain safer sex practices to reduce their risk is key to addressing this aspect of the epidemic.

4. Voluntary HIV counselling and testing


Martin-Herz and colleagues evaluated perceived risks and benefits and determined predictors of acceptance of voluntary HIV counselling and testing among pregnant women in Zimbabwe. One hundred and seventy pregnant women attending an urban antenatal clinic were surveyed. Implications of a negative or positive HIV test result and of telling a partner or community members that one is HIV positive were queried. Forty women (23.5%) consented to voluntary HIV counselling and testing, and 16 (40%) were HIV positive. Women who saw voluntary HIV counselling and testing as lower risk (OR 2.3, 95% CI 1.1-5.0) and women who had had a stillbirth or child die (OR 0.4, 95% CI 0.16-0.97) were more likely to consent.
voluntary HIV counselling and testing offers the best opportunity for prevention of mother-to-child transmission of HIV; however, less than 25% of women consented. If such interventions are to be successful, attention must be directed towards developing culturally appropriate strategies to address women’s concerns and improve future acceptance of voluntary HIV counselling and testing in Zimbabwe. Editors' note: In some senses, these results are not surprising. In unstable, impoverished and deteriorating environments, women may avoid the additional risk to themselves that they perceive knowledge of serostatus and disclosure may incur. Findings such as these call out for key informant interviews and focus groups to explain such a low uptake of HIV testing.

5. Basic Science


Worldwide the heterosexual route is the prevalent mode of transmission of HIV, increasing the demand for measures that block the sexual (penile-vaginal) spread of HIV infection. Vaccines designed to prevent mucosal transmission of HIV should be considered a component of vaccine strategies against HIV (in addition to cytotoxic T cells required for clearance and to prevent viral dissemination) and include antibodies, which are capable of blocking HIV entry at mucosal epithelial barriers, and prevent initial infection of target cells in the mucosa. However, in the interim and in the absence of an effective vaccine, the development of microbicides, topical preparations that block the early steps of HIV infection and transmission, may represent a more viable alternative to condom use in many HIV infected regions of the world, especially by empowering women. To date there has been some success with antiviral antibodies applied as a microbicide capable of preventing SIV infection in macaques and there have been reports of vaccines capable of preventing intravaginal and intrarectal inoculated SIV. However, for such success in humans a much greater understanding of the mechanisms involved in the very early stages of mucosal transmission in HIV infection is required. These may lead to additional strategies to inactivate or inhibit viral uptake and replication before a potentially life threatening acute infection develops. Such measures will lead to the development of effective microbicides and vaccines that will diminish the global spread of HIV. Editors' note: The role of dendritic cells in transferring HIV to CD4 and other target cells for HIV needs further study, whether for vaccines or microbicide development.


Cytotoxic T lymphocytes (CTL) are crucial for the host defence against viral infection. In many cases, this anti-viral immune response contributes to host pathogenesis, through inflammation and tissue destruction. Few studies have explored the relative susceptibility of infected cells to CTL killing, and the range of cell types that may be effectively killed by CTLs in vivo, both of which are key to understanding both immune control of infection and immune-related pathogenesis. Liu and Roederer developed and optimized a highly sensitive method to quantify the relative susceptibility of leukocyte subsets to CTL-mediated killing. Maximal sensitivity was achieved by uniquely measuring cell death occurring during the assay culture. The authors found that leukocyte subsets have a wide range of susceptibility to antigen-specific CTL-mediated lysis. Generally, T cells were more susceptible than B or natural killer (NK) cells, with
CD4-T cells being more susceptible than CD8-T cells. In all lymphocyte lineages, susceptibility was greater for more differentiated subsets compared with their naive counterparts; however, for dendritic cells, immature cells are more susceptible than mature cells. Liu and Roederer focused on the susceptibility of T cell subsets, and found that naive cells are far more resistant than memory cells, and in particular, CCR5+ or HLA-DR+ memory cells are highly susceptible to CTL-mediated killing. The authors conclude that the results provide an explanation for the observation that certain subsets of CD4-T cells are ablated during chronic HIV infection, and indicate which subsets are most likely to contain the persistent viral reservoir.

6. HIV/Malaria/TB


Slutsker and Marston summarise accumulating evidence of interactions between HIV and malaria and implications related to prevention and treatment of coinfection. HIV-infected persons are at increased risk for clinical malaria; the risk is greatest when immune suppression is advanced. Adults with advanced HIV may be at risk for failure of malaria treatment, especially with sulfa-based therapies. Malaria is associated with increases in HIV viral load that, while modest, may increase HIV progression or the risk of HIV transmission. Cotrimoxazole prophylaxis greatly reduces the risk of malaria in people with HIV; the risk can be further reduced with antiretroviral treatment and the use of insecticide treated mosquito nets. Increased numbers of doses of intermittent preventive (malaria) treatment during pregnancy can reduce the risk of placental malaria in women with HIV. The author concludes that interactions between malaria and HIV have important public health implications. People with HIV should use cotrimoxazole and insecticide treated mosquito nets. Malaria prevention is particularly important for pregnant women with HIV, although more information is needed about the best combination of strategies for prevention. In people with HIV, malaria diagnoses should be confirmed, highly effective drugs should be used for treatment, and possible drug interactions should be considered. Editors' note: Less attention has been focused on HIV and malaria than on HIV and tuberculosis but, as this article underscores, interactions can contribute to morbidity and mortality. Preventing malaria and effectively treating it in people living with HIV is important on both the individual and community levels.


Zachariah and colleagues analysed data on newly registered HIV-positive tuberculosis (TB) patients systematically offered ART in a district hospital in rural Malawi in order to a) determine the acceptance of ART b) conduct a geographic mapping of those placed on ART and c) examine the association between "cost of transport" and ART acceptance. The authors performed a retrospective cross-sectional analysis on routine programme data for the period of February 2003 to July 2004. Standardized registers and patient cards were used to gather data. The place of residence was used to determine road distances to the Thyolo district hospital. Cost of transport from different parts of the district was based on the known cost for public transport to the road-stop closest to the patient’s residence. Of 1290 newly registered TB patients, 1003 (78%) underwent HIV-testing of whom 770 (77%) were HIV-
positive. 742 of these individuals (pulmonary TB = 607; extra-pulmonary TB = 135) were considered eligible for ART of whom only 101(13.6%) accepted ART. Cost of transport to the hospital ART site was significantly associated with ART acceptance and there was a linear trend in association between cost and ART acceptance \( \left( X^2 \text{ for trend} = 25.4, P<0.001 \right) \). Individuals who had to pay 50 Malawi Kwacha (1 United States Dollar = 100 Malawi Kwacha, MW) or less for a one-way trip to the Thyolo hospital were four times more likely to accept ART than those who had to pay over 100 MW (OR 4.0, 95% CI 2.0-8.1, P<0.001). The authors conclude that ART acceptance among TB patients in a rural district in Malawi is low and associated with cost of transport to the centralized hospital based ART site. Decentralizing the ART offer from the hospital to health centres that are closer to home communities would be an essential step towards reducing the overall cost and burden of travel. Editors' note: Even with antiretroviral treatment and laboratory testing free, out of pocket expenses can have a major impact in hindering uptake of life-prolonging therapies.

7. HIV research

Airhihenbuwa CO. On being comfortable with being uncomfortable: centering an Africanist vision in our gateway to global health. Health Educ Behav 2006 Dec 15 [Epub ahead of print].

African identity must be central to research on African health and development. Airhihenbuwa reflects on three primary themes for advancing a different vision for understanding health issues in Africa. The first is the need to deconstruct conventional assumptions and theories that have been used to frame public health problems and solutions in Africa. The second is to insist that identity be central to how we frame issues of health and behaviour in general and in Africa in particular. The third is the importance of the notion of "social cultural infrastructure" in defining African ways of knowing to guide public health research and intervention in Africa. Finally, the author uses the metaphor of the "African gate" to illuminate these themes while drawing on examples from an HIV- and AIDS-related stigma research in South Africa and its implications for addressing the critical global public health issues of today. Editors' note: These are thought-provoking ideas for all of us supporting the response to AIDS in sub-Saharan Africa.


The scientific community invests significant resources on HIV research to confront the current epidemic. Falagas and colleagues reviewed the medical literature in order to evaluate the contribution of different world regions on HIV research during the past 18 years. The authors retrieved articles, using an elaborate methodology, from three journals focusing on HIV between 1986 and 2003, indexed in the Journal Citation Reports and the Web of Science databases of the Institute for Scientific Information (ISI). Comparisons were made by dividing the world into nine geographic regions, and by using the human development index categorization. A total of 9502 articles on HIV were retrieved from three AIDS journals over an 18-year study period. The United States and Western Europe together made up a striking 83% of the world’s research production on HIV. Scientists from the developing world participated in 10.4% of the articles published during 1986-1991, 14.7% during 1992-1997, and 21.3% during 1998-2003. Researchers from countries included in the high, medium, and low human development index category produced 2240, 9, and 15 articles per billion population,
respectively. About half of articles originating in Latin America and the Caribbean and half in Asia were produced in collaboration with the United States. However, 40% of articles from Africa and 58% from Eastern Europe were produced in cooperation with Western Europe. Collaboration between researchers within developing regions was negligible. The vast majority of the world’s research on AIDS is produced in the developed world. Although research production was minimal in the developing world, regions included in the low and medium human development index categories showed a higher proportion of increase in research productivity than the developed countries. The authors conclude that international collaborations should significantly increase and expand beyond the traditional, cultural and political lines of international relationships. Editors’ note: This analysis highlights the need for capacity building in regional networks of researchers and creation of new ones to facilitate within region researcher collaboration. The UNAIDS Technical Support Facilities and the CRIS Research Module will help pave the way for stronger south–south collaboration.

8. Child health


Malawi is scaling up ART for HIV-infected patients. Using a fixed-dose combination of stavudine+lamivudine+nevirapine (Triomune) as the first-line regimen, split tablets are given to children with doses according to body weight. By March 2006, a total of 46,702 patients had been started on ART, of whom 2718 (5.8%) were children aged less than 15 years. In a subset of 935 children, comprising 486 boys and 449 girls, 1.5% were aged less than 1 year, 26% were aged 1-4 years, 39% were aged 5-9 years and 33% were aged 10-14 years. Between July and September 2005, 7905 patients started ART, comprising 7469 adults and 436 children. Six-month cohort outcomes censored on 31 March 2006 showed significantly more children alive and significantly fewer children dead or defaulted compared with adults. Between January and March 2005, 4580 patients started ART, comprising 4347 adults and 233 children. Twelve-month cohort outcomes censored on 31 March 2006 showed significantly more children alive compared with adults. The authors conclude that the results of this national study should encourage other programmes to invest in ART for children and particularly to monitor their treatment outcomes. Editors’ note: All antiretroviral treatment programmes should be monitoring outcomes and using data to improve clinical care. The results reported here are the kind of results that can also fuel advocacy for paediatric treatment access.

9. Gender and HIV


Brown and colleagues describe the magnitude and characteristics of sexual violence in two urban areas of Lesotho based on a random household survey of 939 sexually active women aged 18-35. The authors define sexual violence as nonconsensual sex ranging from the use of threats and intimidation to unwanted touching and forced sex. Twenty-five percent of women surveyed reported ever being physically forced to have sex; 13% reported that forced sex was attempted; 31% said that they were touched against their will; and 11% reported being forced to touch a man’s genitals. Boyfriends were the most common perpetrators of actual and attempted forced sex (66% and 44%, respectively); known community members were the most
common perpetrators of touching the respondent against her will (52%). Currently married women and those with more education were less likely than others to report that sex was forced upon them by an intimate partner or by another type of perpetrator. Women living in areas where a programme raising awareness about sexual violence was ongoing were more likely to report a history of sexual violence. Given the high prevalence of HIV in Lesotho, programmes should address women’s right to control their sexuality. Editors’ note: pilot programmes addressing gender-based violence have included microfinance initiatives (see next article) and male responsibility/empowerment programmes such as Sonke Gender Justice’s One Man Can.


HIV infection and intimate-partner violence share a common risk environment in much of southern Africa. Pronyk and colleagues conducted the Intervention with Microfinance for AIDS and Gender Equity (IMAGE) study to assess a structural intervention that combined a microfinance programme with a gender and HIV training curriculum. Villages in the rural Limpopo province of South Africa were pair-matched and randomly allocated to receive the intervention at study onset (intervention group, n=4) or 3 years later (comparison group, n=4). Loans were provided to poor women who enrolled in the intervention group. A participatory learning and action curriculum was integrated into loan meetings, which took place every 2 weeks. Both arms of the trial were divided into three groups: direct programme participants or matched controls (cohort one), randomly selected 14-35-year-old household co-residents (cohort two), and randomly selected community members (cohort three). Primary outcomes were experience of intimate-partner violence—either physical or sexual—in the past 12 months by a spouse or other sexual intimate (cohort one), unprotected sexual intercourse at last occurrence with a non-spousal partner in the past 12 months (cohorts two and three), and HIV incidence (cohort three). Analyses were done on a per-protocol basis. In cohort one, experience of intimate-partner violence was reduced by 55% (RR 0.45, 95%CI 0.23-0.91). The intervention did not affect the rate of unprotected sexual intercourse with a non-spousal partner in cohort two (RR 1.02, 95%CI 0.85-1.23), and there was no effect on the rate of unprotected sexual intercourse at last occurrence with a non-spousal partner (RR 0.89, 95%CI 0.66-1.19) or HIV incidence (RR 1.06, 95%CI 0.66-1.69) in cohort three. The authors conclude that a combined microfinance and training intervention can lead to reductions in levels of intimate-partner violence in programme participants. Social and economic development interventions have the potential to alter risk environments for HIV and intimate-partner violence in southern Africa.


Gender differences in sexual behaviour as a consequence of migration have been ignored in both the migration and the HIV literature in China. Yang and colleagues examined differences among temporary migrants in terms of sexual behaviour and factors that make female migrants more vulnerable to the risk of acquiring HIV infection. Results suggest that the interplay of migration and gender renders female temporary migrants particularly vulnerable to engaging in casual and commercial sex. Although male temporary migrants do not differ from male nonmigrants in prevalence of casual and commercial sex, the prevalence rates of
casual and commercial sex for female temporary migrants are found to be 14 and 80 times those for female nonmigrants, respectively. Female temporary migrants' higher unemployment rate and concentration in the service and entertainment sectors are keys to understanding differences in the prevalence of casual and commercial sex among temporary migrants according to sex. The authors conclude that policy measures to promote female temporary migrants' equal access to employment are urgently needed to improve their economic well-being and to reduce their risky sexual behaviour. Editors' note: This fascinating analysis from China, a country experiencing high levels of internal economic migration, reveals how gender mediates HIV risk among migrants and points to actions needed to reduce migrant women's vulnerability.

10. Living with HIV

Bazant ES, Boulay M. Factors associated with religious congregation members' support to people living with HIV/AIDS in Kumasi, Ghana. AIDS Behav 2007 Jan 6[Epub ahead of print].

Physical, social and economic constraints often limit the ability of people living with HIV to meet their basic needs. Community members are a valuable source of support for people living with HIV, although little is known about the types of support they provide or how to mobilise this support. Bazant and Boulay examined this issue by conducting a survey of 1200 members of 6 religious congregations in Kumasi, Ghana. A fifth of congregation members reported providing some support to people with HIV in the last 6 months, mostly through prayer, financial support, and counselling. Factors associated with providing support include having heard a congregation or tribal chief speaking about HIV, collective efficacy related to HIV, and perceived risk of becoming infected with HIV. The authors conclude that to enhance support to people with HIV, programmes should involve community leaders and encourage dialogue on ways to address the epidemic.

11. Male circumcision


In 2006, some 4.3 million people were infected with HIV. There is an urgent need to intensify and expand HIV prevention methods. Male circumcision is one of several potential approaches. Hellen Weiss summarizes recent evidence for the potential of male circumcision to prevent HIV and other sexually transmitted infections. The first randomized controlled trial of adult male circumcision found a highly significant 60% reduction in HIV incidence among men in the intervention (male circumcision) arm. Modelling this effect predicts that widespread implementation of male circumcision could avert two million HIV infections over the next decade in sub-Saharan Africa. The biological rationale is that the foreskin increases risk of HIV infection due to the high density of HIV target cells and lack of keratinization of the inner mucosal surface. There is strong evidence that male circumcision reduces risk of HIV, syphilis and chancroid. The author concludes that if results are confirmed by two ongoing trials in sub-Saharan Africa, provision of safe male circumcision could be added to HIV prevention packages in high-incidence settings. This would also provide an opportunity for HIV-prevention education and counselling to young men at high risk of infection.
Editors' note: The two trials referred to by the author have been stopped early as they confirmed the results of the first trial. WHO and the UNAIDS Secretariat are hosting a global consultation on the policy and programming implications of the three circumcision trial findings for countries in March 2007 which will take a closer look at all available data from the trials and their relevance for countries, particularly those with areas of high HIV prevalence.

12. Epidemiology


Anna Maria Geretti provides an update on the epidemiology of transmitted antiretroviral drug resistance among HIV-1-infected adults. Reported prevalence surveys show inter-region and intra-region variability, in part as a result of methodological differences. Temporal trends are difficult to define as rates appear stable or declining in some cohorts but increasing in others. While the highest prevalence continues to be observed in North America, Western Europe and areas of South America, transmitted antiretroviral drug resistance is emerging in countries where access to therapy is being scaled up, including regions of sub-Saharan Africa. Resistance patterns in drug-experienced and drug-naïve persons, transmission efficiency of resistant variants and their ability to persist as dominant species in the absence of drug pressure determine the prevalence of resistance mutations in persons with transmitted antiretroviral drug resistance. The most frequently detected mutations are in reverse transcriptase, especially thymidine analogue mutations, whereas protease mutations other than natural polymorphisms are generally less prevalent. The author concludes that a consensus is required internationally on how transmitted antiretroviral drug resistance should be investigated and reported. Although routine testing methods provide only minimal estimates of the prevalence of transmitted antiretroviral drug resistance, successful treatment outcomes are observed in patients with resistance receiving first-line therapy guided by baseline resistance testing.

That was HIV This Week, signing off.

Editors' notes on journal access

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