OPINION

HIV in pregnancy – an obstetric blind spot

Imagine, if you will, a crisis situation for obstetric services and what the response might be. A disease is affecting one in three pregnant women: some of them are symptomatic in pregnancy, others apparently well. All of them will die without treatment: some in the months after delivery, most within 5 years. An increasing number are dying while pregnant. The disease can also affect their children: a third or more will contract it. This means that 1 in every 10 babies born in the labour wards of the country will carry a fatal condition, rendering almost every other obstetric intervention to achieve a healthy baby irrelevant. None of this is inevitable – the illness has an infectious aetiology, and we have some knowledge on how to prevent women contracting it, how to interrupt transmission to children and how to treat those infected.

What would we expect to be happening – surely obstetricians, a professional group that prides itself on leading the field in acquiring and implementing evidence-based knowledge, would respond appropriately? Antenatal care is widely accepted to be a good place to educate on health issues, when women are receptive to health messages. A major prevention campaign in pregnancy, with advice from midwives and doctors, could help to stop this epidemic – after all, we do it to discourage smoking. Evidence on the appropriate management of the disease in pregnancy would be rapidly implemented – obstetricians routinely treat medical illness, often in collaboration with other specialists, so this should not pose a problem. Our services centre on preventing mortality and morbidity in infants – obstetricians would stop focusing on whether a child looks well for the first few days and include in their measures of obstetric success an evaluation measure of whether or not children have this fatal illness.

Unfortunately the crisis is real, not imagined, but the response is not. It is HIV infection and it represents a signal failure of maternity services to react appropriately and at scale to a major threat to women and children.

An opportunity for prevention?

One of the first reports of HIV infection in pregnancy came from a study by a group of obstetricians and paediatricians at Baragwanath Hospital in 1988. Reporting on the results of HIV testing in 7 492 pregnant women, they found 24 positive cases, or a prevalence of 0.32% (1 in 313).[1] With hindsight, their comment that 'these seropositivity rates are disturbingly high' appears nothing less than tragic. Later that year, an article from the South African Blood Transfusion Service confirmed the prevalence levels and also started to show the beginning of rapid increase. In a cohort of 84 527 women tested, the prevalence of confirmed HIV infection was 0.036% (1 in 2 753) in May 1987, rising to 0.217% (1 in 461) by October 1988.[2]

From 1990, the national anonymous antenatal HIV seroprevalence surveys provide a graphic illustration of the abject failure of prevention efforts in women of childbearing age.[3] The rate in the first survey in 1990 was 0.7%. Five years later, in 1995, it was 10.4%, more than doubling in the next 5 years to 22.4% in 2000, and continuing to rise to 30.2% in 2005. The slope of the graph of prevalence figures has become all too familiar to us. Extrapolating these results to the annual number of pregnancies of around 1.1 million suggests upwards of 332 000 pregnant HIV-positive women each year, or approaching 1 000 each day across the country. The most recent data, from 2005, show a national average of 30.2%, but this average hides wide provincial differences – ranging from 15.7% (95% CI: 11.3 - 20.1) in the Western Cape to 39.1% (95% CI: 36.8 - 41.4) in KwaZulu-Natal. Large differences may exist even within provinces – an analysis at district level in the Western Cape in 2004 showed a range of HIV prevalence in pregnant women from 1% to 33%.[4]

The Department of Health has taken an optimistic approach to these figures, describing the small increase from 29.5% in 2004 to 30.2% in 2005 as evidence of the start of a decline in prevalence rates. Encouraging as this sounds, the optimism may be premature: similar small increases seen in previous surveys (for example, 24.5% to 24.8% in 2000/2001) have been followed by jumps in prevalence of several percentage points the following year. The prevalence also describes the number of pregnant women with HIV at that time, and so does not take into account that a reduction in the numbers may be because women of childbearing age may be dying, rather than a decrease in the number of new infections. Indeed the Statistics South Africa mortality figures suggest that this may be the case, showing a more than threefold increase in the number of deaths per year in women aged 20 - 30 years between 1997 and 2004 (12 754 to 41 737).[5]

Many factors influence women's infection with HIV, and few of these can be modified by obstetric services. But the widespread implementation of HIV testing

in pregnancy represents the best example to date of the 'normalisation' of HIV testing, and knowledge of a negative test result provides an opportunity for risk reduction counselling at a time when women are open to health education. There are suggestions that pregnancy itself may be a predisposing factor for HIV infection.[6] Telling pregnant women about this risk and educating them on how to reduce it may be literally lifesaving. In general, even where HIV counselling and testing has been available, the scope and quality of post-test counselling for identified HIV-negative mothers has been limited. The services have focused on finding and intervening with positive women, and have perhaps not used the opportunities to reduce the risk of new infections as well as they could.

Preventing transmission to children

The prevention of mother-to-child transmission of HIV (PMTCT) represents one of the major successes of research in the field of HIV/AIDS. In the decade from 1994 to 2004, the use of antiretroviral therapy (ART) in pregnancy and avoidance of breastfeeding have almost eliminated HIV infection in the USA and Europe.[7] UNAIDS estimates that 1 900 new infections occur in children each day. Of these, one may be in the US and one in Europe; the remainder are in low-resource countries, mainly in Africa.[8] Knowledge of how to reduce transmission has not yet been widely translated into provision of services: less than 10% of women globally have access to PMTCT services, and less than 10% of HIV-positive women receive antiretroviral prophylaxis.[8] South Africa is in slightly better shape, although there is a wide variation in both the quality and uptake of services. While accurate data are not available, most estimates are that 80% of pregnant women have access to HIV testing, although only half accept testing, and this drop-out means that only about a third of HIV-positive women receive appropriate prophylactic regimens. In most of the country, the state programmes still provide a nevirapine-only regimen, although the 2006 World Health Organization guidelines recommend a regimen of zidovudine from 28 weeks with peripartum nevirapine.[9] While nevirapine alone is effective in reducing transmission, an enhanced regimen with zidovudine could halve the number of infections currently seen with nevirapine alone.

In a country where a Constitutional Court case was required to implement a PMTCT programme, it is not surprising that ambivalence about PMTCT lingers, both among pregnant women and among staff. Where, then, are the voices and actions of obstetricians and midwives in demanding more appropriate regimens and in ensuring access to PMTCT services? Why does it not concern these professionals that only half of pregnant women are accessing PMTCT services? Far from being part of the solution, their attitudes may be part of the problem. In a recent speech (to the National Civil Society HIV and AIDS Prevention and Treatment Congress, 27 - 28 October 2006), the South African Deputy Minister of Health, Nozizwe Madlala-Routledge, said 'It is a human rights issue that babies continue to be infected by their HIV-positive mothers because the clinic sister has not bothered to tell the pregnant mother about how she could reduce the risk of her baby being infected.' There is much more to be done to maximise the impact of PMTCT programmes, and most of it requires leadership from obstetricians and gynaecologists.

Mothers, dead or alive?

The Report on the Confidential Enquiry into Maternal Deaths (CEMD) in South Africa – 2002 - 2004[10] reports on 3 406 maternal deaths in the triennium. As in previous reports, HIV status was not known in all cases and the reported HIV prevalence is likely to be an underestimate. Of the 3 406 women, 53.7% were of unknown HIV status, 10.3% were HIV negative and 36.7% were known to be HIV positive. The report, completely inaccurately, claims that the percentage rate of HIV infection in women who died (36.7%) was similar to that in the national antenatal HIV survey (30.2%), by ignoring the fact that in more than half of the maternal deaths HIV status was unknown. More correctly, the HIV infection rate in maternal deaths of known HIV status was 1 226/1 577 or 78.7%, more than double that in the general antenatal surveys.

This is reflected in the cause of death: non-pregnancy related infections were the most common cause of death, responsible for 37.8% of deaths. AIDS was the single biggest cause of death at 20.1% of all deaths, higher than any direct obstetric cause. The committee and assessors involved in the CEMD are dedicated and respected experts in their field. What, then, were they thinking, or to what pressure were they subjected, when they decided that 9 out of 10 HIV-related deaths were unavoidable? Would they have considered deaths from diabetes to be unavoidable if the Department of Health chose not to supply insulin? The committee notes the lack of ART guidelines in the state sector for most of the triennium. This is used as a derisory excuse for the opinion of the assessors that these deaths were unavoidable, ignoring the potential provision of known and effective ART regimens. This is compounded in the recommendations for action in the report. Having told us that AIDS was the leading cause of death, the authors (or editors) of the report appear to make every effort to ignore it in the recommendations for actions to prevent further deaths in pregnant women. Their first recommendation suggests the need for treatment protocols for key conditions, relegating HIV and AIDS to the fifth bullet in the list, linked to other sexually transmitted infections, as if these were equally culpable for maternal deaths. The second recommendation is that women should have access to screening and appropriate management for communicable and non-

communicable diseases, but does not even mention HIV in the list of conditions, although the suggested action leads with a target that all maternity services should provide comprehensive care of HIV and AIDS according to the national plan. The other eight recommendations refer to other issues. There is no clear recommendation on antiretroviral treatment (in fact the word does not appear anywhere in the report), no recommendation on referral guidelines for women with AIDS, despite noting an excess of deaths at primary and secondary service levels, and no sense of any urgency related to the leading cause of maternal deaths.

Perhaps they just got tired of asking for action on AIDS, since the recommendations in the previous two reports were largely ignored, including one in 2003 that 'Guidelines for managing HIV positive women and women with AIDS during pregnancy and the puerperium are urgently required'.[10] A lack of guidelines does not condone a health service failure. Obstetricians take responsibility for the care of many medical conditions, from cardiac to epileptic: in what way is immune deficiency different?

It will be a failure of the professional responsibility of obstetricians if this situation is repeated in the next report. The mere existence of the 'Comprehensive Care, Management and Treatment of HIV and AIDS (CCMT)' plan will not ensure that pregnant women access treatment, as the authors suggest. While this is happening now in some major tertiary centres, only a small proportion of pregnant women in need are starting antiretrovirals. An estimated 20% of over 300 000 HIV-positive pregnant women in South Africa annually qualify for and need ART. Providing access to ART for these 60 000 women each year requires HIV testing, clinical assessments, CD4 counts and the development of linkages to ART programmes for ongoing care. A pregnant woman dying from a treatable infectious disease constitutes an obstetric emergency just as much as a pregnant diabetic or hypertensive. The maternal mortality figures speak for themselves, but only represent the tip of the iceberg in terms of the potential morbidity associated with severe HIV disease.

Despite this, most obstetric referral guidelines do not consider AIDS an indication for specialist obstetric care, or referral to tertiary centres.

The fine words of the South African Society for Obstetricians and Gynaecologists' position statement on HIV in pregnancy, that 'care of pregnant women living with HIV/AIDS will need to be individualised to provide the most appropriate treatment, as indicated by the clinical condition of the woman',[11] are far from the daily reality of antenatal care in most settings. Unless obstetricians and midwives make HIV a focus of maternity services, babies will continue to be infected and mothers will continue to die, both in pregnancy and beyond.

James McIntyre
Perinatal HIV Research Unit
University of the Witwatersrand
Johannesburg

1. Snipelisky M, Bolton KD, Henney C, Koll P, England M. Human immunodeficienc virus survey in an obstetrical population. Proceedings of the Eighth Conference on Priorities in Perinatal Care in South Africa. Pretoria: Priorities in Perinatal Care Association of South Africa, 1989. Available at **http://www.perinatalpriorities.co.za/Proceedings.html** (accessed 5 November 2006).
2. Shapiro M, Crookes RL, O'Sullivan E. Screening antenatal blood samples for anti-human immunodeficiency virus antibodies by a large-pool enzyme-linked immunosorbent assay system. Results of an 18-month investigation. *S Afr Med J* 1989; **76:** 245-247.
3. Department of Health, South Africa. *National HIV and Syphilis Antenatal Seroprevalence Survey in South Africa 2005.* Pretoria: Department of Health, 2006.
4. Shaikh N, Abdullah F, Lombard CJ, Smit L, Bradshaw D, Makubalo L. Masking through averages – intraprovincial heterogeneity in HIV prevalence within the Western Cape. *S Afr Med J* 2006; **96:** 538-543.
5. Statistics South Africa. *Mortality and Causes of Death in South Africa, 1997 - 2003. Findings From Death Notification.* Statistical release P0309.3. Pretoria: Statistics South Africa, 2006.
6. Gray RH, Li X, Kigozi G, *et al.* Increased risk of incident HIV during pregnancy in Rakai, Uganda: a prospective study. *Lancet* 2005; **366:** 1182-1188.
7. McIntyre J. Strategies to prevent mother-to-child transmission of HIV. *Curr Opin Infect Dis* 2006; **19**(1): 33-38.
8. UNAIDS. 2006 *Report on the Global AIDS Epidemic.* Geneva: UNAIDS, 2006.
9. World Health Organization. *Antiretroviral Drugs for Treating Pregnant Women and Preventing HIV Infection in Infants in Resource-Limited Settings: Towards Universal Access. Recommendations for a Public Health Approach.* Geneva: World Health Organization, 2006.
10. Department of Health, South Africa. *Saving Mothers – Report on Confidential Enquiries into Maternal Deaths in South Africa 2002 - 2004.* Pretoria: Department of Health, 2006.
11. National Committee on Confidential Enquiries into Maternal Deaths. *Saving Mothers 1999 - 2001.* Pretoria: Department of Health, 2003.
12. South African Society of Obstetricians and Gynaecologists. Position Statement on Management of HIV in pregnant women [Web Page]. **http://www.sasog.co.za/B_drcnr_PosStatements_010.asp** (accessed 27 October 2006).