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HIV NURSING

CARING FOR PEOPLE AFFECTED BY HIV

HIV in pregnancy

Editorial

Features

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Aims and Scope

HIV Nursing has been developed as a forum for those at the forefront of caring for people affected by HIV. The journal is supported by a highly respected Editorial Board drawn from a wide range of nursing specialties. This is further strengthened by an Advisory Panel who will be making regular contributions to the journal.

HIV Nursing is intended to provide a medium for communication on issues relating to HIV care, which will be run by the care professionals for those involved in the day-to-day matters affecting the lives of patients.

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HIV and Pregnancy

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There are 40.3 million people estimated to be living with HIV as of December 2005 [1]. UK figures have increased to an estimated 63,000 [2] with the greatest increase being for women of childbearing age. This rise is unlikely to abate as women world-wide are particularly vulnerable to HIV infection due to inadequate female-controlled HIV prevention and women's inability to negotiate safer sex [3]. The outcome from this scenario is well represented within HIV and maternity services in high prevalence areas within the UK as we endeavour to manage an increasing number of HIV-positive women and their babies. All the articles in this issue of *HIV Nursing* discuss the difficulties faced by women in accepting their HIV diagnosis; however, complicated social problems often compound this, women's hierarchy of needs may place immigration issues higher on their agenda than complying with antiretroviral therapy.

The care of pregnant women living with HIV is often complex. In practice, it presents a unique challenge with its overall aim of uninfected babies. Jane Kennedy and Lynne Sivyour provide a comprehensive overview of antenatal, intrapartum and postnatal care in their article and how this transcends medical and social aspects of care.

The need for clear unit policies and pathways for HIV, maternal care and ongoing education for doctors and midwives is pivotal to providing safe care for this client group. Clare Walsh highlights the importance of effective communication within the multidisciplinary team and also the need to plan in advance due to the increased risk of premature delivery in HIV-positive women. She also discusses the benefits of providing a paediatric nurse-led clinic for the follow-up of neonates and for providing support for parents at this anxious time. Following on from this, Val Finigan discusses the dilemmas faced by the healthcare professional in caring for women for whom avoidance of breastfeeding is a major problem. She gives a concise account of the options and the importance of promoting choice and working in partnership with the women for the best outcome for the baby.

Susan Cole humorously describes her personal experiences of disclosing her HIV status to a new partner, the anxieties faced during pregnancy, delivery and coping with a different method of feeding.

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Forthcoming Events

9th Annual Conference of the National HIV Nurses Association (NHIVNA)

28–29 June 2007
One Great George Street, London

Autumn Conference of the British HIV Association (BHIVA)

11–12 October 2007
Queen Elizabeth II Conference Centre, London
including CHIVA Parallel Sessions
'*Assuring best possible care for young people growing up with HIV*'

14th Annual Conference of the British HIV Association (BHIVA)

23–25 April 2008
Waterfront Hall, Belfast

For further information on these events, please contact:

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Treatment and care of pregnant women with HIV infection

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Introduction

More than a quarter of a century has passed since the first cases of AIDS were described in the medical literature. Within maternity care, recommending testing for HIV is now an integral part of antenatal care [1] and clinical guidelines for the care of HIV-positive pregnant women have been produced [2].

As with any HIV-positive client, treatment and care of HIV-positive pregnant women involves much more than clinical observations and antiretroviral therapy. The underlying goal of care and treatment in pregnancy is to have a mother with optimal health who is able to parent and enjoy being a mother to her uninfected baby [3]. In order to achieve this there are key considerations for the provision of health and social care for a pregnant woman with HIV infection;

These include:

- Her physical care, both generally and in relation to her HIV infection;
- Her pregnancy care from conception through pregnancy and birth to the postnatal period;
- Her emotional and psychological well being, including her response to diagnosis, especially if this has taken place during pregnancy;
- The social, religious and cultural aspects of her life, and how HIV and pregnancy may impact on them and her understanding;
- The clear and effective channels of communication between the woman and those directly involved in her care.

Diagnosis

Some women will learn for the first time of their HIV infection as a result of an antenatal screening test while others will be aware that they are HIV-positive prior to pregnancy. It is important that healthcare workers can give appropriate pre-conception advice to couples in this latter group. Standard pre-conception advice should be provided for all women/couples including establishing what ART is being taken prior to conception because the drug regimen may need alteration prior to pregnancy as some antiviral medications are less suitable for pregnant women, for example efavirenz, DDI and stavudine.

For a woman diagnosed through an antenatal testing programme, supportive post-test counselling must be provided, which may be via maternity or GUM services. Responses to a diagnosis vary. They may include concerns about what will happen to her own health, her pregnancy and her child's health, or family relationships. These concerns may feel overwhelming to women, and it is important that services have support mechanisms in place as part of their multidisciplinary and interagency team. BHIVA guidelines recommend the inclusion of a specialist midwife, obstetrician, genitourinary medicine (GUM) physician, health advisors, specialist nurses and a paediatrician [2]. Counselling services, voluntary groups and community support groups may also be offered. Many gain spiritual support from their personal religious leaders. For those women who do not have English as their first language, appropriate advocacy and translating services will also be an essential part of this team. For some women, the diagnosis may be so overwhelming that they cease to engage with any services and may only reappear in labour at another maternity unit.

Following diagnosis, women are offered referral to specialist health services usually within GUM clinics within an acute hospital. The woman may have concerns about what to expect when attending, particularly for the first time, and a clear explanation of what is likely to happen may help reduce anxiety. Care is provided in conjunction with maternity services, sometimes within a multidisciplinary clinic.

Care in the antenatal period

As for all pregnant women, antenatal care for an HIV-positive woman should be as evidence-based as possible and of a high quality. It is important that with the concern about her HIV infection, the fundamentals of pregnancy care are not overlooked. Appropriate schedules of antenatal care should be used that prepare for a healthy pregnancy and birth, provide information for mothers about pregnancy, birth and infant care, monitor maternal and fetal well-being, and offer appropriate referral if complications occur.

Routine aspects of her antenatal care should not be overlooked such as screening for other conditions including infections (rubella, syphilis and hepatitis B), diabetes mellitus and genetic and chromosomal conditions such as haemoglobinopathies and Down's syndrome. If invasive diagnostic testing,

such as chorionic villus sampling or amniocentesis, is recommended as a consequence of a haemoglobinopathy or Down's syndrome screening result, to ascertain whether the fetus is affected, women should be aware of the possible risk of HIV transmission with the procedure. Administration of antiretroviral therapy to cover the procedure should be considered [2].

Women may need reassurance that in industrialised nations, there is no significant acceleration of HIV disease in pregnancy although women with low CD4 counts may develop opportunistic infections [2].

An association has been noted between HIV infection and adverse perinatal outcomes including spontaneous abortion, pre-term delivery (particularly if the woman has advanced disease and is on antiretroviral therapy), low birth weight, intrauterine growth retardation and chorioamnionitis. Those involved in maternity care should be alert for signs of such conditions, arrange for appropriate tests, and act on the results. For example, screening and treating women for bacterial vaginosis, as this has been linked to premature delivery [4], and treating infections such as *Candida albicans* to which immune-suppressed women may be susceptible.

Monitoring fetal growth is essential in all pregnancies and, if there is concern, assessment by ultrasound should be arranged. Dietary and nutritional advice and support is also important.

Following diagnosis, baseline tests are taken, which include assessment of HIV viral load, including resistance testing, CD4 lymphocyte enumeration, liver function tests, full blood count and hepatitis screening as well as screening for genital infections. Genital infection screening and screening for syphilis should be repeated in the third trimester.

Ensuring that the woman understands about the nature of such tests and their results and what treatment of HIV infection means for her is important to help her make a decision about commencing and adhering to therapy.

Reduction of vertical transmission

As well as benefits for the mother's health the main purpose of diagnosis of infection and treatment in pregnancy is the opportunity to prevent HIV infection to the unborn child. There are three components to this treatment: antiretroviral medication, the type of birth and the method of infant feeding. Infant feeding is discussed elsewhere in this issue.

Antiretroviral therapy during pregnancy and birth

The decision about what antiretroviral therapy to commence, and when, is influenced by a number of factors including the stage of the woman's HIV infection, how far pregnant they are when diagnosed and other obstetric factors, for example risk of premature delivery or multiple pregnancy.

The aim of antiretroviral therapy is to suppress the HIV viral load prior to the birth for the benefit of the mother's health and prevention of infection in the child (vertical transmission). The therapy options will vary according a number of factors. The BHIVA guidelines [2] provide a number of clinical scenarios to guide clinicians and some guiding principles (*see below*).

- Balance the risk of HIV transmission with the toxicities of therapy.
- Zidovudine monotherapy remains a valid option for women:
  - with <6–10,000 HIV RNA copies/ml plasma;
  - with wild type virus;
  - not requiring HAART for maternal health;
  - not wishing to take HAART during pregnancy;
  - and willing to deliver by pre-labour Caesarean section.
- Do not prescribe dual nucleoside reverse transcriptase inhibitor (NRTI) therapy.
- Prescribe effective (three-drug) combination therapy whenever:
  - indicated for maternal health as per adult guidelines;
  - baseline maternal viraemia >10,000 copies/ml;
  - baseline maternal viraemia <10,000 copies/ml (as an alternative to ZDV monotherapy plus pre-labour Caesarean section);
  - drug resistance detected on genotype/phenotype.

Short-term HAART (START) for prevention of mother-to-child transmission should:

- Be discontinued after delivery when viral load <50 copies/ml;
- Carefully consider the half-life of each component to avoid unplanned monotherapy after stopping, especially drugs with a low genetic barrier to resistance;
- Avoid stavudine plus didanosine as NRTI backbone whenever possible (and monitor lactate levels if unavoidable);
- HAART that has commenced prior to conception should usually be continued throughout pregnancy
- Consider a detailed anomaly ultrasound at 21 weeks for all fetuses exposed to antiretroviral therapy during the first trimester.

It is not possible to list all the therapy combinations that pregnant women may use here and clinicians are advised to refer to the BHIVA guidance and if necessary, discuss further with appropriate

colleagues in their network. Whilst only one antiretroviral drug is licensed for use in pregnancy (zidovudine), many women will commence triple therapy as a minimum during pregnancy usually including at least one protease inhibitor.

If an HIV-positive pregnant woman also misuses drugs her needs may be more complex. Her care will need to address the management of her addiction, her pregnancy and her HIV infection (and sometimes hepatitis B and/or C) simultaneously. There may be difficulties with adherence to complex antiretroviral therapy regimens, the practicalities of phlebotomy if there is poor venous access, and fear of engagement with other services e.g. social services and child protection considerations. Risks of pre-term labour and delivery and intrauterine growth retardation associated with drug use may compound risks associated with HIV infection [5]. There may be particular challenges in the prescription of antiretroviral therapy that may interact with recreational drug therapy and/or methadone.

Type of birth

As for most pregnant women, discussions regarding the most suitable type of birth commence in pregnancy. It is important to allow, whenever possible, sufficient time for an informed decision to be agreed between the woman and her care providers.

Pre-labour lower segment Caesarean section (PLSCS) at term has been shown to reduce significantly the risk of vertical transmission in comparison to vaginal birth [6,7]. However some of the evidence for these studies was from a period before the more widespread use of antiretroviral therapy in pregnancy and the use of effective HIV viral load monitoring. A Caesarean section is significant surgery with its own morbidity and should not be undertaken lightly. It is less clear whether a woman with an undetectable viral load at the end of pregnancy would gain an additional benefit, in terms of reduction of vertical transmission, from a Caesarean section. However, PLSCS is recommended for all women taking ZDV monotherapy, women on combination therapy with detectable viraemia and women with HIV/HCV co-infection. It should be planned for 38 weeks and appropriate peri-operative antibiotics should be prescribed.

If the viral load is undetectable by late pregnancy vaginal birth can be considered. If a mother chooses vaginal birth, the membranes should be left intact for as long as possible, invasive monitoring techniques should be avoided and effective progress in labour achieved. An emergency Caesarean section would be considered if any intrapartum problems occur, for example fetal distress.

Intravenous zidovudine during birth is not usually indicated for mothers not already taking ZDV or for mothers with <50 HIV RNA copies/ml plasma on HAART.

If the mother ruptures her membranes or goes into labour prematurely, the benefits of elective Caesarean section are less clear and the risks of HIV transmission must be balanced with the risk of premature birth.

Whatever the type of birth the effective care monitoring of the condition of the mother and baby throughout is essential. Once the baby is born, it is recommended that the baby is bathed as soon as practicable assuming the baby's condition is stable.

Care after the birth

Following the birth the mother should be supported and helped to recover by the team. This will include support with administering antiretroviral therapy to her baby, usually for 4 weeks, informing the mother of her and her baby's follow-up appointments. This is often a period of considerable anxiety for her as she waits to hear if her baby is infected – even though with appropriate treatment the risks of this are very low. Infant feeding has been discussed elsewhere.

The mother will also need appropriate advice regarding contraception and sexual health at this time and healthcare workers should be alert for signs of postnatal depression, which is a risk for HIV-positive women, particularly when they may already be depressed, isolated, homeless or have economic, psychosocial and/or immigration and legal issues. It is important to emphasise the need for the mother to continue to engage in her HIV care following delivery as some women experiencing denial may choose to ignore their HIV once the baby has been safely delivered.

Psychological health, counselling and support

It is equally important to attend to the mother's psychological and mental health needs. Counselling and support may be needed throughout pregnancy. Although the concerns for each woman may be different, common issues and questions include:

- 'Will I die', 'how effective is ART' and 'what are the side-effects?'
- 'Will my baby be alright?' This may be a particular concern for a woman who has an HIV-positive child already.
- 'How will I tell my partner?' 'How can I keep it secret?'
- 'Will my community support or reject me if I tell them?'
- 'Are my other children infected?'
- 'How can I not breastfeed?' 'People will guess if I have a Caesarean.'
- 'Who needs to know?'
- 'Will I be deported?'

Some women may have no family or friends they can turn to, and rely solely on professional or voluntary support. If there are significant concerns about a woman's mental health appropriate referral should be offered.

Record keeping

In spite of advances in HIV medicine and greater public awareness about the infection, it remains a stigmatised illness, and one that can be difficult for women to talk about openly. Practice regarding disclosure of status and record keeping must be sensitive to this. It is long established in the United Kingdom that all women carry their own maternity records in pregnancy. Written treatment plans can be part of a birth plan that forms an additional part of these records, so that any explicit documentation regarding their HIV infection does not inadvertently disclose their status to other family members who may view their maternity hand-held record.

Decisions regarding disclosure of her status to her partner may be complex and all healthcare workers must adhere to their duty of confidentiality regarding patient information unless there are exceptional circumstances [8].

Disclosure to staff involved in a woman's maternity care is based on a 'need to know' principle with the woman's consent. Services have developed that involve a small team with whom the woman can develop a supportive and trusting relationship. The involvement of the general practitioner and the health visitor is recommended as they form an ongoing part of the healthcare team for the whole family.

It is important that there are clear and effective channels of communication; both verbal and written.

Conclusions

There are many issues that HIV-positive pregnant women have to address during the relatively short period of pregnancy including decisions about antiretroviral therapy, type of birth and how to feed their baby as well as for many dealing with a recent diagnosis and concerns relating to that. It is important for healthcare workers to listen to what our patients tell us. What may be a priority for health professionals may be different for parents – we may want them to decide on commencing antiretroviral therapy so that we can reduce viral load prior to delivery when their priority is how to find secure housing provision or what will happen if their asylum application is rejected.

The aim is to balance their HIV care with the requirement for a positive pregnancy, birth and early parenting experience allowing the woman to feel she has some control and support regarding the birth of her child and for the future.

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Treatment and follow-up for infants born to HIV-positive women

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Introduction

Approximately 1000 women with HIV-1 infection deliver each year in the UK [1]. At St Mary's we see approximately 40–50 of these births per annum and all of the babies are seen and followed up within a nurse-led clinic.

Following the implementation of routine antenatal testing in the UK in 1999, there has been an increase in the number of women who are aware of their HIV status prior to delivery and around 90% of women are now aware of their status in pregnancy [2]. This has had a positive impact and has affected our work considerably. We are seeing far fewer infected babies within our paediatric clinic. The majority of infected babies that we have seen in the past few years have been born to women who were unaware of their HIV infection at delivery.

With a high percentage of women being diagnosed prior to delivery, it is possible to reduce the rate of mother-to-child transmission dramatically (see Table 1) [3].

Background

The nurse-led clinic was initially set up in November 2004 to relieve pressure on the multidisciplinary family HIV clinic but since that time we have had the benefit of seeing uninfected babies within a nurse-led service. In this setting we are often able to spend more time with parents who are anxious and worried about their child's health and impending results.

The multidisciplinary team is involved in the planning of care for women and infants in regular perinatal meetings attended by the paediatric clinical nurse specialist (CNS), the specialist midwife, paediatricians, adult GUM/HIV staff, neonatal and obstetric staff, social workers and pharmacists. In this forum, decisions are made about treatment so that we can decide on the most appropriate post-exposure prophylaxis for infants. The meeting is also an effective way of communicating between the team. Many of the women who we see have significant problems with housing, immigration and living conditions.

Table 1. *Interventions to reduce perinatal transmission of HIV (See [3] for further details.)*

Intervention	Transmission rate (%)
None	
Avoid breastfeeding	25–30
Zidovudine monotherapy	12–15
Pre-labour Caesarean section ± ART	6–8
Pre-labour Caesarean section + AZT	2
HAART (viral load <50 copies/ml)	<2
	<<1

In line with the BHIVA guidelines [4] most infants receive zidovudine for 4 weeks as post-exposure prophylaxis; however, some require other treatments due to maternal HIV resistance. Decisions around treatment are then documented in the birth plan along with mode of delivery and any other relevant information.

Postnatal ward

Post delivery, the paediatric CNS will visit mother and baby on the postnatal ward. At this time blood samples are sent for HIV-RNA PCR and also for full blood count, urea and electrolytes and liver function tests, as we are still not entirely certain of the effect of highly active antiretroviral therapy (HAART) on the fetus and infant. Nucleoside analogues have been shown to deplete mitochondrial DNA and have also been implicated as a cause of lactic acidosis, multisystem failure and anaemia in a small number of infants [5]. There is also evidence to suggest that NRTIs contribute to neonatal anaemia and neutropenia [6]. However the risk of infecting a baby with HIV far outweighs the risks associated with exposure to antiretroviral drugs.

HIV-RNA PCR results take up to 10 days to come back and arrangements are made for the mother to receive the results. This is normally by telephone and the call is made as soon as the results are available.

Post-exposure prophylaxis should also be given within the first 4 hours of life and should continue for 28 days. It is important that new mothers are taught how to administer oral medicines to their baby and they should also be informed about how to store medicines safely, etc. There are occasions when other members of the household are unaware of maternal HIV status and effort should be made to accommodate women in these circumstances. We often encourage women to administer their child's medicine at the same time that they have their own (if they are still taking antiretroviral medication) and to keep all medicines in the same place and away from the main areas of the home. We also provide advice and support to women who are

experiencing difficulty with their HIV diagnosis. Some women are newly diagnosed in the antenatal clinic; however, we are also seeing a number of women returning to have their second and third babies.

During this visit, arrangements are also made for follow-up at 6 weeks of age. Between birth and the first appointment at 6 weeks, contact is maintained via telephone for advice and reassurance.

Premature delivery

Surveillance of obstetric HIV information in the UK and Ireland is carried out through the National Study of HIV in Pregnancy and Childhood (NSHPC). Usually a midwife will report all pregnancies in HIV-infected women and the paediatric CNS also collects infant information. Data from this study has shown that HIV-infected women treated with antiretroviral drugs are at greater risk of having a premature delivery. The overall prematurity rate was 13.1% and of these early deliveries 23.3% were before 32 weeks [7]. This has significant implications for mother-to-child transmission of HIV and treatment options.

Sick neonates who are unable to tolerate oral medicines should be given intravenous zidovudine therapy, as this is the only therapy available [4].

For those able to tolerate oral medicines within the first 48–72 hours it is recommended that these infants commence oral antiretroviral therapy for 4 weeks. Triple therapy should be considered for infants whose mothers have had a detectable HIV viral load. Many of the infants born will have had some exposure to antiretroviral drugs in utero, but maternal virus may not be fully suppressed. Nevirapine has excellent transplacental transfer and can result in good plasma levels in a neonate for up to 7 days even after a single maternal dose [1]. When there is a greater risk of transmission then an extra HIV-RNA PCR test is usually carried out at around 12 weeks of age.

Breastfeeding

The rate of mother-to-child transmission of HIV through breastfeeding has been estimated at around 16%, however the rate nearly doubles with prolonged breastfeeding [8] (however, see also Valerie Finigan's article in this issue). We recommend that women exclusively give formula feed to their babies. Even if women have an undetectable HIV plasma viral load, there is no evidence to suggest that will protect the baby.

For some women in our cohort being unable to breastfeed does raise some issues. The large majority of our women are of Black African origin and not breastfeeding a new baby can often be considered detrimental to the baby. In these cases we work closely with women to understand that by not breastfeeding they are protecting their child from the possibility of acquiring HIV. We also help with explanations to family members who may be concerned that a new mother is doing the right thing for her child. The majority of infants who we see do well on formula feeding and develop appropriately.

Six-week checks

Infants come back for their first appointment at the nurse-led clinic at around 6 weeks of age. Post-exposure prophylaxis will have finished around 2 weeks earlier and the parents will have a result from the HIV-RNA PCR taken at birth.

At this appointment we will repeat all blood tests and include a second HIV- RNA PCR. We also check that the baby is doing well in terms of health and development. Babies are only referred on to a paediatrician if they are unwell or we consider there to be any further risk for transmission.

The 6-week appointment is often extremely important in terms of maternal support and reassurance. Lots of anxieties and issues can come up at this appointment. Mothers are often tired from coping with a new baby and anxiety is often heightened at this time. A lot of time is spent talking through things and reiterating information relating to transmission, for example. Time is also spent talking through general concerns around care of a newborn.

We make arrangements to contact the parent as soon as the second PCR results are available. We also make an appointment for the third HIV-RNA PCR test at 12 weeks. As we run a family service we can also offer follow-up for the mother in our clinic for the duration of her child's follow-up.

Twelve-week checks

Babies are seen again at 12 weeks for their final HIV-RNA PCR test. Again we repeat all other blood tests to identify any adverse effects from exposure to ART. We again check that the baby has remained well and has not had any episodes of illness. It is also a good opportunity to catch up with parents and ensure that they are doing well.

Parents can be reassured that if the HIV-RNA PCR test is negative at this visit as well as at the two previous visits, and the baby is not being breastfed, then we would consider their baby to be uninfected [4]. This information is very reassuring for parents and enables them to enjoy being a parent rather than worrying about the possibility of transmission.

Eighteen-month checks

Children are seen for a final time at 18 months of age. At this visit we take blood for an antibody test to ensure loss of maternal HIV antibodies. This visit is also important as we can see how a baby is thriving and whether there have been any adverse effects from exposure to ART.

We usually discharge children after this visit, however we do encourage parents to contact us if they have any concerns about their child. There is currently no long-term follow-up of uninfected infants, but a recent survey has shown that nearly all parents (94%) acknowledge the importance of long-term follow-up of uninfected infants to see whether there are any adverse side-effects from exposure to antiretroviral therapy [9].

The vast majority of women who we see have healthy, thriving babies and we do see many women returning to us when they have subsequent children. This is really encouraging and inspiring for other HIV-infected women wishing to have a family.

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Breast or artificial formula milk feeds? The controversy faced by HIV-positive women

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Introduction

This paper is written in an attempt to convey the ethical dilemmas faced by healthcare professionals who work with women and are involved in making decisions around HIV and breastfeeding, because: in reality, there is no 'one size fits all' policy[1]. There is a large and growing body of available evidence on this very emotive subject, yet Sachs puts forward that much of the literature appears to be tinged by people's personal and very strong views [2]. This makes it difficult for professionals to sift the chaff from the wheat.

Recent research demonstrates that the choice of feeding method for HIV-positive women is not clear-cut [1,3–12]. Overall, there is a presumption that a suitable substitute for breast milk exists in the United Kingdom and it has been decided that formula milk feeding is the only safe choice for HIV-positive women [10–12]. More recently this conjecture has been challenged [1] and some argue that the debate needs to be re-visited [2]. Sachs suggests that the perceptions drawn out within the discussions about HIV and breastfeeding 'illuminate our attitudes, throwing into stark relief the generally low cultural value of breastfeeding in the West' [2, p. 189].

UK health professionals continue to be left with a challenging dilemma: whilst it is desirable to lower the risks of mother-to-infant transmission of HIV, they must also be able to provide information on competing risks. The Department of Health Guidance [10] did not state that women should not breastfeed but instead suggested that most HIV-positive women would avoid breastfeeding. If women 'insisted' on breastfeeding then health professionals were directed to advise them about early cessation and good breastfeeding practices that would reduce risks.

More recent advice from the Department of Health policy [12] states 'professionals should promote infant formula feeding' with 'avoidance of breastfeeding to prevent transmission of HIV', and it is clear that this recommendation is the one chosen and adhered to in current, everyday practice. However, the document also recognises that the guidance given is for women living in the United Kingdom. If the healthcare professional is informed that a mother may move somewhere where safe infant formula feeding is unavailable, different considerations will apply and healthcare professionals will need to be able to discuss different options and competing risks on an individual basis [12].

Influencing healthcare professionals

The challenge and balance that healthcare professionals must strike is in understanding the relative risk associated with HIV transmission through breastfeeding, while supporting the pregnant woman in 'informed decision-making' and 'choice' on whether or not to breastfeed. However, in fairness some healthcare professionals may not have the right skills or even the knowledge to effectively counsel HIV-positive women [2,13] on matters that are related to feeding or even to HIV testing. The Nursing and Midwifery Council is clear:

> Midwives should work in partnership with the woman and her family. Should enable the woman to make decisions about her care based on her individual needs, by discussing matters fully with her and should respect the woman's right to refuse any advice given [14, p. 17].

There exist then, both ethical and moral obligations to 'safeguard' babies from vertical transmission of HIV. Furthermore, as Kent [15] suggests, linked to this duty is a human rights issue: a family should be provided with information on all available feeding methods and the risks associated with each. Only the members of the family know the cultural context of their own situation and they must be empowered to choose what is right for themselves and also for their babies.

Transmission risks

UK policy has stressed the importance of HIV screening with early responsive interventions, setting a target of 90% of mothers to be tested for HIV by 2002 [16]. HIV is transmitted through body fluids: primarily blood, semen, vaginal fluids and breast-milk. Transmission to babies can occur *in utero*, at the time of birth, and postnatally, whilst the baby is being breastfed.

The Department of Health suggests that in the UK and equivalent settings, the risk of HIV transmission through breastfeeding for women on highly active antiretroviral therapy (HAART) has not been quantified [10]. Whilst the risk is likely to be low if plasma viral load is undetectable, the potential for proviral DNA to transmit infection, resistance due to poor drug penetration into breast-milk and prolonged exposure of the infant to antiretroviral drugs, all need to be considered in the balance of risks [12].

The European Collaborative Study [17] proposed that the vertical transmission of HIV in this country without intervention is thought to be 15–20%. In women with recent infection the risks were found to be higher, with UNAIDS reporting a risk of 29% [7]. Lindegren *et al.* [18] suggest that the risk of HIV transmission can be reduced to between 1% and 2% by taking the following measures:

- Treating the mother with antiretroviral drugs during pregnancy.
- Treating the newborn with antiretroviral drugs.
- Elective caesarean section (see also page 6 of this issue).
- Not breastfeeding.

Transmission associated with breastfeeding

HIV was detected in breast-milk samples in the 1990s. However, the implication of virus in breast-milk is not well understood and the association between viral levels in maternal plasma and breast-milk is not clear [19]. Infection by breastfeeding may occur through cell-free virus in breast-milk or HIV-infected cells. If the latter is true, colostrum might be more infectious as it is richer in macrophages [20]; however, the Department of Health contests this stating it is inaccurate and that there is no current evidence that colostrum poses any greater or lesser risk than later milk [10].

Breast milk contains immunoglobulins, in particular immunoglobulin A (IgA) [21]. Van-De-Perre [22] suggested that these immunoglobulins may protect an infant's immature gut mucosal surface from the invading virus, rather like an antiseptic paint, and that this effect may prove valuable in reducing both morbidity and mortality associated with the disease.

Dunn *et al.* [23] conducted a meta-analysis of data and calculated the risks of transmission through breastfeeding. They estimated that 14% of HIV-positive women who breastfeed would transmit HIV to their baby via this route. The calculated risk was over and above any transmission in utero or at birth. Studies also indicate a higher level of transmission during seroconversion or where there is a low CD4+ count at the time of birth [19]. The risk of transmission via breastfeeding ranges from 5% to 20% [19].

More recently the Breastfeeding and HIV International Transmission Survey Group [24] analysed data from nine trials on 4085 breastfed children that were testing effects of vitamin therapy and antiretroviral drugs on transmission. The Group calculated that the risk of transmission remained roughly constant during the period of breastfeeding and was around 4% for every 6 months of breast-feeding [1,24]. But as Sachs [2] eloquently states 'it is easy to overlook one vital point: the majority of women who breastfeed do not transmit HIV to their babies through breastfeeding' (p. 168). Thus, stopping women breastfeeding may limit the main postnatal route of transmission but it will not address transmission during pregnancy and/or birth and this area needs equal consideration.

Mixed-feeding

Most women end up mixed-feeding their babies early in their life, usually within the first few weeks or months. Mixed-feeding (which is defined as feeding breast milk and other foods or liquids) significantly increases the risk of HIV transmission because it combines the risk of gastrointestinal and other infections, often considered risks of using infant formula or modified animal milks, with the risks of transmission due to breastfeeding [21]. One could therefore assume from current evidence that in developing countries replacement feeding is not really a safe option and may even cause risk, particularly if healthcare professionals can not fully inform women of the evidence of 'competing' risks [25]. It is important to share information that highlights that the safest option is either exclusive breastfeeding or exclusive replacement feeding, whilst mixed feeding is most definitely unsafe.

The latest evidence from Durban, South Africa, has brought to public attention that in developing countries the good intentions of government agencies and non-governmental agencies, for example, UNICEF, have fallen by the wayside. Even when replacement feeds are provided free, morbidity rates have increased. These have not just been associated with breastfeeding but rather with illnesses associated with replacement feeding. Poor, uneducated women and their families are unlikely to be able to safely reconstitute formula milks. Often there is no access to clean water, refrigerators, fuel to boil water, bottles, soap to wash hands or even to money. In such dire situations it is likely that their babies will not die from HIV but from diarrhoea or even malnutrition [21].

Current evidence shows that in developing countries, where babies are exclusively breastfed there is a reduced rate of infection, in particular for gastrointestinal infection [26]. It is likely that the infant's gut mucosal surface is also the point of entry for HIV, thus gut integrity may be a crucial factor in HIV transmission rates. Vnuk [27] suggests that 'even one bottle of formula milk can reduce the acidity within the baby's stomach' and as HIV is an acid labile virus, reduction in stomach acidity might further enhance the survival of any maternal HIV-1-infected cells.

Exclusive breastfeeding

Exclusive breast-feeding is recommended for the first 6 months of an infant's life, as it takes this length of time for the infant's immune system and gut integrity to become complete [26,28]. Exclusive breastfeeding is defined as:

> The infant had received only breast milk from his/her mother or a wet nurse, or expressed breast-milk, and no other liquids or solids, with the exception of drops or syrups consisting of vitamins, mineral supplements or medicines'. [28, p. 2]

Coutsoudis [1] followed a cohort of mothers and babies up to 15 months of age; mothers had made an informed choice to either breast- or formula milk feed. Those that chose to breastfeed were given information on exclusive breastfeeding. The findings of this study were to challenge prior beliefs, for it was found that babies who were exclusively breastfed to 3 months and those that were never breastfed had similar rates of HIV transmission, while babies that were mixed-fed showed higher rates. The findings at 15 months illustrated that rates of HIV infection in babies exclusively breastfed to 4 months and babies never breastfed to 4 months continued to remain similar up to 6 months of age [5]. However, no baby in the study was exclusively breastfed up to 6 months, thus rates of transmission continued to increase above that of the never-breastfed group. Coutsoudis states [in 30] 'our latest findings corroborate our earlier observations that mixed breastmilk and formula milk feeding is an important risk factor in MTCT, and that exclusive breastfeeding in the first six months of life cuts transmission by at least fifty percent'.

Recent findings from Zimbabwe [30] show that mixed feeding more than doubles the rate of transmission of HIV through breastfeeding in the first 6 months of life. The findings also show a dose-related effect. Predominantly breastfed infants (given breast-milk and non-milk liquids) experienced lower rates of transmission than mixed-fed infants, but higher rates than exclusively breastfed infants. Furthermore the study showed that two-thirds of postnatal transmissions occur after 6 months.

Kent [31] analysed some of the studies that have been carried out. He implies that analysis is difficult for healthcare professionals as the estimated rates of transmission are so variable. For example, some have estimated that breastfeeding by HIV-positive women increases risk of infection by about 14% [23]. Others suggest 'the incremental risk of transmitting HIV infection to the breastfeeding infant ranges from 3% to 12% in various African populations' [32]. One study estimated that only about 1% of infected infants is infected through breastfeeding [33]. Kent argues that if the transmission through all three pathways (*in utero*, at birth and breastfeeding) is between 15% and 30% this means, at most, about 0.3% of the infants of HIV-positive mothers are at risk of infection through breastfeeding. He puts forwards that in the US, it has been estimated that where there is transmission of the virus to the infant, 70–75% of cases occur during delivery, and 25–30% occur *in utero* [34]. He concludes this suggests that only about 5% of the cases of infection occur as a result of breastfeeding.

Safe feeding options for HIV-infected women

It is recommended that in exceptional circumstances, and after seeking expert professional advice on reducing risks of HIV transmission through breastfeeding, a highly motivated and informed mother might be assisted to breastfeed [12, p. 14]. However, the woman should be advised that any breastfeeding carries some risk and an individual risk assessment should be carried out. Where mothers choose to breastfeed they should do so exclusively and should be advised:

* To adhere to the antiretroviral drug therapy for both mother and child.
* Breastfeed exclusively and do not use any supplements of formula milk or other drinks.
* Breastfeed for a short period of time only, to rapidly wean from the breast between 4 and 6 months, thus providing the benefits of breastfeeding with a minimal risk of HIV transmission.
* To seek skilled help with positioning and attachment of the baby to the breast.

Furthermore in order to minimise risks Embree *et al.* [35] suggests that mothers are informed of variables that make breastfeeding more 'risky':

* Seroconversion during the breastfeeding period.
* Continuing to breastfeed with sub-clinical mastitis, thrush, a cracked or bleeding nipple or a breast abscess.
* Breastfeeding with a high viral load or low CD4 count.
* A high viral load in the breast-milk itself.
* Breastfeeding beyond 6 months
* Mixed feeding.

It is clear that a knowledgeable health professional must be made available to support HIV-positive women with the challenges of exclusive breastfeeding.

Heat-treating or pasteurisation of breast milk

A safe and feasible option would be to heat treat, boil or to even pasteurise hand-expressed, or expressed breast milk. A personal pasteurisation unit costs approximately £50 in the UK. HIV is destroyed by heat, and while the treated milk will provide a reduced level of immune system protection, it is still more physiologically suitable for a baby than formula milks that lack these protective elements [8,9,25]. Women may want to give donor milk to their babies rather than formula milks and the re-establishment of donor milk banks in the UK may make this a feasible option in the future. In some cultures it may even be considered acceptable for the baby to be fed by an HIV-screened wet-nurse.

Conclusion

This paper was written in an attempt to highlight the uncertainties that surround HIV and infant feeding. Choices for HIV-positive women in this area within the UK are limited because of the insecurities and fears that exist about transmission rates linked to breastfeeding. However, in the UK, there is access to safe water supplies and to formula milks. The Department of Health recommendation in the UK is clear: 'women who are infected with HIV should avoid breastfeeding to prevent transmission' [12].

On the other hand, in developing countries the move towards abandoning breastfeeding altogether has halted and more recent research has led to an endorsement of either exclusive formula-milk feeding or exclusive breastfeeding with appropriate and timely professional support. UK healthcare professionals, in advising women on breastfeeding, need to consider whether they may migrate back to developing countries and give advice as to what is considered 'safe' or 'unsafe', accordingly.

The difficulty that further compounds professional advice is that within the UK not many women exclusively breastfeed nor do they understand what this term means. Healthcare professionals often find themselves in a similar predicament as many have lived and have been working in predominantly bottle-feeding cultures. Furthermore there continues to remain a need for well-designed research to resolve the major issues that surround this ongoing debate.

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HIV and maternal health

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Introduction

Antenatal HIV testing was introduced nationally as a result of Department of Health guidelines [1]. The directive recommended all pregnant women should be offered HIV testing at their booking visit. Government targets were set to show a 90% uptake of antenatal HIV screening by September 2002.

The driver for this intervention came as a result of research and global concerns about the rising rate of HIV. The large 1994 French/American double-blind placebo-controlled ACTG 006 trial showed that antiretroviral treatment, given in pregnancy, could reduce the incidence of mother-to-child transmission from 25% without treatment, to 8% with. This was further reduced to less than 2% with the avoidance of breast feeding [2].

Antenatal HIV testing

After 3 years of 'opt in' testing, Manchester now offers an 'opt out' system introduced to increase the uptake rates, which last year were averaging 65% across the city. This year, uptake of the antenatal HIV test has increased dramatically to an average of 85–90% in the last quarter (January–March). This increase is a result of intensive training by the specialist midwife and the introduction of the universal antenatal hand-held maternity notes. The test is now included in the usual list of antenatal blood tests required at booking for a pregnant woman and has served to normalise the screening and increased uptake.

However, despite the need to attain Government targets the philosophy of the Manchester maternal HIV service aims to reflect NICE guidance regarding antenatal screening in that midwives are encouraged to obtain informed consent, promote choice and to avoid coercion [3].

Midwives have a public health responsibility within their role to make a long-term difference for the sexual health of pregnant women [1]. They are also well placed to support women and have a unique opportunity to influence lifestyle. Last year, seven pregnant women were referred after disclosing HIV exposure to their midwife either from unprotected sex with an HIV-positive partner or after suffering rape in a country with a high prevalence of HIV. All the women referred had a fast-track HIV antibody test with additional viral load testing and follow-up to monitor for seroconversion during pregnancy, which poses a particular risk to the fetus and increases the chances of vertical transmission.

Management of HIV-positive pregnant woman

The optimum management of HIV-positive pregnant women is to advocate antiretroviral triple therapy medication starting at 20 weeks of pregnancy, medical monitoring by an infectious diseases (ID)/genitourinary medicine (GUM) consultant and planning delivery at 34 weeks depending on the maternal viral load [2]. Women are advised to bottle-feed and the neonate should receive prophylactic antiretroviral medication within 4 hours of birth for 4 weeks' duration [2]. To enable this gold standard treatment each HIV-positive pregnant woman should have fast-track referral to a multidisciplinary team. This team should comprise a midwife, paediatrician, obstetrician, and ID/GUM consultant [2]. There should be a clear unit policy for the care of HIV-positive pregnant women during the antenatal, intrapartum and postnatal period with ongoing education for the multidisciplinary team [3]. The emphasis for maternity care should be on normality and choice and the majority of the antenatal checks can be held in the community with access to sure-start programmes and parenting sessions [4].

HIV counselling for newly diagnosed HIV-positive pregnant women

Women should be counselled by an HIV specialist as this is the first opportunity to impart valuable information and will enable the woman and her partner to understand the issues. Insufficient or poor advice could at worst lead to termination of pregnancy for fear that the baby is automatically affected or a woman could avoid services for fear of breach of confidentiality and stigma.

The information and support given at this time will enable the woman to understand the issues and access interventions to reduce the chance of vertical transmission to their baby. Last year in Manchester, out of 50 HIV-positive women, 49 accepted antenatal antiretroviral treatment. Thirty women were seeking asylum and several had no access to public services. There are robust systems in place to follow up women who do not attend appointments or fail to access interventions.

Liaison with the multidisciplinary team, community midwives and health visitors is important and every effort should be made to trace vulnerable women. The community midwife can assess home conditions as damp, crowded conditions may be detrimental to the health of a newborn and referral

to social services at this juncture could lead to re-housing to suitable property. The underpinning philosophy of care for the client group must be one of vigilance: women who are socially disadvantaged, including those with immigration issues, are 20 times more likely to die during pregnancy [5]. Also, infants born to mothers who are from an ethnic minority and were born outside the UK compared with UK-born mothers have a 30% increased mortality rate [6].

An important component of the initial post-test discussion is to ensure that the woman is aware of the modes of transfer of HIV, safer sex and condom use. Disclosure to partners is advised and is expected especially in the light of 10 UK litigation cases prosecuting individuals for HIV transmission [7]. Encouraging disclosure, however, must be balanced with the consideration that 30% of women suffer a first attack of domestic abuse during pregnancy, 90% of these violent attacks occur with children in the same or next room and women seeking asylum find it most difficult to access help [8]. We must therefore be confident to initiate sensitive enquiry about domestic abuse with every woman. The focus should be on the woman's safety with the offer of helpline numbers for expert support if she perceives herself to be at risk.

HIV-positive women have a right to choose whether they wish to take antiretroviral medication during pregnancy. Despite specialist advice, drug treatment is not always accepted due to psychological issues or religious beliefs and within British law the fetus has no rights *in utero*. Manchester guidance has strict criteria for referral to social services for babies at risk of HIV transmission. Women who do not access services, decline HIV treatment and indicate an intention to refuse HIV prophylaxis for the newborn are referred after all efforts by the HIV team are exhausted.

A multidisciplinary meeting is held with the HIV team, social service, community midwife and health visitor. A plan is made to provide directly observed therapy for the baby and the mother is informed that non-acceptance of preventative drug treatment for the baby could result in removal of the baby to foster care for the duration of the treatment time.

One child has been removed from the parents in Manchester as a result of non-acceptance of HIV medication. A treatment order was obtained from the High Court and the baby was removed for the 4-week treatment duration with strict instruction for follow-up blood tests. The child was returned to the parents and subsequently tested negative. Every child has a right to health and safety [9] and the Children's Act 2003 [10] can be triggered to protect a baby in these extreme circumstances.

Conclusion

The multidisciplinary team has a responsibility to provide care in accordance with the recommendations of the National Service Framework guidance for maternity services whereby maternal choice is paramount [4].

Women diagnosed HIV-positive in pregnancy are often seeking asylum. Such vulnerable women fulfil the criteria for those at greatest risk of death before and after childbirth [5] due to social isolation, language barriers, poverty and reduced access to services.

Where there are vulnerable women there are also children in need of safeguarding. A detailed assessment by the HIV specialist midwife and liaison with community midwives, health visitors and social services is pivotal in maintaining the five outcomes of *Every Child Matters* [9].

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Pregnancy and HIV – a personal perspective

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HIV isn't meant to affect girls like me. I have a dazzling array of designer shoes, went to a private school, and shop at Waitrose for God's sake. In my smug middle-class world, I stupidly believed it was something that only happened to other people. Well, my smugness was well and truly vanquished when I received my diagnosis.

I had just married my second ex-husband in 1999 (I collect ex-husbands a bit like shoes) and moved to the USA, where part of the immigration process is to have an HIV test. It didn't cross my mind for a moment that it could possibly be positive. I received my diagnosis from a very anxious nurse who blithely announced 'Well, the good news is you don't have syphilis but the bad news is you're HIV-positive'. After I managed to pull myself out of the euphoria of not having syphilis, I had to deal with what I believed at the time to be a death sentence. My older children were only 4 and 6 at the time and I believed I wouldn't be alive to see them grow up. I certainly never imagined that I would be having another baby 5 years later.

My current partner and I met 6 years ago and I fell deliriously, all-consumingly, in love. I told him about my HIV status late one night in a McDonald's car park, after we'd been seeing each other for a month (I suppose the rationale was that if he chucked me I would at least have the consolation of a Big Mac.) In the truly cowardly tradition I didn't exactly tell him but invited him to guess my 'ghastly secret'. His first guess was that I used to be a man, so when he finally got round to HIV it was quite an anti-climax.

I found out I was pregnant in 2004, a surprising but very welcome discovery. I bought a pregnancy test at the airport, en route to Geneva, and watched with a jaunty juxtaposition of joy and terror as the blue line appeared. I felt delighted to be having a baby, but at the same time very anxious about potential problems around being HIV-positive.

My most immediate concern was my medication and the potential effects it could have on my baby. I was on a combination that included efavirenz and was aware of the animal studies that linked it to birth defects. I was reassured by my doctor however that there had been many women at the hospital where I was a patient who had conceived and remained on efavirenz without any of their babies experiencing birth defects.

Transmitting HIV to my baby was another huge anxiety. I was aware that the risk of transmission was about 1% as I had an undetectable viral load. However I didn't exactly have the best track record of statistical luck.

Throughout most of my pregnancy I struggled with the decision to have a Caesarean section or natural delivery. At that time there weren't very clear guidelines as to the best mode of delivery and I felt burdened by the decision. I was aware that studies conducted before the advent of combination therapy indicated that Caesarean sections could reduce the risk of mother-to-child transmission. In many UK hospitals at the time of my pregnancy, pregnant women with HIV were still encouraged to have C-sections, regardless of their viral load. However it seemed that if a woman had an undetectable viral load, there was no additional protective effect in having a C-section. US guidelines at the time didn't universally recommend planned Caesareans for a woman on combination therapy with an undetectable viral load. The BHIVA guidelines were being updated and frustratingly weren't due to come out until after I had my baby.

The decision was unexpectedly taken away from me, when inexplicably my viral load rose 6 weeks before my baby was due. At first I assumed it had to be a blip or lab error. My adherence had never been better as I was so concerned about transmitting HIV to my baby. But the second test confirmed it, with the startling discovery that I had developed resistance to both 3TC and efavirenz. I was stunned. All of my illusions of having a textbook, perfect pregnancy were dashed. My fears of transmitting HIV to my baby were re-ignited as I was no longer in that less than 1% risk of transmission category.

I was booked to have a C-section two weeks before my due date. As Victoria Beckham, my role model, was too posh to push, I quickly acclimatised to following in her footsteps. I made the delicious discovery that my obstetrician had also delivered Tony Blair's baby (being linked to the Prime Minister through one's vagina is always a bonus.) My baby's arrival was scheduled in my diary and was I confident that I would have time to do my Christmas shopping, conveniently slotting in the birth between wrapping presents and eating turkey. My baby however had other plans. I fear my labour began whilst shopping in Currys – somewhere between the Breville sandwich makers and Teasmades.

Minor contractions continued throughout the night (which I ignored) and into the next day (which I put down to wind). I did the 2-hour school-run in labour, popped into work in labour and drove to Charing Cross Hospital in Hammersmith in labour, all the time wearing my highest heels. My HIV doctor was luckily more sensitive to the signs of labour than me (an experienced mother of two) and was able to quickly confirm that the baby's head was well engaged and contractions were coming regularly. I was bundled into the car and driven erratically to Chelsea and Westminster Hospital.

Once at Chelsea and Westminster I was strapped to a monitor that confirmed that the baby was indeed on his way. My partner, Paul, who had arrived equipped with his laptop, convinced that it was a false alarm or another attempt by me to get attention, turned ashen at the news. An ecstasy of activity followed. As I had a detectable viral load I needed four hours of intravenous AZT before an emergency Caesarean was performed. It wasn't clear whether the baby was prepared to wait that long. The midwives became agitated at the volume of HIV healthcare professionals who appeared during those four hours. Perhaps that's why one of the midwives tripped over my intravenous drip twice, with blood curdling accuracy and complained that she had never seen so many doctors, nurses and health advisors turn up for one patient. I felt deliciously protected by the HIV team, who stood guard over me like a pack of white-coated rottweilers.

I was given something to slow down my contractions and four hours later was wheeled into the operating theatre. I was given a 'bloodless Caesarean' (bloodless for the baby but clearly not for me), so there was a distinct aroma of barbecue wafting around the room as the doctors sizzled away at my flesh to prevent blood getting on the baby. My son was tugged out weighing 6lbs 7oz, with startling blue eyes, dark, spiky hair and a shock of back and shoulder hair, reminiscent of a tiny werewolf baby. I fell deeply, eternally in love.

I only spent three days in hospital after the birth. The diabolical hospital food coupled with over-worked midwives who routinely gave me my medication late, was sufficient for me to plead to be released. Again the HIV team who continued to visit were exemplary and eventually sprung me from my incarceration.

Back at home I had to contend with trying to force liquid AZT into a squealing, thrashing baby, piles the size of boulders and having to contend with bottle-feeding for the first time. I had breastfed my older children very successfully; lobbing my boobs out publicly had become second nature. Suddenly, in the eyes of the middle-class mothers' mafia I was a failure, bottle-feeding was so, well, chavvy! I quickly realised however that bottle- feeding had its benefits. I was able to resume a social life without a baby's mouth permanently attached to my nipple.

My son is now two and a half and wonderfully, albeit exhaustingly healthy. I did experience the indescribable horror of his 18-month HIV antibody test initially coming back as positive. Luckily, it seemed that he simply hadn't yet cleared my antibodies and the next test produced a negative result. The period between the two tests was perhaps the worst time of my life. I was racked with anguish and guilt, so finally being given a negative result was a wonderful uplifting relief. So far, I haven't seen any ill effects from the exposure to antiretroviral drugs and I am hopeful and confident that he will remain healthy. He does however seem to have a penchant for swearing at the most embarrassing times. But that can't have anything to do with my language – exposure to efavirenz in the womb perhaps?

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NHIVNA update

Thanks to all of you who attended the Competencies Study Day held in Stirling on March 21st. The feedback we received about the programme was very positive and will help to improve the content of the future competencies study days. There are two days still to be held – Manchester on Wednesday 12th September and Birmingham on Wednesday 21st November. Full details for registration for all NHIVNA events are via the events link on the website www.nhivna.org

We hope you have all enjoyed the 9th Annual Conference. If you are attending any NHIVNA event please be sure to complete an evaluation form as this helps to identify needs and formulate the programme for future events. Yes, planning has already begun for the 10th Annual Conference to be held in Glasgow in 2008 and your suggestions and input are essential to ensure the programme is of benefit.

Boehringer Ingelheim has offered sponsorship for 50 free memberships for new nurses to join NHIVNA – so if you know of colleagues who would gain from membership, please let them know. Anyone applying for free membership, should complete a membership form and submit a supporting statement. Full information is available on the website www.nhivna.org

Siân Edwards, our executive committee member with responsibility for education, is leaving us. We wish her luck on her move to Australia and thank her for her contributions to NHIVNA.

This leaves a vacancy on the committee for someone with an interest in, or whose role involves education and training of HIV nurses. If you are interested in this role and are able to commit to quarterly committee meetings, then please submit a short outline of your relevant experience and suggestions of what you can offer NHIVNA members. If interested please email: jacqueline@mediscript.ltd.uk

Sheila Morris, Chair-Elect, NHIVNA