



HIV/AIDS and reproductive health Sensitive and neglected issues

**A review of the literature
Recommendations for action**



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Ipas works globally to increase women's ability to exercise their sexual and reproductive rights and to reduce abortion-related deaths and injuries. We seek to expand the availability, quality and sustainability of abortion and related reproductive-health services, as well as to improve the enabling environment. Ipas believes that no woman should have to risk her life or health because she lacks safe reproductive-health choices.

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Abbreviations

ACOG	American College of Obstetricians and Gynecologists
ART	Antiretroviral therapy
ARV	Antiretroviral drug
CD4	Type of blood cell that fights infection; levels of CD4 cells are used to determine progression of HIV infection
CDC	Centers for Disease Control and Prevention, USA
D&C	Dilatation and curettage
EC	Emergency contraception
HPV	Human papillomavirus
ICPD	International Conference on Population and Development
ICW	International Community of Women Living with HIV/AIDS
IPPF	International Planned Parenthood Federation
IUD	Intrauterine device
MTCT	mother-to-child transmission (of HIV)
NAF	National Abortion Federation, USA
NGO	Non-governmental organization
PID	Pelvic inflammatory disease
PPT	Prevention of perinatal transmission of HIV
RCOG	Royal College of Obstetricians and Gynaecologists, United Kingdom
SOGC	Society of Obstetricians and Gynaecologists of Canada
STD	Sexually transmitted disease
STI	Sexually transmitted infection
TBA	Traditional birth attendant
UN	United Nations
UNAIDS	United Nations Joint and Co-sponsored Programme on AIDS
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VCT	Voluntary HIV counseling and testing
WHO	World Health Organization

Preface

Because developments in the field of HIV/AIDS occur quite rapidly, it can be challenging to stay abreast of the literature relating to various aspects of the epidemic. This document seeks to provide policymakers, as well as designers, implementers and evaluators of AIDS-related programs and interventions, with an overview of issues regarding the reproductive health of women living with HIV/AIDS that have received little or insufficient attention thus far. It can also be useful for those working in the fields of maternal health, family planning and abortion-related care.

The Executive Summary includes the most salient points from the document, as well as the recommendations for further action and concluding chapter. Bibliographic references, which have been omitted from the Executive Summary, can be found in the main text. The extensive reference section will hopefully provide readers with a useful resource for obtaining further information.

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Feedback from readers would be most welcome (debruynm@ipas.org)!

1. EXECUTIVE SUMMARY

In September 2000, governments represented at the United Nations (UN)-sponsored Millennium Summit adopted a set of targets for reducing poverty and improving the lives of people around the world. Two of these Millennium Development Goals (MDGs) are directly related to the reproductive health of women living with HIV/AIDS. The fifth MDG focuses on improving maternal health, while the sixth MDG aims to combat HIV/AIDS, malaria and other diseases. The specific indicators developed for these goals are limited, but work on the MDGs is beginning to galvanize action by multilateral, governmental and nongovernmental organizations (NGOs) on a broader scale. For example, at a high-level global consultation convened by UNAIDS, UNFPA and Family Care International in June 2004, representatives of multilateral organizations, governments, donors, civil society organizations and associations of people living with HIV/AIDS stated that: “these [Millennium] development goals will not be achieved without ensuring universal access to sexual and reproductive health services and programmes and without an effective global response to HIV/AIDS.”

In the 1990s, the major focus of research and programs addressing HIV/AIDS and reproductive health was on prevention of perinatal transmission of HIV (PPT).¹ A limited amount of attention was given to other issues, such as hormonal contraceptive use and HIV infection, while other topics, such as HIV/AIDS and abortion, were mostly neglected. This document aims to inform readers about some these neglected and under-valued reproductive health issues.

In 2002, in collaboration with three women living with HIV, Ipas carried out an exploratory interview study with 36 key informants in Australia, India, Kenya, South Africa and Thailand to elicit their views about the difficulties that HIV-positive women may face in dealing with both planned and unwanted pregnancies. An accompanying literature review covered factors influencing HIV-positive women’s decisions about childbearing, HIV and pregnancy outcomes, measures to prevent perinatal transmission of HIV, and pregnancy termination by women living with HIV.

This publication updates that literature review. It addresses provision of contraceptive information tailored to the needs of HIV-positive people, critical and sensitive aspects of HIV counseling and testing during antenatal care and labor before childbirth, options for parenting other than pregnancy through unprotected intercourse, and abortion-related

¹ The commonly-used term PMCT – prevention of **mother**-to-child transmission of HIV – can carry unintended connotations of “blaming” the mother if a newborn infant is infected; with the term “parent-to-child transmission”, the same danger of implicit blame applies. I therefore advocate for use of the more neutral term “perinatal transmission”, which was used in the past.

care.² The recommendations for further action in these areas will hopefully contribute to increased attention by various organizations to the full spectrum of reproductive health needs of women, and men, living with HIV/AIDS.

1.1. The context

By the end of 2004, it was estimated that 39.4 million people were living with HIV worldwide, including 17.6 million women. In sub-Saharan Africa, the proportion of women aged 15–49 years who have contracted HIV is almost 57%; 76% of HIV-positive young people aged 15–24 years in that region are women. Policies and programs focusing on their reproductive health needs have centered primarily on PPT interventions. However, UNAIDS reports that the percentages of women covered by PPT programs up to 2004 ranged from only 2% in the Western Pacific region and 5% in sub-Saharan Africa to 34% in the Americas. A recent review of international guidelines and national policies on HIV/AIDS, PPT and voluntary HIV counseling and testing (VCT) concluded that a sharper focus is needed on addressing fertility options for HIV-positive women, as well as a greater emphasis on human and reproductive rights and gender. This would entail devoting more attention to their own sexual and reproductive health as women, rather than focusing only on their role as mothers.

1.2. Areas of reproductive health needing increased attention

1.2.1. HIV and contraception

HIV-positive women want to avoid pregnancy for a variety of reasons: they fear giving birth to an infected child; they already have the number of children they wish, they want to avoid re-infection with HIV that might accompany unprotected sex, or they want to focus their resources on maintaining their own health and wellbeing and that of their families. It is therefore essential that women living with HIV receive adequate information about, and provision of, modern contraceptive methods.

Family planning materials and counseling guidelines not uncommonly fail to address HIV in detail. While WHO states that most contraceptive methods are appropriate for HIV-positive women based on current research evidence, some considerations concerning different methods in relation to HIV/AIDS should nevertheless be addressed in family planning. Informing women about these considerations would not be done to discourage them from

² Other reproductive health topics not addressed in this report include concerns about emerging drug resistance with antiretroviral drugs used for PPT and the lack of research on antiretrovirals in relation to fertility and gynecological issues.

choosing a particular method but would contribute to their being fully informed when making their selections. Of course, in many places not all methods are available, particularly in rural areas where women live far from health centers and no community-based distribution systems are in place. In addition to providing women with the information they need, continued efforts are therefore needed to expand women's (including adolescent girls') access to a wide range of modern methods.

It is important to emphasize that only male and female condoms offer protection against HIV re-infection, but women also need to be informed that use of condoms together with another modern contraceptive can lower their risks of unintended pregnancies. This is because accidental pregnancy rates are higher with both male and female condoms than with methods such as the pill, injectables and implants. WHO advises that two other barrier methods, diaphragms and cervical caps, not be recommended to HIV-positive women unless other contraceptive methods are unavailable or unacceptable to the woman.

Some reproductive health experts recommend caution in advising IUD use for women at risk of sexually transmitted infections (STIs) or pelvic inflammatory disease (PID), conditions seen more frequently in HIV-positive than HIV-negative women. Copper-bearing IUDs may result in heavier or longer menstrual bleeding in the first 3–6 months after insertion; in some women this may cause anemia that should be treated or prevented. This should be taken into account when counseling HIV-positive women on IUD use since they are at risk for anemia because of HIV infection or because anemia is a side effect of some antiretroviral drugs. WHO states that there are no reasons to avoid initiation of IUD use in HIV-positive women, but that it should generally not be considered for women with AIDS, unless they are clinically well on antiretroviral therapy (ART), because potential risks usually outweigh the advantages of using the method. WHO further states that women with AIDS already using IUDs should be closely monitored for pelvic infections.

A few studies have indicated that hormonal contraceptives could possibly influence disease progression in HIV-positive women. WHO notes that the limited evidence does not show an association between use of combined oral contraceptives and changes in CD4 cell counts (a marker used to assess the status of HIV infection) so that the benefits of using this method outweigh the potential risks for HIV-positive women. Other studies have suggested that oral contraceptives could be a co-factor in increasing the risk of cervical carcinoma among women with human papillomavirus (HPV) and that use of injectables could be associated with a risk of contracting STIs. As the number of studies is limited and some are very preliminary, further research is needed to confirm or disprove such findings so that recommendations on hormonal contraceptive use by HIV-positive women can be adapted if necessary.

Some drugs used to treat opportunistic infections may reduce the effectiveness of oral contraceptives. In addition, some antiretroviral medications may decrease the effectiveness

of oral contraceptives and oral contraceptives may increase or decrease concentrations of ART drugs (e.g., amprenavir). As more women gain access to ART, they need to be informed about such possible interactions and the advisability of using condoms as well.

An evaluation of UN-supported PPT programs found that they were insufficient in addressing prevention of future unintended pregnancies. WHO has pointed out that access to contraceptive methods for HIV-positive women in the postpartum period remains limited. Such observations have led to increasing calls to better integrate family planning and all HIV/AIDS programs. An ideal place for integrating family planning and AIDS services would seem to be at VCT centers since the same factors that put people at risk of HIV infection can lead to unplanned and unwanted pregnancies. If full integration is not possible, counseling protocols should at least ensure that family planning programs make referrals to HIV programs and vice versa. Particular attention should be focused on including emergency contraception (EC) in contraceptive counseling and services. VCT sites should consider offering HIV-positive women EC supplies to take home with them, while PPT sites could do the same during follow-up care of women after they give birth.

Another issue that needs to be addressed is potential provider reluctance to provide some services (vaginal exams, insertion of IUDs, injectables) due to a lack of protective supplies. Family planning providers need to have sufficient quantities of gloves and disposable syringes and needles.

1.2.2. VCT during antenatal care and labor

Routine antenatal testing: there have been reports from both industrialized and developing countries of pregnant women being tested without their prior informed consent, sometimes with test results being given to family members rather than the women themselves. Some researchers have advised testing women without their consent or administering ART for PPT to all women considered at risk. Increasingly, national policies are recommending routine “opt-out” HIV testing of pregnant women, in which women are informed – either verbally or through written materials such as leaflets – that they will be tested for HIV unless they specifically state that they do not want a test.

The rationale behind the switch to opt-out testing is that stigmatization will be decreased (that is, women do not feel they are singled out for HIV testing if everyone undergoes the test) and higher percentages of women are then tested. A disadvantage of opt-out testing is that it may be routinely imposed and women may not realize they can refuse the test or dare to do so, particularly if they are less educated, poor or young. A report from Canada, for example, stated that women in one province did not always know they could opt out or even that they were being tested.

To cope with the large numbers of women who will be tested via opt-out models, changes are needed either in health system procedures, in HIV testing protocols or both. Reports from various countries document that pregnant women are receiving no or inadequate pre-test counseling; in other cases, health facilities are training additional staff to become counselors or are offering pre-test counseling to groups rather than individual women. However, WHO and UNAIDS now state that pre-test counseling may be entirely omitted from routine testing protocols provided that patients' confidentiality is preserved, patients give informed consent, and patients are referred to post-test counseling and medical and psychosocial support if they test HIV-positive.

Women living with HIV in countries around the world have noted that they were given insufficient information on the nature of HIV tests and test results and insufficient time to come to terms with a positive diagnosis received as part of PPT programs. Programs that employ routine antenatal testing must therefore include protocols and practices that observe women's rights to receive good quality health information and to give fully informed consent. A woman's pregnancy status should not mean that less attention is given to her rights than the rights of people in other HIV testing situations.

There is a great need to expand promotion and implementation of VCT services beyond the antenatal care setting. UNAIDS estimated that, in 2004, fewer than 1% of women and men aged 15–49 years who needed VCT had access to it in the 73 lower- and middle-income countries most affected by the epidemic. VCT or referrals to VCT services should be available to women and men through all entry points into the health-care system. Until this is achieved, more concerted efforts should be made to offer VCT to female survivors of sexual violence, women receiving mother-child health care services, and women receiving postabortion care and induced abortions.

Testing during labor and delivery: because considerable numbers of women in many developing countries do not receive antenatal care or VCT during antenatal visits, international and national agencies are recommending that VCT not only be offered during pregnancy but also during labor and delivery. Such recommendations raise concerns that need to be addressed in relation to the nature of women's consent, issues of privacy and confidentiality, and issues related to false-positive test results.

Informed consent: it is important to determine to what degree a woman can give fully informed consent when she is required to opt out of HIV testing during a stressful time such as labor and delivery. Will she have sufficient time to think through what would be involved in learning that she is HIV-positive and having to deal with the consequences?

In speaking about routine antenatal testing, WHO and UNAIDS state that the minimum of information each woman should receive so that she can give informed consent includes: "the clinical benefit and the prevention benefits of testing, the right to refuse, the follow-up

services that will be offered and, in the event of a positive test result, the importance of anticipating the need to inform anyone at ongoing risk who would otherwise not suspect they were being exposed to HIV infection.” They do not say that mention of possible negative consequences of testing or knowing one’s status needs to be included in the minimum information. Nevertheless, research has shown that women often fear and actually experience stigmatization and discrimination due to HIV; this needs to be taken into account in all testing protocols.

Maintenance of confidentiality: a second issue of concern regarding rapid testing during labor is related to confidentiality. If special precautions are not taken to ensure this, women's HIV-positive status may become known to others against their will. Measures to help guarantee confidentiality include having interpreters available for women whose primary language is not the same as that of the providers, ensuring that women are alone when HIV testing is discussed, asking women who they want present when test results are given, labeling intravenous ART medications in a way that protects confidentiality, and ensuring that logbooks recording information about the testing are kept confidential. Implementing all of these measures can pose a challenge for clinic and hospital staff in busy labor wards. Studies in Jamaica and South Africa have already noted difficulties in maintaining confidentiality in such settings, indicating that this issue is of special importance in developing policies and protocols.

False-positive test results: a third issue needing attention concerns the possibility of false-positive results with rapid tests. Concerns are being raised about administration of nevirapine for PPT because of the possible emergence of drug resistance. It is not inconceivable that concerns may also arise regarding the long-term effects of ART administration to women and infants who are HIV-negative at the time of birth. In this regard, a US training module on HIV testing during labor notes that providers should tell the woman that the preliminary test could be false-positive and that ART for her and her baby will be stopped if the confirmatory test is negative. More research is clearly needed on the use of rapid tests and the longer term effects of ART for PPT on both HIV-positive and HIV-negative women and infants. Women living with HIV should be involved in developing ethical policies on HIV testing during antenatal care and labor so that their insights and perspectives are incorporated into the design, planning and implementation of such programs.

1.2.3. Other parenting options: adoption and assisted reproduction

Although PPT access is increasing around the world, UNAIDS reported at the end of 2004 that less than 10% of pregnant women overall and only 1% of women in countries with high HIV prevalence were offered access to such programs and services. While initiatives to expand access are well underway, it will be years before all HIV-positive women will benefit.

For these women and people living with HIV who are part of discordant couples, more attention should be given to other options for becoming parents.

As access to ART increases, HIV infection is becoming a more chronic rather than fatal condition and some women and men living with HIV want to consider the option of adopting children. To make this a feasible choice, social norms, policies and regulations need to be addressed. For example, cultural expectations that the family lineage be carried on through biological children would have to change. Criteria for prospective adoptive parents would need to stipulate that a positive HIV diagnosis is not a reason in itself to rule out qualification. As more HIV-positive people gain access to ART and their survival is prolonged, this parenting option should at least be explored and discussed by national AIDS programs, AIDS Service Organizations, VCT centers and adoption agencies.

There are options other than unprotected intercourse that can enable people living with HIV and discordant couples to have biological children but these do not appear to be widely promoted and available. Assisted reproduction (for example, sperm washing, artificial insemination with donor sperm, intrauterine insemination) can offer options of pregnancy with reduced risks of partner or perinatal infection.

Assisted reproduction is, of course, much more feasible in industrialized than developing countries and for persons with considerable financial resources, since few such procedures are subsidized through national health systems or private health insurance schemes. However, people living with HIV should be informed about the possibilities.

1.2.4. HIV and abortion

While some studies on HIV and pregnancy report on pregnancy complications and percentages of women suffering miscarriages and stillbirths, very few have specifically investigated induced abortion among HIV-positive women.

Fetal loss: data available for developing countries indicate that women living with HIV may be at increased risk of ectopic pregnancy, miscarriage and stillbirth. Co-infection with other diseases may increase such risks. Counseling of pregnant HIV-positive women should include information about the possibility of miscarriages and the fact that postabortion care can be given if they have an incomplete abortion. As STI infections and malaria may be associated with a possibly increased risk of miscarriage, diagnosis and treatment of STIs and malaria should be a standard component of antenatal care for HIV-positive women.

Coerced abortion: reports of pressure on HIV-positive women to be sterilized or terminate pregnancies have emerged in research studies, as well as anecdotally, for example in interviews for newspaper articles. Women living with HIV/AIDS should never be pressured or

coerced into having an abortion by anyone – their partners, their parents, their families or health-care providers – as this is a violation of their human rights.

Unsafe abortion: initiatives to better integrate family planning and HIV/AIDS programs should address what HIV-positive women can do to deal with unwanted pregnancies. Nevertheless, many documents on HIV and family planning fail to mention safe, legal abortion in this regard, despite evidence that HIV-positive women are terminating pregnancies even in countries with numerous legal restrictions on abortion.

WHO estimates that about 19 million pregnancies worldwide are terminated unsafely each year by persons lacking the necessary skills and/or in circumstances that lack minimal medical standards. Ninety-five percent of these unsafe abortions occur in developing countries, including areas where HIV prevalence rates among women are very high. Up to 68,000 women die annually due to unsafe abortions. In addition, many women suffer short- and long-term complications, such as prolonged or excessive bleeding, infections and sepsis, tetanus, cervical or vaginal lacerations, uterine or bowel perforations and secondary infertility.

Three conditions commonly seen in HIV-positive women could possibly increase the risks of unsafe abortions: bacterial vaginosis, chlamydial cervicitis and anemia. None of the research studies identified in the literature review specifically investigated the effects of unsafe abortions on HIV-positive women. However, it is reasonable to think that immunocompromised women may experience even greater risks to their health from complications than HIV-negative women. It is important that reproductive health materials dealing with HIV also address treatment of unsafe abortion.

Reproductive rights and legal abortion: UNAIDS, the Office of the United Nations High Commissioner for Human Rights and WHO all have stated that HIV-positive women should have access to safe abortions in circumstances permitted by law. International and national NGOs are also beginning to address their right to exercise choice in regulating their fertility, including the option of safe, legal abortion. Nevertheless, few international guidance documents on HIV and pregnancy mention abortion.

HIV-positive women in both industrialized and developing countries more frequently have pregnancy complications than HIV-negative women, such as genital and urinary tract infections, more frequent and severe blood loss, bacterial pneumonia, intrauterine growth retardation, low birth weight, pre-term labor and premature rupture of membranes. Some women living with HIV may wish to terminate unplanned and unwanted pregnancies because they are on treatment with drugs contraindicated in pregnancy. For these reasons, some legal experts believe that a woman's HIV-positive status should entitle her to a legal abortion when abortion is permitted to protect a woman's health or life. If governmental and health system regulations and protocols were to include HIV infection under these

indications, it would be unnecessary to specifically name HIV/AIDS as an indication for abortion in laws.

Access to abortion permitted by law: in countries where abortion is widely available for various indications, women living with HIV should have the same access to abortion as other women. Overall access to abortion may be deficient, however, as indicated by reports from countries such as England and South Africa. There are anecdotal reports that some health-care providers may avoid performing invasive procedures, including abortion care, for women with HIV due to fears of occupational exposure to the virus. Some health professionals may provide (illegal) abortions but charge high fees, thus preventing HIV-positive women from accessing safe terminations of pregnancy. In addition, some HIV-positive women may be “granted” an abortion only if they consent to sterilization afterwards. There is reluctance by politicians and governmental officials in many countries to prioritize abortion-related care as an aspect of reproductive health. When governmental support for postabortion care and safe, legal abortions is lacking, it will be difficult to ensure that all women – including those living with HIV – can access such services.

Even where legal abortion services are available, women may not be aware of them or their right to terminate an unwanted pregnancy. In a few countries, national policies, information materials and counseling guidelines produced by governments and NGOs openly state that HIV-positive women should be supported in making choices on whether to continue or terminate pregnancies. However, because of opposition to abortion by government officials, even in countries where HIV-positive women may legally terminate pregnancies, such as the United States, materials dealing with reproductive health and HIV may fail to address abortion.

US government policies forbid family planning assistance funding to be given to foreign NGOs that carry out abortion-related work (provision of abortions for indications other than rape or protecting a woman’s life, referrals for abortions, advocacy for legal reform). Although the same restrictions do not apply to development assistance funds for AIDS-related work, it appears that some US-based international NGOs may fear a loss of government funding if they address safe, legal abortion in manuals and guidelines they produce for developing countries; in any event, many such guidance documents avoid the topic. Others may briefly mention unsafe abortion or induced abortion but only in ambiguous terms, rather than as a legitimate option for HIV-positive women with unwanted pregnancies.

Clinical guidance on abortion in relation to HIV/AIDS: as far as could be determined from the literature searches, no trials have been done to assess the effectiveness, possible side effects or complications of various abortion methods in women living with HIV, nor have studies been done on interactions between medication abortion drugs and ART medications. The searches on abortion and HIV/AIDS conducted for this literature review

also found no clinical research articles or evidence-based recommendations regarding HIV/AIDS and provision of abortion-related care. Clearly, this is an area of reproductive health research that has been neglected.

A convenience sample of 30 guidance documents on abortion and emergency obstetric care was reviewed to determine whether they mentioned HIV/AIDS in any way. The publications were produced by NGOs and professional associations in Canada, the United Kingdom and the United States and were included in the review because they were easily accessible through the Internet and/or because they come from authoritative organizations whose recommendations are often a model for health professionals elsewhere.

Guidelines and information materials from the American Medical Women's Association, the College of Physicians and Surgeons of Manitoba, EngenderHealth, Ipas and the Royal College of Obstetricians and Gynaecologists in the United Kingdom all mention that abortion clients should receive information on HIV and/or STI testing. Only Ipas and US National Abortion Federation (NAF) documents mention that women known to be HIV-positive should receive referrals to appropriate services for counseling and other health-related needs.

Given the prevalence of HIV/AIDS in many developing countries, guidance documents on abortion care would be improved if they were to advise that HIV infection be addressed in postabortion contraceptive counseling. For example, all counseling guidelines should stress that only condom use prevents HIV infection (and re-infection for HIV-positive women). Attention should also be given to emerging evidence regarding possible interactions between hormonal contraceptives, antiretroviral drugs and medications used to treat opportunistic infections such as tuberculosis. In the sample of documents read for this paper, some publications produced by EngenderHealth, Ipas, NAF and Planned Parenthood of New York City mention that condoms and barrier methods protect against both pregnancy and HIV/STI infection. Two manuals from EngenderHealth and Ipas mention interactions between hormonal contraceptives and rifampin.

There were few specific references to HIV/AIDS regarding clinical care in the reviewed documents. Some advise clinicians to inquire about HIV infection as part of history taking prior to procedures, while others do not mention this or refer to asking about STIs in general. Only one guide mentions ART, saying that women should not interrupt their antiretroviral regimens before or after abortions as the drugs used do not alter the management of women undergoing or recuperating from minor surgical procedures. None of the documents addressed possible interactions between drugs used to treat HIV-related infections and medications used in relation to abortion procedures. For example, metronidazole may be given to women with bacterial vaginosis who undergo vacuum aspiration or to women with genital tract sepsis after unsafe abortions. Amprenavir, an antiretroviral drug, is contraindicated for patients treated with metronidazole.

1.2.5. Other reproductive health issues

In comparison with PPT interventions, a number of other reproductive health issues important to women living with HIV/AIDS have received insufficient attention. For example, HIV-positive women have a greater risk of contracting HPV than HIV-negative women. Given the role of HPV in cervical cancer and the fact that immunosuppression appears to increase susceptibility to oncogenic strains of HPV, it is recommended that women with HIV and HPV have pap smears frequently. As simpler effective diagnostic tests become available, these should be mentioned in reproductive health materials related to HIV/AIDS. In connection with HPV, an inexpensive option for developing countries is visual inspection of the cervix with acetic acid and treatment with cryotherapy or electrosurgical excision. However, it has been pointed out that cryotherapy and LEEP may be less effective in treatment for HIV-positive women so they need to be counseled about this. Another example is a pin-prick test for ovarian cancer that is under development.

Reproductive health counseling should also emphasize the importance of treating opportunistic infections that may make pregnancy riskier (e.g., anemia, Chlamydia and other STIs, malaria). Here, too, consideration should be given to including new rapid tests (for example, the "Firstburst test" for detecting Chlamydia).

Guidance on infant feeding for HIV-positive women should be more comprehensive, including a wider range of topics:

- risks and benefits of exclusive breastfeeding and exclusive formula feeding versus mixed feeding
- pasteurization/heat treatment of breast milk
- wet nursing and milk banks
- mother-child bonding issues
- how to cope with reactions to formula feeding from family and community members
- preparation of formula by the mother herself or other caregivers
- costs of formula preparation (commercial or donated products, modified animal milk)
- possible obstacles to being able to continue the chosen method if a woman needs to relocate (e.g., refugees, seasonal or temporary laborers)
- how to carry out abrupt weaning for mothers who have been exclusively breastfeeding.

Finally, we need more innovative thinking on how to expand coverage of reproductive health services to a greater number of women living with HIV/AIDS. Large numbers of women around the world live in places that are far from health facilities and where few biomedically trained health professionals are available. Yet the geographical isolation of these women does not necessarily protect them against HIV infection. When their spouses return home after job-related travel and migration, they may not only bring their wives much needed income but also infection with the virus.

At the very least, efforts should intensify to help community-based health educators reach these communities with information about HIV/AIDS, perinatal transmission of the virus and measures that can contribute to safer motherhood. Involving men in such discussions may help mobilize families and neighbors to pool resources so that arrangements can be made to provide women with child care and transportation so that they can take advantage of reproductive health services, such as antenatal care and diagnosis and treatment of reproductive tract infections and STIs. Discussions on these topics could also lead to greater community preparedness to help women who need emergency transportation to health facilities for treatment of pregnancy complications and postabortion care.

More efforts are also needed to work with traditional birth attendants (TBAs), who may be the primary or only caregivers that pregnant women see in many communities. Educating TBAs on how they can decrease risks of HIV transmission during delivery (to babies and themselves) is a first step; incorporating their help in PPT programs goes a step further.

1.3. Recommendations

The following recommendations can be made to help improve reproductive health care for women living with HIV/AIDS.

1.3.1. Gynecological, obstetric and maternal health care

- Guidance on obstetric and gynecological care for women living with HIV/AIDS needs to include screening for STIs and reproductive tract cancers, PPT measures that address infant feeding in a comprehensive manner, measures that can be taken to reduce risks of miscarriage (e.g., treatment of malaria and STIs), and information on postabortion care and induced abortion care.
- Strategies must be developed to expand coverage of reproductive health services for women living with HIV; involvement of men and TBAs can be an important component of such strategies.
- Guidance on family planning counseling and provision of contraceptive methods should include: information on various contraceptive methods in relation to HIV/STIs and possible measures to deal with failed contraception, including emergency contraception and safe, legal abortion.
- Emergency contraception should be advertised widely and made easily accessible to women living with HIV through VCT sites and follow-up care of participants in PPT programs.

1.3.2. HIV counseling and testing

Guidance from multilateral and other authoritative international agencies should address the following issues:

- the ethics of testing women without their voluntary, informed consent

- obstacles (and possible solutions) to enabling women to give truly voluntary and informed consent for HIV testing during labor and delivery (e.g., the minimum amount of information needed for informed consent, how to guarantee privacy and confidentiality in crowded labor wards, measures to guarantee that women receive post-test counseling and any needed support services)
- testing of newborn infants without the woman's voluntary and informed consent.

In addition:

- **All** women (and men) should be able to take advantage of VCT services, not only women receiving antenatal care. It is important to make VCT available through all entry points into the health-care system, including facilities that provide STI diagnosis and treatment, contraceptive counseling, emergency contraception, postpartum care, mother-child health care, postabortion care, induced abortions, and, where available, sexual and reproductive health services catering to men and adolescents. Expanding VCT in this way will help clarify that a primary purpose of VCT is to help people care for themselves and not only to reduce the incidence of perinatal transmission of HIV.
- Women living with HIV should be involved in developing policies on HIV testing during antenatal care and labor so that their insights and perspectives are incorporated into the design, planning, implementation and evaluation of such programs.
- VCT for couples should be promoted and guidance for such counseling should be widely disseminated.
- VCT for men should include questions about whether they and their partners are planning to have children now or in the near future. Clients who indicate that they do plan to have children should be informed in more detail about the risks of perinatal transmission and available PPT measures. Those who say that they are not thinking about pregnancy should be informed in more detail about ways that they and their partners can avoid unwanted pregnancies (contraceptive methods including emergency contraception and vasectomy, safe legal abortion).

1.3.3. HIV/AIDS and reproductive choice

- International and national expert consultations and meetings on HIV and reproductive health must highlight the importance of observing sexual and reproductive rights, including the right of HIV-positive women to decide whether and when to have children. Advocacy and policy documents emanating from such meetings should address: contraception, including emergency contraception; accessibility and affordability of PPT measures; ongoing ART to ensure parents' survival; measures to help women deal with unwanted pregnancies including safe, legal abortion.
- Since negative attitudes towards childbearing by HIV-positive women and men continue to exist among community members and health professionals, policymaking bodies should continue emphasizing that pressure or coercion on HIV-positive women to terminate pregnancies or undergo sterilization violates their human rights.

- If HIV/AIDS is named as a specific indication for abortion in laws, health systems must have protocols in place to ensure that women living with HIV are not pressured by health-care providers or other parties to have an abortion.
- If laws do not specify HIV/AIDS as an indication for legal abortion but do permit pregnancy termination to protect a woman's health, health systems should ensure that HIV status is included as a possible qualifying condition.
- Policymakers and AIDS service organizations should ensure that people living with HIV are informed about, and enabled to access, assisted reproduction techniques and possibilities of legally adopting children.

1.3.4. Research

Areas in which further research is warranted include:

- ***Interactions of contraceptives with antiretroviral and other HIV-related drugs:*** while some research is being done in this area, most attention seems to be focused on oral contraceptives, Norplant and Depo-Provera. Further research is needed regarding IUD use by HIV-positive women, interactions between other hormonal contraceptives (EC, injectables, the Implanon implants and contraceptive patches) and HIV-related medications, and on hormonal contraceptive use and HPV in HIV-positive women.
- ***Pregnancy counseling for HIV-positive women:*** studies are needed regarding the quality of counseling given to HIV-positive women who are considering their reproductive options, particularly regarding pressure to have abortions and sterilizations or denial of postabortion care and legal abortions.
- ***HIV testing of women during labor and delivery:*** research is needed on how protocols and practice can ensure that women's consent for testing is truly voluntary and informed at this time, how guarantees of privacy and confidentiality can be ensured in crowded labor wards, what measures can be taken to ensure confidentiality of test results after childbirth, and what steps are needed to ensure that women receive or return for post-test counseling.
- Research should be carried out to follow up women who receive ***VCT in the antenatal period and*** women who are tested ***during labor and delivery to assess comparative outcomes*** in terms of how they are able to cope with a positive diagnosis and to determine whether there are differences in negative repercussions of the diagnosis in the two groups. Attention should also be given to the possible effects of ART administration to women and infants who were HIV-negative at the time of birth.
- ***Provision of ART for PPT without women's consent at the time of labor and delivery:*** given emerging suggestions that all women at high risk of HIV infection and/or their babies be given nevirapine or other drugs at the time of childbirth, attention should be given to the ethics of such measures and their possible effects regarding drug resistance and future treatment options for women who are HIV-positive.
- ***Complications of unsafe abortions among HIV-positive women:*** studies should determine whether HIV-positive women suffer more frequent and more severe

complications from unsafe abortions in order to determine whether postabortion care should be adapted for their treatment. Findings could also be used to support advocacy efforts to include abortion-related care in reproductive health interventions for women living with HIV/AIDS.

- ***Side effects and complications following induced abortions among HIV-positive women:*** comparisons could be made between different abortion methods (e.g., sharp curettage, vacuum aspiration, medication abortion) used for HIV-positive women to determine relative risks of side effects and possible complications. Studies can further determine whether HIV-positive women who are asymptomatic, immunocompromised but not receiving ART, and who are taking various ART drugs are at increased risk of infections or bleeding problems and, if so, what measures can be taken to reduce such complications.
- ***Medication abortion for HIV-positive women:*** specific topics that could be addressed include whether any drawbacks exist to combined facility and home administration of drugs for HIV-positive women living in resource-constrained settings, possible interactions with antiretroviral and other HIV-related drugs, possible special considerations for follow-up care, and possible antiviral or immunosuppressant effects of abortion drugs.

1.4. Concluding thoughts

Gender, human rights and ethical concerns are critically important for formulating relevant and effective policies and interventions to address the reproductive health needs of HIV-positive women.

Prevailing gender norms and social expectations in most societies – for example, that men should exercise control over others rather than share decisionmaking and responsibility for their own and their sexual partners’ health and wellbeing – lead to situations in which both they and their partners are exposed to unnecessary risks. Acceptance of male domination in relationships prevents discussion and agreement between male and female sexual partners on ways in which they can better protect their own and their children’s health. Stigma, prejudice and discrimination related to homosexuality prevent some men from being open about their sexuality and the relationships they have. When men who have sex with men have female partners as well, a lack of openness creates a situation in which both partners are prevented from undertaking protective measures. Interventions to address men’s sexual and reproductive health needs should therefore be expanded, and efforts to involve men in programs to prevent perinatal transmission should be intensified.

Gender-based norms and expectations that relegate women to subordinate societal positions can pose obstacles for them in many areas of reproductive health. For example, even when women begin to receive more information on contraceptive methods in relation

to HIV infection, they may be hindered from using the methods of their choice due to objections and preferences expressed or imposed by spouses or in-laws.

Sexual violence against women – which can expose them both to HIV/STI infection and unwanted pregnancies – is also an outcome of prevalent gender biases that imply women’s sexuality is not their own to control. Marital rape is still not seen as a crime in many countries and much more needs to be done to enable women to cope as survivors of violence, including expanding access to post-exposure prophylaxis, emergency contraception and legal abortion.

Societal expectations that all women should fulfill a role as mothers of biological children and that they must do everything possible to ensure the health of their children have led to a misplaced emphasis on “mother-to-child” transmission rather than “perinatal transmission.” It is not only women who are responsible for potential infections during pregnancy; many pregnant HIV-positive women also have HIV-positive partners and both future parents should share responsibility for implementing the PPT measures of their choice.

Respect for women’s rights is of further concern. The emphasis on preventing perinatal HIV transmission must not result in a situation in which requirements for antenatal VCT – including its voluntary nature and the need for informed consent – are seen to be less important than requirements for VCT in other circumstances. While most women will take any feasible measure to protect their future children, this does not negate their right to make such decisions themselves without pressure or coercion.

Women must be enabled to make other decisions regarding childbearing for themselves as well. It is insufficient for policies and guidance on reproductive health care for HIV-positive women to simply state that they should be enabled to use contraceptives to prevent unwanted pregnancies. Contraceptive failures occur and many women are unable to avoid pregnancies they did not want. To avoid discrimination and violations of their human rights, women must not be prevented by political controversy from accessing safe medical procedures to protect their health, including legal abortions. It is also a matter of ethics to ensure that reproductive health care for HIV-positive women includes guidance on, and the provision of, treatment for the complications of unsafe abortions.

A great deal has been written in recent years about the feminization of the AIDS pandemic. This recognition of the impact of HIV/AIDS on women and girls is warranted and work should continue to address the multiple effects of a positive HIV diagnosis on women’s health. We must redouble our efforts, however, to ensure that this work addresses the full spectrum of women’s needs, including all aspects of sexual and reproductive health, by placing it within a gender-based framework of ethics and human rights.

2. INTRODUCTION

In September 2000, governments represented at the United Nations (UN)-sponsored Millennium Summit adopted a set of targets for reducing poverty and improving the lives of people around the world. Two of these Millennium Development Goals (MDGs) are directly related to the reproductive health of women living with HIV/AIDS. The fifth MDG focuses on improving maternal health, while the sixth MDG aims to combat HIV/AIDS, malaria and other diseases [1]. The specific indicators developed for these goals are limited, but work on the MDGs is beginning to galvanize action by multilateral, governmental and nongovernmental organizations (NGOs) on a broader scale. For example, at a high-level global consultation convened by UNAIDS, UNFPA and Family Care International in June 2004, representatives of multilateral organizations, governments, donors, civil society organizations and associations of people living with HIV/AIDS stated that: “these [Millennium] development goals will not be achieved without ensuring universal access to sexual and reproductive health services and programmes and without an effective global response to HIV/AIDS” [2].

In the 1990s, the major focus of research and programs addressing HIV/AIDS and reproductive health was on prevention of perinatal transmission of HIV (PPT).¹ A limited amount of attention was given to other issues, such as hormonal contraceptive use and HIV infection, while other topics, such as HIV/AIDS and abortion, were mostly neglected. This document aims to inform readers about some of these neglected and under-valued reproductive health issues.

In 2002, in collaboration with three women living with HIV, IPAS carried out an exploratory interview study with 36 key informants in Australia, India, Kenya, South Africa and Thailand to elicit their views about the difficulties that HIV-positive women may face in dealing with both planned and unwanted pregnancies [3]. An accompanying literature review covered factors influencing HIV-positive women’s decisions about childbearing, HIV and pregnancy outcomes, measures to prevent perinatal transmission of HIV, and pregnancy termination by women living with HIV [4].

This publication updates that literature review. It addresses provision of contraceptive information tailored to the needs of HIV-positive people, critical and sensitive aspects of HIV counseling and testing during antenatal care and labor before childbirth, options for parenting other than pregnancy through unprotected intercourse, and abortion-related

¹ The commonly-used term PMCT – prevention of **mother**-to-child transmission of HIV – can carry unintended connotations of “blaming” the mother if a newborn infant is infected; with the term “parent-to-child transmission”, the same danger of implicit blame applies. I therefore advocate for use of the more neutral term “perinatal transmission”, which was used in the past.

care.² The recommendations for further action in these areas will hopefully contribute to increased attention by various organizations to the full spectrum of reproductive health needs of women, and men, living with HIV/AIDS.

2.1. Literature review: background

The information in this report is derived from a review of more than 300 documents produced mostly from 1998 through July 2004. Searches were done in the CINAHL, MEDLINE, POPLINE, SOCIOFILE and PSYCHINFO databases (key words: HIV, unwanted pregnancy, miscarriage and abortion). Information was also sought through Internet search engines using keywords such as contraception, contraceptives, pregnancy, PMCT, perinatal transmission, miscarriage and abortion.

Abstracts and materials collected at the Fifth and Sixth International Congresses on AIDS in Asia and the Pacific, as well as from the XIII, XIV and XV International Conferences on AIDS, were further included. Finally, a number of policy statements, manuals and other guidance documents on abortion and emergency obstetric care were reviewed to assess whether and how they addressed HIV/AIDS.

The documents included in the extensive reference list include research reports, scientific journal articles, conference abstracts and posters, manuals and guidelines, course materials, informational and educational materials, newspaper articles, and communications disseminated through e-mail forums. The publications were read to discover whether and how they addressed the topics of HIV/AIDS and contraception, antenatal HIV counseling and testing, assisted reproduction, adoptive parenting and abortion; the studies included were not assessed regarding the methodologies used or their research strengths and weaknesses.

Given the wide variety of documents included in the review, this publication identifies which policy recommendations are considered to be evidence-based, such as current World Health Organization (WHO) recommendations on contraceptive use by HIV-positive women.

2.2. HIV/AIDS and reproductive health: the context

By the end of 2004, it was estimated that 39.4 million people were living with HIV worldwide, including 17.6 million women. In sub-Saharan Africa, the proportion of women aged 15–49 years who had contracted HIV was almost 57%; 76% of HIV-positive young people aged 15–24 years in that region were women [5]. Levels of HIV prevalence are

² Other reproductive health topics not addressed in this report include concerns about emerging drug resistance with antiretroviral drugs used for PPT and the lack of research on antiretrovirals in relation to fertility and gynecological issues.

obtained in many countries through sentinel surveillance of women attending antenatal clinics. It may be assumed that many HIV-positive women who choose to terminate pregnancies are less likely to attend antenatal clinics and be included in HIV surveillance statistics [6].

Many women around the world are unable to negotiate the terms under which they have sex, including condom and contraceptive use. They are therefore unable to protect themselves against infection with HIV and sexually transmitted infections (STIs) and cannot control whether they become pregnant. They include married women who think they are not at risk because they believe they are in monogamous relationships [7].

Women and girls worldwide are also exposed to the double jeopardy of HIV/STI infection and unwanted pregnancies as a result of coerced sex. These factors make it obvious that prevention strategies focused on sexual abstinence outside marriage and mutual monogamy with an uninfected partner within marriage are insufficient to protect a large number of women.

“There is little dispute that abstinence is a component of broader prevention efforts, though it is often incompatible with the realities of abuse and inequality that women and girls face....In addition, the formulation ‘abstinence until marriage’ does not reflect that marriage itself can be a risk factor, since married women are often unable to protect themselves or to negotiate condom use.” [8]

Center for Strategic and International Studies, USA

A survey of 70 countries in 2003 showed that the percentages of women covered by PPT programs ranged from only 2% in the Western Pacific region and 5% in sub-Saharan Africa to 34% in the Americas [9]. In addition to the children who are infected during the perinatal period, many other children are also affected by HIV/AIDS. More than 90% of people living with HIV reside in developing countries; without access to antiretroviral therapy, their median survival time is estimated to be about 10 years [10]. An estimated 13–18 million children worldwide have already lost one or both of their parents to AIDS, including 12 million children in Africa and about 750,000 children in Asia [9, 11–12]. By the year 2010, it is estimated that this will be the case for 25 million children around the world [13].

3. PREVENTING UNWANTED PREGNANCY

A recent review of international guidelines and national policies on HIV/AIDS, PPT and voluntary HIV counseling and testing (VCT) concluded that a sharper focus is needed on addressing fertility options for HIV-positive women, as well as a greater emphasis on human and reproductive rights and gender [14]. This would entail devoting more attention to their own sexual and reproductive health as women, rather than focusing only on their role as mothers.

Agencies such as WHO, UNAIDS and USAID agree that preventing unintended pregnancies among HIV-positive women is a key way to prevent perinatal transmission of HIV [15–17]. One study compared two strategies for preventing HIV-positive births – increased antenatal VCT with nevirapine for PPT and increased contraceptive use by non-pregnant women – and found that both measures were comparable as cost-effective strategies [18]. Research has also shown that longer intervals between births – up to 3–5 years – promote better maternal and infant health and survival [19].

HIV-positive women want to avoid pregnancy for a variety of reasons: they fear giving birth to an infected child; they already have the number of children they wish, they want to avoid re-infection with HIV that might accompany unprotected sex, or they want to focus their resources on maintaining their own health and wellbeing and that of their families [20]. It is therefore essential that women living with HIV receive adequate information about, and provision of, modern contraceptive methods.

HIV-positive women on contraception and avoiding pregnancy

- **Family planning is important for protection against HIV.” – Zambia [20]**
- **“A child shouldn’t have to go through life...having a short life, having the virus because of the mother’s negligence.” – USA [21]**
- **“A person who is HIV positive does not need to have children because if you conceive you worsen your immunity.” – Zambia [20]**
- **“People are scared about dying so they try anything that can keep them longer to see their children grow and not leave them as street kids.” – Zambia [20]**

3.1. Modern contraceptives and HIV

Family planning materials and counseling guidelines not uncommonly fail to address HIV in detail. For example, a study in KwaZulu Natal, South Africa, found that nurses at family planning facilities encouraged about 70% of clients to use condoms to prevent HIV infection and pregnancy; however, in discussing contraceptive methods in general, little information

was given on contraindications, disadvantages, side effects and issues related to HIV [22]. While WHO states that most contraceptive methods are appropriate for HIV-positive women based on current research evidence [23], some considerations concerning different methods in relation to HIV/AIDS should be addressed in family planning information and counseling materials (described below). Informing women about these considerations would not be done to discourage them from choosing a particular method but would contribute to their being fully informed when making their selections. Of course, in many places not all methods are available, particularly in rural areas where women live far from health centers and no community-based distribution systems are in place. In addition to providing women with the information they need, continued efforts are therefore needed to expand women's (including adolescent girls') access to a wide range of modern methods.

Barrier methods: it is important to emphasize that only male and female condoms offer protection against HIV re-infection, but women also need to be informed that use of condoms together with another modern contraceptive can lower their risks of unintended pregnancies. This is because accidental pregnancy rates are higher with both male and female condoms than with methods such as the pill, injectables and implants [23].

The International Planned Parenthood Federation (IPPF) states that the diaphragm may help prevent HIV infection at the cervix, where risks of infection may be greatest; however, they point out that diaphragms must still be used as part of a dual protection strategy to prevent vaginal infection [24]. The same comments have been made about cervical caps [25]. Based on available evidence, however, WHO has advised against generally recommending use of diaphragms and cervical caps by HIV-positive women unless other more appropriate contraceptive methods are unavailable or unacceptable to the woman [23].

Intrauterine devices (IUDs): up to 14–20% of women have ceased IUD use up to five years after insertion due to bleeding problems [26]. Copper-bearing IUDs may result in heavier or longer menstrual bleeding in the first 3–6 months after insertion; in some women this may cause anemia that should be treated or prevented [27–28]. This could be taken into account when counseling HIV-positive women on IUD use since they are at risk for anemia because of HIV infection or because anemia is a side effect of some antiretroviral drugs [29–34].

Some reproductive health experts recommend caution in advising IUD use for women at risk of STIs or pelvic inflammatory disease (PID), which are seen more frequently in HIV-positive than HIV-negative women [35–37]. Based on evidence to date, WHO advises against initiating IUD use in women suffering from purulent cervicitis, chlamydial infection or gonorrhea [23]. Their contraceptive practice guidelines state that HIV/STI testing and laboratory tests may contribute substantially to safe and effective use of IUDs in this context [38].

WHO further states that there are no reasons to avoid initiation of IUD use in women living with HIV but that it should generally not be considered for women with AIDS, unless they are clinically well on antiretroviral therapy (ART), because potential risks usually outweigh the advantages of using the method [23]. WHO says that women with AIDS already using IUDs should be closely monitored for pelvic infections [23].

Spermicides: studies have shown higher HIV seroconversion rates among women who use spermicidal products containing **nonoxynol-9** [39]. This led one condom manufacturer to cease production of condoms with nonoxynol-9 in 2004 [40], and women at higher risk of HIV/STIs are advised to avoid spermicides containing this product.

Hormonal contraceptives: research thus far has produced no conclusive findings that would warrant advising against the use of hormonal contraceptives by HIV-positive women [41]. However, family planning counselors should be aware of a number of issues related to these methods.

A few studies have indicated that hormonal contraceptives could possibly influence disease progression in HIV-positive women [42–43]. WHO notes that the limited evidence does not show an association between use of combined oral contraceptives and changes in CD4 cell counts (a marker used to assess the status of HIV infection) so that the benefits of using this method outweigh the potential risks for HIV-positive women [23].

Human papillomavirus (HPV), which is associated with precancerous cervical dysplasia and cervical cancer, is a common infection among HIV-positive women [44]. Ten studies in cervical cancer patients indicated that use of oral contraceptives for 5 years or more could be a co-factor in increasing the risk of cervical carcinoma among women with HPV [45]. Another study in the USA indicated that the risk of contracting Chlamydia or gonorrhea was increased in woman who used Depo-Provera [46–47]. As the number of studies is limited and some are very preliminary, further research is needed to confirm such findings so that recommendations on hormonal contraceptive use by HIV-positive women can be adapted if necessary.

It has been suggested that hormonal contraceptives might be poorly absorbed in women who experience frequent diarrhea, a symptom experienced by some HIV-positive women [48]. Some drugs used to treat opportunistic infections and other conditions, such as rifampin, benzodiazepines and some seizure medications, may reduce the effectiveness of some oral contraceptives [28, 49–52]. A few guidance documents on HIV/AIDS and reproductive health mention interactions between antibiotics and hormonal pills [28, 51] but there is no evidence showing concurrent administration affects contraceptive efficacy.

As more women gain access to ART, they need to be informed about possible interactions of hormonal contraceptives with some of these medications. Some antiretroviral

medications may decrease the effectiveness of oral contraceptives;³ oral contraceptives may increase or decrease concentrations of ART drugs (e.g., amprenavir) [23, 33, 53–54]. A few NGOs have published information materials that address such interactions [55–58]. Canadian consensus guidelines on management of pregnancy in HIV-positive women recommend that postpartum counseling should take care to address drug interactions with oral contraceptives [59]. WHO recommends that women on ART who use hormonal contraceptives also use condoms [23]. US guidelines recommend that women taking certain antiretrovirals consider an alternative or additional method to oral contraception [53]. They further state that there are insufficient data on antiretroviral drug interactions with injectable hormones such as Depo-Provera. There is also little information on the use of hormonal contraceptive patches, Implanon implants, vaginal rings and estrogen-progestin injections in relation to HIV/AIDS [28].

Emergency contraception (EC): WHO notes that nausea and vomiting occur in some women after taking emergency contraception pills and recommends that the EC dose should be repeated if vomiting occurs within two or one hours of ingestion. The literature search did not find any mention of whether ART side effects such as vomiting might interfere with the effectiveness of hormonal EC regimens. This is an area of research that could be explored; for example, the levonorgestrel method is less likely to cause nausea or vomiting than the Yuzpe regimen [60].

Permanent methods: national family planning guidelines in the Dominican Republic say that tubal ligations and vasectomies can be carried out for HIV-positive clients but that these procedures should be done in specialized clinics for persons with AIDS [36]; this recommendation has not been followed elsewhere and seems unnecessary. Some clinical guidelines state that male and female surgical sterilization procedures may need to be delayed in persons who are suffering an AIDS-related illness, for example, until ART has been initiated; they also point out that condom use following sterilization should be recommended [23, 61].

3.2. Contraceptive information and counseling

When women seek contraception, counselors' preferences may determine the kind and amount of information and/or method they receive. For example, an evaluation of three PPT pilot programs in Rwanda found that two of the programs supported by Catholic organizations offered family planning counseling but did not provide modern contraceptive methods [62–63].

³ Antiretrovirals mentioned in this regard include amprenavir, atazanavir, efavirenz, indinavir, lopinavir, nelfinavir, nevirapine and ritonavir.

Because one of their primary goals is to prevent transmission of HIV, many AIDS programs promote male condom use and pay little attention to women-controlled methods that have lower rates of accidental pregnancy with typical use, such as contraceptive pills, injectables and implants. Such an approach is still seen in recent manuals for program managers [64–65]. While some attention is given to the female condom in countries such as Burundi, Kenya, Lesotho, Namibia, Malawi, South Africa and Zimbabwe [66–69], the main focus remains on male condoms. The cost of female condoms continues to be higher and they remain inaccessible to many women [70–72].

“I feel they do not have information on the safe methods of contraceptives. They know that I’m HIV positive but they do not tell me the methods suitable for me.”

“We need more information on which methods are best for us in light of HIV/AIDS.”

Women in Zambia [20]

Some VCT centers and other AIDS programs have added contraceptive counseling to their services and found an increase in client demand for family planning [73–74]. Various organizations working on family planning service provision now promote dual protection [49, 75–77]. However, more work is needed to determine how best to promote and implement such programmatic changes [78]. One assessment of Kenyan VCT services, for example, showed that the centers had few contraceptives available other than condoms. Only 58% of providers told clients that condoms prevent both HIV transmission and pregnancy and no more than 10% of clients were referred for family planning services [79].

An evaluation of UN-supported PPT programs found that they were insufficient in addressing prevention of future unintended pregnancies; observation of 48 family planning sessions in Zambia showed that counselors only mentioned dual protection in 16 sessions [62]. WHO has pointed out that access to contraceptive methods for HIV-positive women in the postpartum period remains limited [80]. In Kenya, more than 20% of women reported discussion of family planning during their antenatal visits at a PPT site but few women reported receiving family planning counseling after giving birth [63].

Such observations led to increasing calls in 2003–2004 to better integrate family planning and HIV/AIDS programs [2, 15, 81], although it has also been pointed out that research is needed on how such integration can best be achieved [82]. If full integration is not possible, counseling protocols should at least ensure that family planning programs make referrals to HIV programs and vice versa. For example, even USAID, which currently emphasizes abstinence and mutual monogamy as the key measures for preventing HIV infection,

acknowledges that “the implications for fertility [of promoting fewer numbers of sexual partners] are much more complex. For example, uninfected monogamous couples who use FP [family planning] are protected against HIV and unintended pregnancy” [83].

**Why availability of contraception is crucial
for women taking antiretroviral drugs (ARVs) – USAID [84]**

- Women of reproductive age are the majority of potential ARV recipients.
- Unmet need for contraception is high.
- Women living with HIV who undergo ART already have major stresses in their lives without the additional stress of unwanted pregnancy.
- Preventing unwanted pregnancy in HIV-positive women can prevent perinatal transmission and the orphaning of a child if the woman dies.
- Some ARVs have significant potential drug toxicities that can harm the fetus.
- Prematurity and other poor birth outcomes are more likely for HIV-positive women.
- Maternal mortality and morbidity are higher for HIV-positive women.
- Programmatic synergies can result from providing family planning and ART services together.

In this context, it is worth noting that policies such as the US administration’s global gag rule have contributed to shortages of contraceptive supplies in various countries [85–87]. The gag rule denies US family planning funds to NGOs in developing countries that lobby for legal reforms to make abortion more accessible, that provide abortion-related counseling and referrals or that provide abortions for indications other than rape, incest or a threat to the woman’s life due to pregnancy. It does not apply to US funding provided for AIDS-related programs [88]. NGOs that have declined to sign the gag rule have lost USAID funding and access to supplies such as condoms.

Another issue that needs to be addressed is potential provider reluctance to provide some services due to a lack of supplies for universal precautions. In Zambia, family planning providers and clients noted that vaginal exams may be avoided due to a lack of gloves and injectables may not be provided if clients do not bring their own syringes [20].

3.3. Emergency contraception

Lack of contraceptive use and contraceptive method failure can lead to unintended pregnancies that may be terminated safely or unsafely. In addition, many women around the world, including women living with HIV, are at substantial risk of suffering sexual violence

that may result in unwanted pregnancies [89–90]. Making EC widely available can help women avoid such abortions.

In a survey in Zimbabwe, 78% of 209 HIV-positive women said their regular partners had forced them into sex. Some became pregnant as a result and one woman was treated for complications of an unsafe abortion [91]. One HIV-positive woman interviewed in Uganda stated: "He used to force me to have sex with him. He would beat and slap me when I refused....The very first time I asked my husband to use a condom because I didn't want to give birth he said no. He raped me and I got pregnant" [92]. Another woman in the same country commented: "After testing he would force me to have sex without a condom. I don't know why he was opposed to condoms after testing and yet he had used them for birth control [before testing]. He said, 'Why bother, we're already victims'...There should be a law to stop husbands forcing wives to have sex. I would use the law." [92] Up to the year 2000, 22% of about 500 rape survivors treated at the Albertina Sisulu Rape Crisis Centre in South Africa were HIV-positive when they were assaulted [93].

EC is available in many countries, but reports show that women's familiarity with, and access to EC, varies widely and can be quite low in countries as diverse as Canada, Russia and South Africa [60, 94–95]. In Jamaica, pharmacists asked the Ministry of Health to reconsider over-the-counter availability of EC because they believe it is over-used and led to declining condom sales [96].

In October 2002, a survey on EC was conducted among a convenience sample of participants at an American College of Emergency Physicians national meeting in the USA. The respondents' willingness to offer EC to women who had been raped was about the same if the assailant's HIV status was unknown (88%) or known to be positive (90%). However, fewer respondents were willing to offer EC if the assailant was known to be at low risk of being HIV-infected (79%) [97]. While knowledge of an assailant's HIV status may be important with regard to offering a survivor of sexual assault post-exposure prophylaxis to prevent HIV infection, it should not be a consideration for provision of EC.

Not only should information on EC be included in contraceptive counseling for people living with HIV; it should also be advertised widely and made easily accessible. VCT sites should consider offering HIV-positive women EC supplies to take home with them, while PPT sites could do the same during follow-up care of women after they give birth.

4. PREGNANCY AND HIV TESTING ISSUES

In many countries, VCT is promoted most vigorously in the antenatal care setting as a measure to reduce perinatal HIV infection. Such a narrow focus tends to single out women as vectors of transmission, since there is often no requirement to offer VCT to women who survive sexual assault or who seek postabortion care or induced abortions [98–105]. It must be assumed that women and girls who have unwanted pregnancies and subsequent abortions are also at risk of HIV/STIs, particularly when they live in areas with high HIV prevalence or in situations that can increase their risks of infection (e.g., women engaged in sex work, domestic workers, homeless women, displaced or refugee women) [106–113].

“The very first thing a positive pregnant woman is told in the antenatal clinic (which is where most women discover their HIV infection) is that the life of her unborn child should be her key concern. Nobody reinforces her own need for care and treatment or her right to life. She’s dealt with only as a vector for HIV, and told that her role is to make sure she does not pass the virus on to the “precious future leader in her womb.” [114]

**Rolake Odetoyinbo Nwagwu
Nigerian woman living with HIV and AIDS educator**

4.1. Pre-test counseling in antenatal VCT

There have been reports from both industrialized and developing countries of pregnant women being tested for HIV without their prior informed consent, sometimes with test results being given to family members rather than the women themselves [115–124]. Some researchers have suggested that nevirapine be offered during labor to all women in developing countries who are at high risk of HIV infection, regardless of whether providers know their serostatus or not [125]. Others have suggested that testing be done without women’s consent during labor and delivery [126], while in some US states newborns are tested for HIV so that ART can be given [127].

WHO has stated that mandatory HIV testing is neither an effective public health measure nor an ethical intervention and that testing cord blood at the time of delivery is equivalent to testing without a woman’s consent [128]. Some authorities consider provision of medical treatment without a patient’s consent to be a violation of human rights. For example, the Society of Obstetricians and Gynaecologists of Canada (SOGC) has stated that: “Coercive treatment of pregnant women is not permissible despite what some believe to be in the fetus’ best interests” [129]. The American College of Obstetricians and Gynecologists

(ACOG) has made a similar statement: "...mandatory treatment for HIV has been rejected by ethicists and clinicians alike. Accordingly, mandatory prenatal HIV testing should be rejected for the same reasons" [130].

What is routine testing?

- **Routinely offered:** provider initiated, and requires individual pre- and post-test counseling enabling the person to make an informed decision.
- **Routinely imposed:** performed at the discretion of the care provider without necessarily ensuring the individual's decisionmaking.
- **Opting-in:** informed consent must be given by the person to undergo a test that is offered.
- **Opting-in by default:** systematically imposed test unless the person spontaneously requests the test not be performed.
- **Opting out:** stated refusal must be given by the person to undergo a test that is being routinely done [131].

Increasingly, international agencies and national policies are recommending routine HIV testing of pregnant women, either through an opt-in or opt-out model. In the first case, health-care providers are supposed to offer all women the option of choosing to undergo VCT [99, 132-135]. In the opt-out model, which is being mandated in some countries, pregnant women are informed - either verbally or through written materials such as leaflets - that they will be tested for HIV unless they specifically state that they do not want a test [136-139].

The rationale behind the switch to opt-out testing is that stigmatization will be decreased (that is, women do not feel they are singled out for HIV testing if everyone undergoes the test) and higher percentages of women are then tested [140-141]. A disadvantage of opt-out testing is that it may be routinely imposed and women may not realize they can refuse the test or dare to do so, particularly if they are less educated, poor or young [139, 142]. A report from Canada, for example, stated that women in one province did not always know they could opt out or even that they were being tested [143].

It nevertheless appears that routine opt-out antenatal HIV testing is on its way to becoming a norm. To cope with the large numbers of women who will be tested, changes are needed either in health system procedures, in HIV testing protocols or both. Reports from various countries document that pregnant women are receiving no or inadequate pre-test counseling [118, 120, 144]. In other cases, health facilities are training additional staff to become counselors or are offering pre-test counseling to groups rather than individual women [145].

“If HIV testing is integrated into a package of routine services in clinical care settings, the steps needed to ensure that rights are sufficiently considered throughout every stage of the testing process should be considered.” [146]

UNAIDS Global Reference Group on HIV/AIDS and Human Rights, 2003

Human rights experts warn that as routine testing becomes more widespread, great care must be taken to ensure that policies and practice preserve both the voluntary and informed consent aspects of the procedure [131, 147]. WHO has noted that: “Each person should receive all the information he or she needs to make an informed decision about whether to be tested for HIV. Sometimes the decision-making process takes time and requires several visits before the client fully understands all the implications of knowing her or his HIV status.” [148]. Some PPT programs found that the quality of pre-test counseling influenced a woman’s decision on whether to have a test and that good quality counseling takes time, which was not available at some busy clinics [149–150]. A Swedish study in the late 1990s found that some women and their partners needed 3–5 counseling sessions before they made a decision on whether to continue or terminate a pregnancy; this was especially the case when the HIV diagnosis was made during the pregnancy [100].

In the past, WHO stated that more time may need to be spent in ensuring that women understand the HIV test and its consequences in places where stigma and discrimination are prevalent [128]. In a survey of 504 women receiving antenatal and postnatal care in Botswana, about 42% of the women felt they were not able to deal with the stress of being HIV-positive; 32% wished they had not undergone HIV counseling [151].

ACOG and the American Medical Association support opt-out testing but encourage their members to be prepared to offer both pre- and post-test counseling to pregnant women [152.] WHO and UNAIDS now state that pre-test counseling may be omitted from routine testing protocols provided that patients’ confidentiality is preserved, patients give informed consent, and patients are referred to post-test counseling and medical and psychosocial support if they test HIV-positive [153]. However, women living with HIV have noted that they were given insufficient information on the nature of HIV tests and test results and insufficient time to come to terms with a positive diagnosis received as part of PPT programs [121, 154].

The aforementioned observations point to a dilemma that needs urgent attention. International agencies support dispensing with pre-test counseling so that routine antenatal HIV testing is more feasible in developing countries; women living with HIV and others

question whether pregnant women are receiving enough information so that they are truly able to give informed consent for testing. Programs that employ routine antenatal testing must at the minimum include protocols and practices that observe women's rights to receive good quality health information and to give fully informed consent. A woman's pregnancy status should not mean that less attention is given to her rights than the rights of people in other HIV testing situations.

4.2. Testing during labor and delivery

Considerable numbers of women in many developing countries do not receive antenatal care or VCT during antenatal visits. The Kilimanjaro Christian Medical Centre in Moshi, Tanzania, found that women who presented for delivery without prior antenatal care tended to have higher HIV prevalence than booked patients; in response, they initiated VCT for women presenting to labor wards in October 2003 [155]. To expand the coverage of HIV testing during pregnancy, UNICEF and the Population Council have recommended that VCT also be offered during labor and the postpartum period [138]. WHO's guidelines on rapid tests include instructions on their application at the time of labor and delivery [148] and the US Centers for Disease Control and Prevention (CDC) issued a model protocol to promote the use of rapid tests during labor and delivery for pregnant women who were not screened antenatally [103, 156]. The CDC protocol suggests that clinicians re-test women with documented negative HIV test results if there are indications that they are at continued risk for HIV infection. Such recommendations raise concerns that need to be addressed in relation to the nature of women's consent, issues of privacy and confidentiality, and issues related to false-positive test results.

4.2.1. Is informed and voluntary consent possible?

Participants in a WHO consultation considered the issue of rapid testing during labor and delivery in 2002 and did not reach a consensus on this strategy, suggesting that: "research be conducted into consent procedures in other situations of duress" [128]. It is unclear whether such recommended research has informed the protocols and programs currently being developed. In any event, the following questions need to be answered: to what degree can women give fully informed consent when they are required to opt out of HIV testing during a stressful time such as labor and delivery? Do women have sufficient time to think through what would be involved in learning that they may be HIV-positive and having to deal with the consequences?

WHO has said that informed consent may be obtained from women in the early stages of labor and when they are informed about cesarean section options but also recognized that difficulties may arise in such situations, especially for women in the late stages of labor. The agency suggested three options for overcoming these difficulties: obtaining oral rather than written consent for testing, providing ART to all women with an offer of follow-up VCT, and

providing ART to infants with the mothers' consent. However, they noted that provision of ART to all women would unnecessarily expose HIV-negative women and infants to ART and preclude the option of counseling on infant feeding and contraceptive use [128]. The François-Xavier Bagnoud Center in New Jersey (USA) says that providers should refrain from testing women in end-stage labor and wait until they have delivered their baby to counsel them on the benefits of immediate HIV testing at that time [157].

Restricting testing to the earlier stages of labor would be beneficial in light of the type of information that needs to be given to obtain a woman's informed consent. WHO guidelines on rapid testing acknowledge that, when pre-test counselling is given, sometimes the decisionmaking process takes time and requires several visits before a client fully understands the implications of knowing their HIV status [148]. These guidelines further state that "Particular care should be taken for people who are attending services for other reasons and not primarily for HIV testing and counselling, e.g. persons attending antenatal clinics...Such people may not fully understand the possible consequences of testing" [148].

In speaking about routine antenatal testing, WHO and UNAIDS state that the minimum of information each woman should receive so that she can give informed consent includes: "the clinical benefit and the prevention benefits of testing, the right to refuse, the follow-up services that will be offered and, in the event of a positive test result, the importance of anticipating the need to inform anyone at ongoing risk who would otherwise not suspect they were being exposed to HIV infection" [153]. While the two organizations also say that the "the cornerstones of HIV testing scale-up must include improved protection from stigma and discrimination," it is noteworthy that the minimum information defined as necessary for informed consent does not include mention of possible negative consequences of testing or knowing one's status [153].

Nevertheless, research in the Dominican Republic, India, Indonesia, the Philippines and Thailand has shown that women often fear and actually experience stigmatization and discrimination due to HIV [118, 120]; this needs to be taken into account in all testing protocols. An evaluation of pilot PPT programs in Jamaica found that one reason almost half of HIV-positive pregnant women did not receive ART during delivery was because they failed to reveal their HIV-positive status to health-care workers due to fears of stigma and discrimination [158]. Other studies on women's disclosure of their HIV test results indicate that although relatively small proportions of women reported negative outcomes such as blame, physical assault or abandonment, the absolute numbers of women experiencing such repercussions may be considerable as testing during pregnancy increases [159].

“...it is possible that people might consider the psychological impact of a positive test result, the risk of disclosure and the costs of interventions to outweigh the benefits of knowing their HIV status. It is therefore important that counsellors provide adequate and accurate information to their clients about both the benefits and downside of HIV testing in [PPT]” [139].

“If pregnant women are to make informed choices to assent to or to refuse HIV testing, they need to be told the rationale for routine prenatal HIV tests. That is, they must understand that if a woman is HIV-infected, she can receive antiretroviral therapy that can substantially reduce mother-to-child HIV transmission, while also benefiting her own health. In addition, pregnant women need to be informed of the psychosocial risks of HIV testing, so that they can protect themselves. In particular, health care providers should discuss the risk of domestic violence... Finally, pregnant women should know that they may refuse HIV testing without jeopardizing their prenatal care or legal rights.” [160]

4.2.2. Can confidentiality be guaranteed?

A second issue of concern regarding rapid testing during labor is related to confidentiality. If special precautions are not taken to ensure this, a woman's HIV-positive status may become known to others against her will. The CDC protocol notes this possibility and suggests measures to help guarantee confidentiality such as ensuring that women are alone when HIV testing is discussed, having interpreters available for women who do not speak the same language as providers so that family members need not translate, asking the woman ahead of time who she wants present when test results are given, labeling intravenous ART medications in a way that protects confidentiality, and ensuring that logbooks recording information about the testing are kept confidential [156].

Implementing all of these measures can pose a challenge for clinic and hospital staff in busy US labor wards; the challenges may be even greater in developing countries. Experience with testing during antenatal care has shown that ensuring confidentiality can be problematic [120, 141, 161] and this may be even more difficult in labor wards. For example, an evaluation of PPT programs in South Africa found that in 73% of surveyed facilities, the physical layout of the labor ward made it difficult to guarantee confidentiality; nurses complained that even whispered conversations could be overheard [162]. A PPT program in Jamaica also encountered problems with maintaining confidentiality in labor wards [145].

4.2.3. What about false–positive test results?

A third issue that needs attention concerns the possibility of false–positive results with rapid tests. A US training module on HIV testing during labor notes that providers should tell the woman that the preliminary test could be false–positive and that ART for her and her baby will be stopped if the confirmatory test is negative [157]. The CDC’s model protocol notes that confirmation of the results of rapid HIV tests “can take several days or more and does not satisfy the need for timely HIV test results for women in labor. Thus, even in optimal rapid testing programs, some women who are not infected will receive ARV prophylaxis on the basis of a false–positive result from a rapid HIV test. The seriousness of the psychological effect of such a result is self–evident” [156]. The CDC maintains that “a short course of the ARV prophylaxis currently recommended by the US Public Health Service has no known long–term safety effects for women and infants who are not infected”. However, no research evidence on long–term effects is yet available. Concerns are being raised about administration of nevirapine for PPT because of the possible emergence of drug resistance [163–164]; it is not inconceivable that concerns may also arise regarding the long–term effects of ART administration to women and infants who are HIV–negative at the time of birth.

More research is clearly needed on the use of rapid tests and the longer term effects of ART for PPT on both HIV–positive and HIV–negative women and infants. Women living with HIV should be involved in developing ethical policies on HIV testing during antenatal care, labor and delivery so that their insights and perspectives are incorporated into the design, planning and implementation of such programs.

4.3. Expansion of VCT services is needed

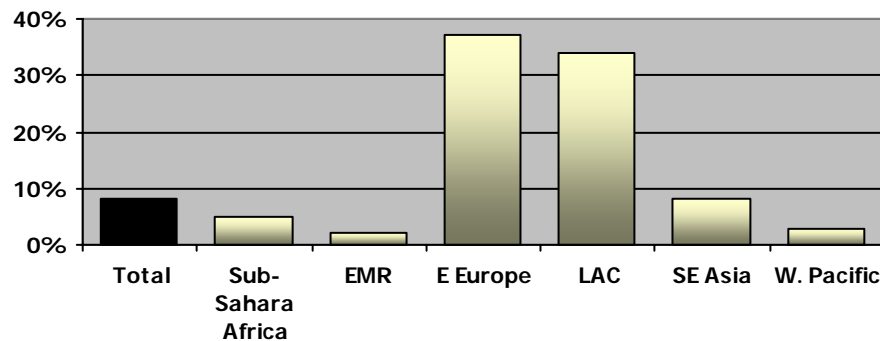
There is a great need to expand promotion and implementation of VCT services beyond the antenatal care setting. UNAIDS estimated that, in 2004, fewer than 1% of women and men aged 15–49 years who needed VCT had access to it in the 73 lower– and middle–income countries most affected by the epidemic [5].

VCT or referrals to VCT services should be available to women and men through all entry points into the health–care system. Until this is achieved, more concerted efforts should be made to offer VCT to female survivors of sexual violence, women receiving mother–child health care services, and women receiving postabortion care and induced abortions. There is evidence that doing so can increase uptake of services. For example, a study in Nigeria assessed the willingness of women seeking induced abortions from private practices to undergo VCT. While only 13% (137) of 1051 women overall consented to testing, the percentages increased for women older than 30 years, with 47% of the women older than 40 years accepting VCT. The authors concluded that VCT should be more widely promoted to the general public [165].

Incorporating VCT into primary health-services will also benefit women. One pilot project in South Africa found that a year after VCT with rapid tests was introduced at five primary health care facilities in a remote rural area in the northeastern part of the country, there was a major increase in testing and 63% of the clients were women [166]. Emphasizing the benefits of VCT to help in decisionmaking about family planning could be useful; VCT studies in Kenya and Tanzania showed that 13% and 25% of enrolled participants, respectively, said they or their steady partners were planning a pregnancy within the next two months [167–169]. Employing HIV-positive women as counselors can also contribute to the gender sensitivity of information offered through VCT [170].

5. HIV AND PARENTHOOD

Although PPT access is increasing around the world, UNAIDS reported at the end of 2004 that less than 10% of pregnant women overall and only 1% of women in countries with high HIV prevalence were offered to access to such programs and services [5]. While initiatives to expand access are well underway, it will be years before all HIV-positive women will benefit. For these women and people living with HIV who are part of discordant couples, more attention should be given to other options for becoming parents.



Access of pregnant women to PPT services; WHO coverage survey 2004 [171]

5.1. Adoptive parenting

As access to ART increases, HIV infection is becoming a more chronic rather than fatal condition for many people. In this context, if cultural norms and social policies were to look favorably on the possibility of HIV-positive people becoming adoptive parents, some might choose to adopt rather than have their own biological children. This would require addressing cultural expectations that the family lineage be carried on through biological children, and such norms may be difficult to change. For example, focus-group participants in Malawi reported that while childless couples might foster children, they may not receive the same respect as other parents [172]. Nevertheless, work being done to alter norms about sexuality shows that change is possible, which means that efforts to increase the “acceptability” of adoption by HIV-positive parents could also be promoted.

Some HIV-positive women and men have indicated that they want to consider legal adoption. The topic of adoption occasionally appears on e-mail discussion groups for people living with HIV. A study among 250 HIV-positive men in São Paulo, Brazil, found that while 52% wanted no (more) children and 5% were unsure, 43% did want (more) children in the future; 4% said they would like to adopt a child [173].

International guidelines from UN agencies on HIV/AIDS and human rights state that: "The HIV status of a parent or child should not be treated any differently from any other analogous medical condition in making decisions regarding custody, fostering or adoption" [174]. The option of officially supported foster and adoptive care may not be open to people living with HIV, however, because of national or local policies and regulations [175]. Several US community-based AIDS service providers interviewed in 2002–2003 reported that some of their HIV-positive clients were prohibited from visiting their children, lost custody of their children, or were not allowed to provide foster care or adopt children; this led the American Civil Liberties Union to express an interest in taking their cases to court [176]. In South Africa, one study on orphaned children found that only two of 243 children had been legally adopted; the authors noted that a lack of social security benefits may discourage potential adoptive parents from applying [177]. A few NGOs, such as YRG Care in India, offer their HIV-positive clients the option of adoption [178], but the topic is scarcely addressed in the literature and in information materials for HIV-positive people.

As more HIV-positive people gain access to ART and their survival is prolonged, this parenting option should at least be explored and discussed by national AIDS programs, AIDS Service Organizations, VCT centers and adoption agencies. It should be noted that I make this suggestion in response to the parenting wishes of HIV-positive adults and not as a proposal for helping solve the problem of the growing number of children orphaned due to AIDS. Large-scale, community-based interventions to support children in countries with large and growing numbers of orphans require governmental decisions regarding allocation and administration of welfare and poverty alleviation funds, as well as consideration of formal and informal foster care arrangements.

5.2. Assisted reproduction

There are options other than unprotected intercourse that can enable people living with HIV and discordant couples to have biological children but these do not appear to be widely promoted and available. Assisted reproduction (for example, sperm washing, artificial insemination with donor sperm, and intrauterine insemination) can offer options of pregnancy with reduced risks of partner or perinatal infection.

Research has shown assisted reproduction techniques to be relatively safe and successful, although higher rates of pregnancy have been achieved with procedures done for HIV-positive men than for HIV-positive women [179–183]. Some concerns have been raised about ensuring the safety of procedures; for example, only seven of 14 clinics in the United Kingdom were found to test treated sperm to ensure that they were HIV-free [184–186]. For this and other reasons (e.g., costs), support for assisted reproduction for HIV-positive persons varies among national health authorities [184, 187–191]. A few NGOs offer information and assistance for this option [185, 192–193] and ACOG and the National

Institute for Clinical Excellence in the United Kingdom state that HIV status alone should not be used as a reason to deny provision of assisted reproduction technologies [194–195].

Assisted reproduction is, of course, much more feasible in industrialized than developing countries and for persons with considerable financial resources, since few such procedures are subsidized through national health systems or private health insurance schemes. However, people living with HIV should be informed about the possibilities.

6. HIV AND ABORTION

While some studies on HIV and pregnancy report on pregnancy complications and percentages of women suffering miscarriages and stillbirths, very few have specifically investigated induced abortion among HIV-positive women. Some researchers do not distinguish spontaneous from induced abortions when discussing pregnancy outcomes. In countries with restrictive abortion laws, hospitals may fail to record induced abortions [196], so that retrospective studies using hospital charts may have inadequate data. The data available on miscarriages and induced abortions among HIV-positive women are therefore likely to be incomplete.

6.1. Spontaneous abortion (miscarriage) and stillbirth

Conflicting data have been obtained concerning fetal loss among HIV-positive women in industrialized countries, with some studies showing a higher risk and others no significant difference from HIV-negative women [197–198]. Data available for developing countries indicate that women living with HIV may be at increased risk of ectopic pregnancy, miscarriage and stillbirth [28, 199–206]. Co-infection with other diseases may increase risks of fetal loss; conditions mentioned in this regard include syphilis, beta-thalassaemia major, herpes simplex endometritis and malaria [28, 207–211].

One guidance document for reproductive health professionals in developing countries recommends that pregnant HIV-positive women receiving post-test counseling be advised that they may suffer premature delivery or spontaneous abortions, adding that they should be prepared to seek immediate care if they notice signs of such pregnancy complications [73]. Given the associations between STI infections and malaria with a possibly increased risk of miscarriage, diagnosis and treatment of STIs and malaria should be a standard component of antenatal care for HIV-positive women [28, 212].

6.2. Coerced abortion

Few studies have focused solely on documenting instances of coerced abortion among HIV-positive women, but cases of coercion and pressure to terminate pregnancies have emerged in research on other issues, as well as in newspaper reports [118, 122, 127, 213–222].

Women living with HIV/AIDS should never be pressured or coerced into having an abortion by anyone – their partners, their parents, their families or health-care providers [138, 223]. UN guidelines on HIV/AIDS and human rights emphasize that this is a violation of human rights [174] and WHO has stressed that pressure on HIV-positive women to have abortions is unacceptable [224].

6.3. Unsafe abortion

Initiatives to better integrate family planning and HIV/AIDS programs should address what HIV-positive women can do to deal with unwanted pregnancies but safe, legal abortion is not usually mentioned in this regard. Some studies have reported that women living with HIV would want to or are terminating such pregnancies, even when there are numerous legal restrictions on abortion [225–226]. In 1999–2000, the ANRS 049 DITRAME Project in Abidjan, Côte d'Ivoire, followed up 149 HIV-positive women who had participated in their PPT program. Limited contraceptive services were available and only 39% of the women were using a modern contraceptive method in that period. Of the 37 pregnancies that occurred during the follow-up period, 51% were unwanted and 68% of these were terminated, despite legal restrictions on induced abortion [227].

“Mahlangu Sondo, 22...received a dose of nevirapine while in labor and gave birth to a healthy daughter. But the stresses of pregnancy left her weak, emaciated and eventually hospitalized for nearly two months. She has since barely seen her daughter, who is being raised by an aunt. ‘I don't want to have another baby,’ she said emphatically from her wheelchair at a hospital near KwaMhlanga. ‘The problem is now I am sick. How can I handle a baby, especially if it might be sick too?’ [228]

WHO estimates that each year about 19 million pregnancies worldwide are terminated unsafely by persons lacking the necessary skills and/or in circumstances that lack minimal medical standards [229]. Ninety-five percent of unsafe abortions occur in developing countries. Women of younger age, nulliparity and low socio-economic status are at increased risk of suffering morbidity and mortality due to unsafe abortions [230].

“By adopting the simplistic approach that making abortion less accessible equals fewer abortions, my fellow politicians are only deceiving themselves. Instead of being safe and legal, abortions will soon become illegal and accessible only to the wealthy.” [231]

**Ruth Genner, President
Inter-European Parliamentary Forum on Population and Development**

About 13% of pregnancy-related deaths worldwide are attributed to unsafe abortions [229]; at least 68,000 women die each year from this preventable cause of maternal mortality. The complications include both short- and long-term effects, such as prolonged or excessive bleeding, pelvic infections, tetanus, cervical or vaginal lacerations, uterine or bowel perforations and secondary infertility [232]. Women under 20 years admitted to hospital for treatment of unsafe abortion complications account for 38–68% of cases [230]; 13 studies from seven sub-Saharan African countries showed that 39–72% of women treated for abortion-related complications were adolescents [233].

Three conditions commonly seen in HIV-positive women are bacterial vaginosis, chlamydial cervicitis and anemia; these disorders may increase the risks of unsafe abortions. Bacterial vaginosis has been associated with an increased risk of spontaneous abortion, endometritis, PID, post-gynecological surgery infection and post-abortal infections [44, 234–237]. Chlamydial cervicitis has been found to increase the risk of post-abortal endometritis [238]. Women suffering from anemia are less able to resist infections or to survive hemorrhage [44, 239].

None of the research studies identified in the literature review specifically investigated the effects of unsafe abortions on HIV-positive women; despite this, a distance learning manual on population issues states that women living with HIV are more likely to have complications with abortions [240]. It is reasonable to think that immunocompromised women who have unsafe abortions may experience even greater risks to their health from complications, such as infections, sepsis and hemorrhage, than HIV-negative women. It is important that reproductive health materials dealing with HIV also address treatment of unsafe abortion complications.

6.4. Reproductive rights and abortion

At the international level, multilateral agencies and NGOs are increasingly advocating a rights-based approach to ensure that people living with HIV/AIDS are able to gain access to the full range of health services that they need. In the area of reproductive health, explicit references to safe abortion services are frequently omitted from consensus statements given the controversies and stigma that still exist regarding termination of pregnancy. However, the right of women to have control over their reproductive lives is increasingly being endorsed. For example, the Glion Call to Action, endorsed by representatives of WHO, UNICEF, UNFPA, bilateral donors, donor foundations and international NGOs, calls on governments, parliamentarians, UN agencies, donors and civil society to: “Formulate legislation and policies that support the rights of all women, including HIV-infected women, to make informed choices about their reproductive lives” [15].

6.4.1. International guidance and advocacy on policies and rights

At the UN General Assembly on HIV/AIDS in 2001, the term "reproductive health services" was replaced by "reproductive health care" in the final declaration because some governments argued that health services could be interpreted to include abortion [241]. Nevertheless, UNAIDS and the Office of the United Nations High Commissioner for Human Rights address reproductive choice in their International Guidelines on HIV/AIDS and Human Rights [174]:

"Laws should also be enacted to ensure women's reproductive and sexual rights, including the right of independent access to reproductive and STD health information and services and means of contraception, including safe and legal abortion and the freedom to choose among these, the right to determine number and spacing of children, the right to demand safer sex practices and the right to legal protection from sexual violence, outside and inside marriage, including legal provisions for marital rape..."

Other UNAIDS documents have reiterated the right to choice:

"Preventing mother-to-child transmission and providing treatment and care to mothers and their infants can best be achieved by greatly increasing the access of women of childbearing age and their partners to HIV prevention services, reproductive health and family planning services, and antenatal/maternity clinics. Such services should ensure that women can choose whether or not to know their HIV status; to control their fertility; to terminate a pregnancy, where this is safe and legal; and to take advantage of MTCT [PPT] drugs and other interventions if HIV-positive and having a child." [16]

"Women living with HIV/AIDS should have the right to have children when they want to, and should be supported to do so without judgment. They should also have the right to choose to terminate a pregnancy on learning of their HIV status, and should be supported to do so without judgment." [242]

WHO has affirmed the right of HIV-positive women to give informed consent for decisions on terminating or continuing pregnancies and to have access to safe abortion in circumstances allowed by law [80, 224, 243–246].

The African Union adopted a supplemental protocol to the African Charter on Human and People's Rights which includes a pledge by governments to take measures to authorize abortion in cases of rape, incest and where continued pregnancy poses a danger to a woman's mental or physical health or life or that of the fetus [247]. Comoros, Libya, Namibia, Rwanda and Senegal have ratified the protocol and representatives of civil society organizations in 13 other African countries are petitioning governments in a continent-wide campaign to ratify the protocol and take concrete measures to apply it in practice [248].

Some international and national NGOs are beginning to address HIV-positive women's right to exercise choice in regulating their fertility, including the option of safe, legal abortion. At the International AIDS Conference in 2002, NGO representatives participated in formulating the *Barcelona Bill of Rights*, which includes a right to legal termination of pregnancy [249]. The *Bill* was again promoted at the 2004 International AIDS Conference in Bangkok and various groups included the rights to safe pregnancy and safe abortion in their statements [250–251]. A statement issued by women leaders at the Bangkok conference, that came out of a process convened by UNIFEM, the International Community of Women living with HIV/AIDS (ICW), the Women's Caucus of the International AIDS Society and the Thai Women and AIDS Task Force, stated that: "Women and girls, irrespective of their HIV status, have rights to make their fully informed reproductive and sexual choices. Leaders should ensure that their choices be met by safe, accessible and supportive services" [252].

ICW explicitly supports the rights of HIV-positive women to bear and not bear children, including the right to safe abortion care [89, 161, 253]. In preparation for a panel on HIV and women at the March 2004 session of the UN Commission on the Status of Women, 27 international and national NGOs, NGO networks and experts in the field of AIDS issued a statement that supported HIV-positive women's reproductive rights, including access to safe, legal abortion [254]. Four international NGOs – Ipas, ICW, the Center for Health and Gender Equity and the Pacific Institute for Women's Health – used that statement as a basis for drafting a practical tool that can help NGOs monitor policy and program implementation of reproductive health services in relation to HIV/AIDS [255].

"Poor and vulnerable groups often lack information that is vital to their lives – information on basic rights and entitlements, public services, health....Gender is also a critical consideration in access to information. The differing information needs of men and women and the lack of gender-disaggregated data present important challenges for achieving the MDGs." [256]

Nevertheless, the number of international documents on HIV and pregnancy that mention abortion is still limited; examples include policy-related documents produced by HealthLink International, Marie Stopes International and Ipas [257–260]. IPPF's guidelines on sexual and reproductive health services state that "If the [HIV-positive] client is currently pregnant but does not wish to continue her pregnancy, she should be referred to safe abortion services, where legally permitted." [261]. The Alan Guttmacher Institute published a guide on men's sexual and reproductive health needs that states men can play a crucial role in protecting their partners' health in countries where abortion is legally restricted [262]. Although the document does not further discuss abortion, it does highlight the role that

men play in decisions by their partners to terminate pregnancies and recommends that education for young men include this topic.

A guide on HIV prevention in maternal health services published by EngenderHealth and UNFPA mentions that one approach to service delivery could be for community-based organizations to offer HIV/STI services and to refer women to maternal-child health units for treatment of complications of unsafe abortions [77]. Another HIV prevention guide for reproductive health professionals mentions emergency contraception and abortion as backup methods to deal with contraceptive failure, saying: "The availability of backup services — including emergency contraception and safe and affordable abortion — may increase the acceptability of barrier methods as family planning methods" [73]. The International Center for AIDS Programs at Columbia University's Mailman School of Public Health published a clinical manual that states HIV-positive women should have the same access to reproductive health services as their HIV-negative peers, including "access to services and policies to prevent unsafe abortion, to safe abortion services in settings where this is legal, and to postabortion care" [61].

6.4.2. Legal regulations

As of 2004, only one country – Guyana – had named HIV/AIDS as an indication for legal abortion in its legislation [263]. Some legal experts believe that a woman's HIV-positive status should entitle her to a legal abortion when abortion is permitted to protect a woman's health or life [127, 264]. If governmental and health system regulations and protocols were to include HIV infection under these indications, it would be unnecessary to specifically name HIV/AIDS as an indication for abortion in laws.

Research has not established that single or repeated pregnancies affect the progression of HIV infection or AIDS-related disease for women who are asymptomatic or in the earlier stages of HIV infection [28]. It has been suggested, however, that pregnancy and breastfeeding might affect the health of HIV-positive women in developing countries who suffer many untreated opportunistic infections [204, 265–267].

There are other medical reasons why women living with HIV may want to end pregnancies. HIV-positive women in both industrialized and developing countries more frequently have complications during pregnancy than HIV-negative women, such as genital and urinary tract infections, more frequent and severe blood loss, bacterial pneumonia, intrauterine growth retardation, low birth weight, pre-term labor and premature rupture of membranes [28, 208]. Anemia, a common condition among HIV-positive women, can lead to a greater risk of pregnancy complications and pregnancy-related death [34, 268–270]. HIV-positive women may be treated with drugs that are contraindicated in pregnancy [61, 73].

6.4.3. Access to abortion permitted by law

In countries where abortion is permitted for various indications, women living with HIV should have the same access to abortion services as other women. Overall access for all women may be deficient, however. Studies in England and South Africa, for example, have shown that health system plans and services fail to ensure that all women have equitable access to legal abortions [271–273]. An analysis of HIV/AIDS services in KwaZulu Natal reported that in-service training of health-care providers neglected the topic of abortion; termination of pregnancy was mainly available at hospitals and not at community health centers or clinics, and only 4% of facilities had information materials on abortion available for clients. Only 18% of 228 staff at the 98 health facilities surveyed had provided counseling on abortion in the past three months; 1% had provided abortions [22].

There are anecdotal reports that some health-care personnel may attempt to avoid performing invasive procedures, including abortion care, for women with HIV due to fears of occupational exposure to the virus [274–275]. Some health professionals may provide abortions but charge high fees, thus preventing women living with HIV from accessing safe terminations of pregnancy [91, 276–278]. In addition, some HIV-positive women may be “granted” an abortion only if they consent to sterilization afterwards.

“...the doctors also found out I was pregnant. I did not want to have a child at this stage and requested the pregnancy be terminated. The doctors only agreed to the termination on condition that I consented to sterilisation. I had no option.” [121]

South African HIV-positive woman, 2003

Sensitivity about abortion among politicians and governmental officials may contribute to reluctance to address pregnancy termination as an aspect of reproductive health. In one study, health professionals in 49 developing countries said that safe abortion was the least accessible service among 81 maternal and neonatal health services in their countries. They rated official approval for treatment of postabortion complications as the second lowest policy priority [279]. If governmental support for postabortion care and safe, legal abortions is lacking, it will be difficult to ensure that all women – including those living with HIV – can access such services.

Even where legal abortion services are available, women may not be aware of them or their right to terminate an unwanted pregnancy. Some national policies, information materials and counseling guidelines produced by governments and NGOs openly state that HIV-

positive women should be supported in making choices on whether to continue or terminate pregnancies. Examples can be found in Australia, Canada, Malaysia, Namibia, Nepal, Nigeria, South Africa, Spain and the United Kingdom [119, 134–135, 280–290]. However, information materials may provide detailed information on PPT measures and where they can be obtained but fail to include contact information for health services that provide pregnancy terminations [291].

In Kenya, where expansion of legal indications for abortion is a controversial subject, PPT training guidelines state that "HIV-positive women need help to prevent unwanted pregnancies, and their needs should be addressed along with those of women who are HIV negative. Health-care staff should make adequate, accurate information available, but family-planning decisions should be completely voluntary." They go on to say that working with couples is beneficial because "Couples are better able to cope with such decisions as whether or not to get pregnant, terminate a pregnancy, breastfeed the baby if they are seen and supported together" [292].

Even in countries where HIV-positive women may legally terminate pregnancies, materials dealing with reproductive health and HIV may fail to address abortion [293]. For example, in the United States, CDC guidelines for HIV screening of pregnant women and US Public Health Service Recommendations on PPT do not mention abortion as option for women facing unintended pregnancies [294–295].

A US law called the Helms Amendment prohibits the direct use of any US foreign assistance funds for biomedical research on abortion, lobbying on abortion and provision of abortion services [296]. However, it does not prohibit recipients of US funds from using other funding they receive to address abortion issues. The aforementioned global gag rule, that prohibits US family planning funds going to NGOs in developing countries that work on abortion-related care, does not apply to US development assistance for AIDS-related work, for example, funds donated through the President's Emergency Plan for AIDS Relief (PEPFAR) [88]. Nevertheless, it appears that some US-based NGOs may fear a loss of government funding if they address safe, legal abortion in manuals and guidelines they produce for developing countries, regardless of how the materials were funded. Many of their guidance documents avoid the topic. Others may briefly mention unsafe abortion or induced abortion but only in ambiguous terms, rather than as a legitimate option for HIV-positive women with unwanted pregnancies [49, 64–65, 297–301]. For example, one manual on gender and reproductive health advocacy for program planners and implementers mentions that the ICPD Programme of Action calls for comprehensive services including abortion where it is not against the law. However, the only other reference to pregnancy termination is in a section on strategic communication, where abortion is used as an example of an issue in which "The two sides often use strong language and shocking images in order to attack the opponent's position, but this approach can alienate a neutral public" [302].

A contribution to the Gender–AIDS e–mail forum regarding development of a pregnancy website for people living with HIV/AIDS stated that reproductive rights and termination of pregnancy were deliberately omitted by the technical team in charge of the project [303]. Reluctance on the part of researchers to become involved with the issue of abortion may also affect assistance given to HIV–positive women. Fitzgerald and Behets reported the case of an HIV–positive woman in an unnamed country who, in the course of a clinical trial, told researchers that she was going to seek an illegal abortion; a few days later she died in hospital from septic shock following an unsafe procedure [304]. They commented: “*Clearly, HIV prevention researchers cannot be expected to untangle the ethical issues surrounding abortion rights. However, if researchers want to enroll women of reproductive age [in clinical trials], then neither can they ignore such issues. The question arises: how can researchers best protect the welfare of female volunteers in a developing country with restrictive reproductive laws?*”

Clearly, much more needs to be done to ensure that women living with HIV are able to access safe, legal abortions.

6.5. HIV/AIDS and abortion–related care

6.5.1. Clinical care

The searches on abortion and HIV/AIDS conducted for this literature review did not find any clinical research articles or evidence–based recommendations regarding HIV/AIDS and abortion–related care. Therefore, a convenience sample of 30 guidance documents on abortion and emergency obstetric care was reviewed to determine whether they mentioned HIV/AIDS in any way. The publications were produced by NGOs and professional associations in Canada, the United Kingdom and the United States and were included in the review because they were easily accessible through the Internet and/or because they come from authoritative organizations whose recommendations are often a model for health professionals elsewhere [238, 259–260, 305–331].

Provision of information and referrals for HIV/STI testing: guidelines and information materials from the American Medical Women’s Association, the College of Physicians and Surgeons of Manitoba, EngenderHealth, Ipas and the Royal College of Obstetricians and Gynaecologists (RCOG) in the United Kingdom all mention that abortion clients should receive information on HIV and/or STI testing [260, 305, 309, 312–313, 319–320]; RCOG further states that abortion service protocols should include policies on offering HIV tests and ensuring that patients give valid consent if the service itself carries out HIV tests [310]. The US National Abortion Federation (NAF) curriculum for midlevel providers and the Ipas manuals on induced abortion and postabortion care address women living with HIV/AIDS as

a special population, stating that clients known to be HIV-positive should receive referrals to appropriate services for counseling and other health-related needs [319–320, 324].

Postabortion contraceptive counseling: given the prevalence of HIV/AIDS in many developing countries, documents that give guidance on abortion care would be improved if they were to advise that HIV infection be addressed in postabortion contraceptive counseling. For example, all counseling guidelines should stress that only condom use prevents HIV infection (and re-infection for HIV-positive women). Attention should also be given to emerging evidence regarding possible interactions between hormonal contraceptives, antiretroviral drugs and medications used to treat opportunistic infections such as tuberculosis (see section 3.1).

Documents produced by EngenderHealth, Ipas, NAF and Planned Parenthood of New York City mention that condoms and barrier methods protect against both pregnancy and HIV/STI infection [238, 313–315, 319–320, 330]. EngenderHealth mentions that oral contraceptives may be less effective if a client has used rifampin long-term [313]; the Ipas postabortion care manual states the same thing but in relation to oral contraceptives, vaginal rings and contraceptive patches [320].

The Ipas postabortion care manual states that counselors may wish to seek additional training or refer patients to providers who can offer contraceptive services specific to their situation [320]. The Ipas manuals on postabortion care and induced abortion further say that during counseling on contraception, HIV-positive women should be informed about their right to bear children, risks of perinatal transmission and the possibility of reducing perinatal transmission with ART [319–320]. In this context, it should be noted that simply including postabortion contraceptive counseling in abortion guidelines and training is insufficient; monitoring of providers' actual practice is needed. For example, a study of contraceptive use among women who sought abortions at five clinics in Perm, Russia, between August 2002 and May 2003 found that no clients left with condoms and another contraceptive method even though providers had been trained to provide the methods free of charge [94].

Procedures and HIV/AIDS: there were few specific references to HIV/AIDS in relation to clinical care in the reviewed documents. Some advise clinicians to inquire about HIV infection as part of history taking prior to procedures, while others do not mention this or refer to asking about STIs in general. For example, RCOG advises testing of patients for HIV infection if this is indicated by individual risk factors, clinical factors or high local HIV prevalence [310]. Only one guide mentions ART, saying that women should not interrupt their antiretroviral regimens before or after abortions as the drugs used do not alter the management of women undergoing or recuperating from minor surgical procedures [238].

While many of the documents reviewed mention that abortion providers should assess whether a woman is anemic so that this can be taken into account in clinical care, it would be helpful if guidelines would point out that HIV-positive women are at increased risk for anemia, both due to HIV infection itself, accompanying opportunistic infections and as a side effect of various antiretroviral drugs that they may be taking [29–33].

An issue not discussed in the reviewed guidelines is possible interactions between drugs given for HIV infection and medications used in relation to abortion procedures. Metronidazole is sometimes given to women with bacterial vaginosis who undergo vacuum aspiration or to women with genital tract sepsis after unsafe abortions [229, 310, 314, 326]. Administration of amprenavir, an antiretroviral drug, is contraindicated for patients treated with metronidazole [53], indicating that it could be useful to ask abortion clients if they are using antiretroviral drugs.

6.5.2. Questions to be addressed

Abortion care involving instruments: research on general populations of abortion patients has shown that complications following safely induced abortions performed by appropriately trained health-care providers in hygienic conditions occur very infrequently. Very little research has been done specifically on abortion in HIV-positive women; the literature review identified two retrospective case studies in this regard. One study in Germany compared morbidity risks for 235 HIV-positive and 235 HIV-negative women following obstetric and gynecological surgical procedures, including abortion care, done in 1989–1999. It found more frequent complications among HIV-positive women but the difference was not statistically significant; nevertheless, the authors suggested that standard antibiotic regimens used to prevent infections may not be sufficient for women with advanced HIV infection [332]. A study of medical records at one US hospital compared 71 HIV-positive women and 213 HIV-negative women who underwent curettage for induced abortions, missed abortions and incomplete abortions between 1993 and 2002. None of the women received prophylactic antibiotics before the procedure; more HIV-positive women (14%) than HIV-negative women (4%) had complications, which were mostly due to operative complications rather than infectious causes [333].

It would be reasonable to expect a higher rate of infectious complications following invasive abortion procedures (sharp curettage, vacuum aspiration) in women with advanced HIV infection, particularly in low-resource settings with high HIV prevalence and where women lack access to ART and suffer numerous opportunistic infections. It would be worthwhile to study whether immunocompromised women do indeed have an increased risk of complications and what specific measures can be taken to reduce such risks. For example, research could be done to determine whether abortion-related bleeding causes problems in HIV-positive women who are anemic and whether the use of therapeutic rather than

prophylactic antibiotics might reduce infection risks if these are increased in women with untreated advanced HIV infection.

In the interim, health services that provide postabortion care and induced abortions for communities including HIV-positive women should follow WHO recommendations to replace sharp curettage (commonly known as dilatation and curettage or D&C) with vacuum aspiration in the earlier stages of pregnancy because major complications are two to three times more frequent with curettage [229]. This can be particularly important in areas with high HIV prevalence; for example, an intervention to expand postabortion care in Malawi found that sharp curettage was still done in 34% of cases [334].

Medication abortion: it has been suggested that medication abortion might be a good alternative to prevent complications from unsafe surgical abortions for HIV-positive women as it is a non-invasive procedure and has the potential to reduce risks of infection and trauma [335].⁴ Experts in the reproductive health field have stated that abortion using medications such as mifepristone and misoprostol may be offered as an option to women in even the most basic settings as long as backup services are in place to deal with failed abortions and complications; these services are said to be similar to those needed to treat miscarriage [336]. Some medication abortion protocols combine facility and home-based administration of the drugs as this is said to reduce the costs and is found easier or more convenient by some women [229, 336–339]; for example, in such cases women receive mifepristone at the health facility and misoprostol two days later, either at the facility or at home.

Complications from medication abortions may include: prolonged bleeding or hemorrhage (sometimes requiring transfusion), failed abortion requiring follow-up uterine evacuation using instruments (preferably by vacuum aspiration according to WHO recommendations [229]), and endometritis [229, 340]. As far as could be determined, no trials have been done to assess the effectiveness, possible side effects or complications of medication abortion in women living with HIV, nor have studies been done on interactions between medication abortion drugs and ART medications. A bibliography on publications through 2002 on misoprostol, for example, did not include references to HIV/AIDS in any of the titles [341]. It could be useful for researchers and providers to consider the following three aspects of medication abortion in relation to HIV/AIDS.

Facility or home administration and follow-up care: termination of pregnancy may not be complete before women leave health facilities, particularly when a combined facility-home regimen of drug administration is used. It is furthermore unknown whether failed abortions

⁴ The term "medical abortion" leads to confusion as many people assume that all safely performed abortions are "medical". This document uses the term "medication abortion" since it more accurately reflects a method using pharmaceutical drugs.

or complications following medication abortion are more frequent or serious in women living with HIV compared to HIV-negative women. However, it is known that some women fail to return to providers for follow-up after undergoing a medication abortion. For example, a study at four facilities in two provinces of South Africa, the country with the highest number of people living with HIV in the world, found that about 16% of women did not return for a check up after 14 days [342]. It is important that women are able to return to a health-care provider within two weeks to obtain confirmation of the complete expulsion of products of conception [340]. Pre-procedure counseling for medication abortion, especially in rural settings of countries with high HIV prevalence, should ensure that women are told how to recognize signs of possible complications. Providers should also emphasize that women need to consider issues related to their ability to return for follow-up, such as availability of, and access to, transportation.

Another issue that warrants consideration is misoprostol administration when women who are 9 or less weeks pregnant take it at home as part of a medication abortion. The drug may be administered either vaginally or orally. For those who are 7–9 weeks pregnant, vaginal administration has been shown to have greater efficacy and is recommended. It is conceivable that some women may not feel comfortable inserting tablets vaginally and might consider asking another person (e.g., a traditional birth attendant) to help with vaginal insertion of the drug. The provider should advise against this and emphasize that any other person inserting the medication should wear gloves to prevent exposure to HIV in vaginal fluids.

Some practitioners state that women undergoing medication abortion at home "may need privacy and freedom from responsibilities for at least a few hours during the abortion process" [238]. For women without significant support networks and who do not want to inform others about an abortion – a likely scenario in areas of many developing countries – this may be difficult to achieve. This might especially be the case for HIV-positive women who are single, widowed or have other small children for whom they must care. It is therefore important that the provider give the woman objective information about the procedure (e.g., she will have cramping and bleeding for about 4–6 hours when misoprostol is taken and may want to have someone available to help her out during that time), so that she can make an informed decision about whether to use this method or, for example, vacuum aspiration which is a shorter process (15–20 minutes).

Delayed or prolonged bleeding: bleeding after medication abortion may last longer than bleeding following vacuum aspiration. For example, with mifepristone–misoprostol combinations, it typically lasts up to 8–17 days [337]; with regimens using misoprostol alone for termination of pregnancies up to 9 weeks, bleeding typically lasts 7–10 days [343]. Although severe hemorrhage occurs relatively rarely with medication abortion [344], it should be taken into consideration for HIV-positive women who suffer anemia caused by the HIV infection itself, opportunistic infections or ART drugs that they may be taking.

Prolonged or heavy bleeding may persist for several weeks in about 1% of women who undergo medication abortion [229]; if necessary, this can be treated by vacuum aspiration or a blood transfusion [337].

In cases where home administration is considered for women in resource-poor settings, providers should take into account that the women may not have access to sanitary pads or cotton wool and might use other cloth instead to absorb bleeding. As providers often will not know whether their patients are HIV-positive or not, they could take special care in instructing patients on how to clean such cloths to minimize exposure of other persons to possibly HIV-contaminated blood; ideally, they could give patients gloves and a sufficient number of sanitary pads with instructions on proper disposal.

Possible effects on HIV-related drug treatments: some ART medications (e.g., lopinavir, ritonavir, amprenavir) and drugs used to treat opportunistic infections (trimethoprim-sulfamethoxazole, atovaquone, amphotericin B, fluconazole, pyrimethamine, itraconazole, acyclovir and valacyclovir) may produce nausea, vomiting and diarrhea [55]. Side effects of medication abortion may also include nausea and vomiting [337]. Providers could investigate whether special measures, such as administration of anti-emetics, might be used to minimize these side effects for women on ART.

7. OTHER REPRODUCTIVE HEALTH ISSUES

In comparison with PPT interventions, a number of other reproductive health issues important to women living with HIV/AIDS have received insufficient attention. For example, HIV-positive women have greater risks of developing precursor lesions of cervical cancer [345–346] and of contracting HPV than HIV-negative women. Given the role of HPV in cervical cancer (an AIDS-defining illness) and the fact that immunosuppression appears to increase susceptibility to oncogenic strains of HPV, it is recommended that women with HIV and HPV have frequent pap smears and colposcopy when indicated by signs and symptoms [178, 347–349].

As simpler effective diagnostic tests become available, these should be mentioned in reproductive health materials related to HIV/AIDS. In connection with HPV, an inexpensive option for developing countries is visual inspection of the cervix with acetic acid (VIA) or Lugol's iodine and treatment with cryotherapy or loop electrosurgical excision procedures (known as LEEP or LLETZ) [44, 349–351]. However, it has been pointed out that cryotherapy and LEEP may be less effective in treatment for HIV-positive women so they need to be counseled about this [352]. Another example is a pin-prick test for ovarian cancer that is under development [353].

Reproductive health counseling should also emphasize the importance of treating opportunistic infections that may make pregnancy riskier (e.g., anemia, Chlamydia and other STIs, malaria, tuberculosis) [29, 33–34]. A new rapid test for Chlamydia, the "Firstburst test", may offer a relatively inexpensive option for inclusion in PPT programs [354].

Women living with HIV are advised to exclusively breastfeed their children in most areas of developing countries, yet this may be difficult for them. For example, one guidance document recommends that the baby be fed on demand and that the mother not let more than 3–4 hours pass without feeding [355]. However, this may be difficult for women engaged in certain types of work (e.g., in an office, in a health-care profession, etc.). Guidance on infant feeding for HIV-positive women should be comprehensive, including a wider range of topics than often mentioned in information materials:

- risks and benefits of exclusive breastfeeding and exclusive formula feeding versus mixed feeding
- expression and heat treatment/pasteurization of breast milk
- wet nursing and breast milk banks
- mother-child bonding issues
- how to cope with reactions to replacement feeding (animal milk, formula) from family and community members, e.g., related to fears of stigma
- preparation of replacement feeding by the mother herself or other caregivers

- costs of replacement feeding preparation (commercial or donated products, modified animal milk)
- possible obstacles to being able to continue the chosen method if a woman needs to relocate (e.g., for refugees, seasonal or temporary laborers)
- how to carry out abrupt weaning for mothers who have been exclusively breastfeeding.

“More formative research, and possibly operational research...is needed to give better guidance on how practical these options [wet nursing, heat treatment of breast milk, or milk banks] are for HIV-positive mothers and what factors and support are needed for mothers to succeed with each” [356].

A good example of an information booklet that examines some of these issues was produced by Family Health International for women in Cambodia [357]. A WHO training package on PPT interventions provides more information on some aspects of breastfeeding, for example, types of milk that are suitable and not suitable for replacement feeding, expression and heat treatment of breast milk and wet nursing [358].

Finally, we need more innovative thinking on how to expand coverage of reproductive health services to a greater number of women living with HIV/AIDS. Large numbers of women around the world live in places that are far from health facilities and where few biomedically trained health professionals are available. Yet the geographical isolation of these women does not necessarily protect them against HIV infection. When their spouses return home after job-related travel and migration, they may not only bring their wives much needed income but also infection with the virus.

At the very least, efforts should intensify to help community-based health educators reach these communities with information about HIV/AIDS, perinatal transmission of the virus and measures that can contribute to safer motherhood. Involving men in such discussions may help mobilize families and neighbors to pool resources so that arrangements can be made to provide women with child care and transportation so that they can take advantage of reproductive health services, such as antenatal care and diagnosis and treatment of reproductive tract infections and STIs. Discussions on these topics could also lead to greater community preparedness to help women who need emergency transportation to health facilities for treatment of pregnancy complications and postabortion care.

Couple-focused VCT may also increase uptake of services. For example, an intervention in Nairobi, Kenya, found that HIV-positive women who were couple-counseled were five times more likely to avoid breastfeeding than women who were counseled individually during antenatal care [359].

More efforts are also needed to work with traditional birth attendants (TBAs), who may be the primary or only caregivers that pregnant women see in many communities. It has been estimated that more than one million women living with HIV deliver their babies at home each year [360]. Even where nurses and physicians are relatively close by, women may still prefer to seek care from TBAs whom they know and trust. Educating TBAs on how they can decrease risks of HIV transmission during delivery (to babies and themselves) is a first step; incorporating their help in PPT programs goes a step further. For example, TBAs in Kenya are being trained to promote PPT; to encourage their collaboration, the health system is remunerating them for recordkeeping and for accompanying women to clinics for treatment of high-risk complications that they have been taught to recognize [361].

8. RECOMMENDATIONS FOR ACTION

As research and interventions related to HIV/AIDS and reproductive health progress, more attention must be given to the following issues:

- ensuring that HIV-positive women receive information and counseling on contraception tailored to their needs
- ensuring that the voluntary nature of antenatal VCT is protected
- development of protocols that maintain voluntary and informed consent and confidentiality when HIV testing is performed at labor and delivery
- integration of measures to deal with unsafe abortions in safe motherhood programs for HIV-positive women
- expanded access to safe, legal abortion for women living with HIV who choose to terminate unwanted pregnancies
- research on whether protocols for induced abortion need to be adapted to meet the needs of severely immunocompromised women
- promotion of gynecological care that addresses increased reproductive health risks for women living with HIV/AIDS.

The following recommendations can be implemented to improve reproductive health for women living with HIV/AIDS.

8.1. Gynecological, obstetric and maternal health care

- Guidance on obstetric and gynecological care for women living with HIV/AIDS needs to include screening for STIs and reproductive tract cancers, PPT measures that address infant feeding in a comprehensive manner, measures that can be taken to reduce risks of miscarriage (e.g., treatment of malaria and STIs), and information on postabortion care and induced abortion care.
- Strategies must be developed to expand coverage of reproductive health services for women living with HIV; involvement of men and TBAs can be an important component of such strategies.
- Guidance on family planning counseling and provision of contraceptive methods should include: information on various contraceptive methods in relation to HIV/STIs and possible measures to deal with failed contraception, including emergency contraception and safe, legal abortion.
- Emergency contraception should be advertised widely and made easily accessible to women living with HIV through VCT sites and follow-up care of participants in PPT programs.

8.2. HIV counseling and testing

Testing of women during antenatal care and at the time of labor and delivery is currently the most promoted measure to reduce risks of perinatal HIV transmission. In this context,

guidance from multilateral and other authoritative international agencies should address the following issues:

- the ethics of testing women without their voluntary, informed consent
- obstacles (and possible solutions) to enabling women to give truly voluntary and informed consent for HIV testing during labor and delivery (e.g., the minimum amount of information needed for informed consent, how to guarantee privacy and confidentiality in crowded labor wards, measures to guarantee that women receive post-test counseling and any needed support services)
- testing of newborn infants without the woman's voluntary and informed consent.

More work needs to be done in the following areas:

- **All** women (and men) should be able to take advantage of VCT services, not only women receiving antenatal care. It is important to make VCT available through all entry points into the health-care system, including facilities that provide STI diagnosis and treatment, contraceptive counseling, emergency contraception, postpartum care, mother-child health care, postabortion care, induced abortions, and, where available, sexual and reproductive health services catering to men and adolescents. Expanding VCT in this way will help clarify that the primary purpose of VCT is to help people care for themselves and not only to reduce the incidence of perinatal transmission of HIV.
- Women living with HIV should be involved in developing policies on HIV testing during antenatal care, labor and delivery so that their insights and perspectives are incorporated into the design, planning and implementation of such programs.
- VCT for couples should be promoted and guidance for such counseling should be widely disseminated.
- VCT for men should include questions about whether they and their partners are planning to have children now or in the near future. Clients who indicate that they do plan to have children should be informed in more detail about the risks of perinatal transmission and available PPT measures. Those who say that they are not thinking about pregnancy should be informed in more detail about ways that they and their partners can avoid unwanted pregnancies (contraceptive methods including emergency contraception and vasectomy, safe legal abortion).

8.3.HIV/AIDS and reproductive choice

- International and national expert consultations and meetings on HIV and reproductive health must highlight the importance of observing sexual and reproductive rights, including the right of HIV-positive women to decide whether and when to have children. Advocacy and policy documents emanating from such meetings should address: contraception, including emergency contraception; accessibility and affordability of PPT measures; ongoing ART to ensure parents' survival; measures to help women deal with unwanted pregnancies including safe, legal abortion.

- Since negative attitudes towards childbearing by HIV-positive women and men continue to exist among community members and health professionals, policy-making bodies should continue emphasizing that pressure or coercion on HIV-positive women to terminate pregnancies or undergo sterilization violates their human rights.
- If HIV/AIDS is named as a specific indication for abortion in laws, health systems must have protocols in place to ensure that women living with HIV are not pressured by health-care providers or other parties to have an abortion.
- If laws do not specify HIV/AIDS as an indication for legal abortion but do permit pregnancy termination to protect a woman's health, health systems should ensure that HIV status is included as a possible qualifying condition.
- Policymakers and AIDS service organizations should ensure that people living with HIV are informed about, and enabled to access, assisted reproduction techniques and possibilities of legally adopting children.

8.4. Research

Areas in which further research is warranted include:

- ***Interactions of contraceptives with antiretroviral and other HIV-related drugs:*** while some research is being done in this area, most attention seems to be focused on oral contraceptives, Norplant and Depo-Provera. Further research is needed regarding IUD use by HIV-positive women, interactions between other hormonal contraceptives (EC, injectables, the Implanon implants and contraceptive patches) and HIV-related medications, and on hormonal contraceptive use and HPV in HIV-positive women.
- ***Pregnancy counseling for HIV-positive women:*** studies are needed regarding the quality of counseling given to HIV-positive women who are considering their reproductive options, particularly regarding pressure to have abortions and sterilizations or denial of postabortion care and legal abortions.
- ***HIV testing of women during labor and delivery:*** research is needed on how protocols and practice can ensure that women's consent for testing is truly voluntary and informed at this time, how guarantees of privacy and confidentiality can be ensured in crowded labor wards, what measures can be taken to ensure confidentiality of test results after childbirth, and what steps are needed to ensure that women receive or return for post-test counseling.
- Research should be carried out to follow up women who receive ***VCT in the antenatal period and*** women who are tested ***during labor and delivery to assess comparative outcomes*** in terms of how they are able to cope with a positive diagnosis and to determine whether there are differences in negative repercussions of the diagnosis in the two groups. Attention should also be given to the possible effects of ART administration to women and infants who were HIV-negative at the time of birth.
- ***Provision of ART for PPT without women's consent at the time of labor and delivery:*** given emerging suggestions that all women at high risk of HIV infection and/or their babies be given nevirapine or other drugs at the time of childbirth, attention should be

given to the ethics of such measures and their possible effects regarding drug resistance and future treatment options for women who are HIV-positive.

- ***Complications of unsafe abortions among HIV-positive women:*** studies should determine whether HIV-positive women suffer more frequent and more severe complications from unsafe abortions in order to determine whether postabortion care should be adapted for their treatment. Findings could also be used to support advocacy efforts to include abortion-related care in reproductive health interventions for women living with HIV/AIDS.
- ***Side effects and complications following induced abortions among HIV-positive women:*** comparisons could be made between different abortion methods (e.g., sharp curettage, vacuum aspiration, medication abortion) used for HIV-positive women to determine relative risks of side effects and possible complications. Studies can further determine whether HIV-positive women who are asymptomatic, immunocompromised but not receiving ART, and who are taking various ART drugs are at increased risk of infections or bleeding problems and, if so, what measures can be taken to reduce such complications.
- ***Medication abortion for HIV-positive women:*** specific topics that could be addressed include whether any drawbacks exist to combined facility and home administration of drugs for HIV-positive women living in resource-constrained settings, possible interactions with antiretroviral and other HIV-related drugs, possible special considerations for follow-up care, and possible antiviral or immunosuppressant effects of abortion drugs.

9. Concluding thoughts

Gender, human rights and ethical concerns are critically important for formulating relevant and effective policies and interventions to address the reproductive health needs of HIV-positive women.

Prevailing gender norms and social expectations in most societies – for example, that men should exercise control over others rather than share decisionmaking and responsibility for their own and their sexual partners’ health and wellbeing – lead to situations in which both they and their partners are exposed to unnecessary risks. Acceptance of male domination in relationships prevents discussion and agreement between male and female sexual partners on ways in which they can better protect their own and their children’s health. Stigma, prejudice and discrimination related to homosexuality prevent some men from being open about their sexuality and the relationships they have. When men who have sex with men have female partners as well, a lack of openness creates a situation in which both partners are prevented from undertaking protective measures. Interventions to address men’s sexual and reproductive health needs should therefore be expanded, and efforts to involve men in programs to prevent perinatal transmission should be intensified.

Gender-based norms and expectations that relegate women to subordinate societal positions can pose obstacles for them in many areas of reproductive health. For example, even when women begin to receive more information on contraceptive methods in relation to HIV infection, they may be hindered from using the methods of their choice due to objections and preferences expressed or imposed by spouses or in-laws.

Sexual violence against women – which can expose them both to HIV/STI infection and unwanted pregnancies – is also an outcome of prevalent gender biases that imply women’s sexuality is not their own to control. Marital rape is still not seen as a crime in many countries and much more needs to be done to enable women to cope as survivors of violence, including expanding access to post-exposure prophylaxis, emergency contraception and legal abortion.

Societal expectations that all women should fulfill a role as mothers of biological children and that they must do everything possible to ensure the health of their children have led to a misplaced emphasis on “mother-to-child” transmission rather than “perinatal transmission.” It is not only women who are responsible for potential infections during pregnancy; many pregnant HIV-positive women also have HIV-positive partners and both future parents should share responsibility for implementing the PPT measures of their choice.

Respect for women’s rights is of further concern. The emphasis on preventing perinatal HIV transmission must not result in a situation in which requirements for antenatal VCT –

including its voluntary nature and the need for informed consent – are seen to be less important than requirements for VCT in other circumstances. While most women will take any feasible measure to protect their future children, this does not negate their right to make such decisions themselves without pressure or coercion.

Women must be enabled to make other decisions regarding childbearing for themselves as well. It is insufficient for policies and guidance on reproductive health care for HIV-positive women to simply state that they should be enabled to use contraceptives to prevent unwanted pregnancies. Contraceptive failures occur and many women are unable to avoid pregnancies they did not want. To avoid discrimination and violations of their human rights, women must not be prevented by political controversy from accessing safe medical procedures to protect their health, including legal abortions. It is also a matter of ethics to ensure that reproductive health care for HIV-positive women includes guidance on, and the provision of, treatment for the complications of unsafe abortions.

“...HIV positive women and girls’ human rights will be denied as long as we are discriminated against on the basis of our HIV status and gender....If international and national strategies to combat HIV leave women’s rights to chance, governments will fail to support the human rights commitments they have signed.” [161]

International Community of Women Living with HIV/AIDS

A great deal has been written in recent years about the feminization of the AIDS pandemic. This recognition of the impact of HIV/AIDS on women and girls is warranted and work should continue to address the multiple effects of a positive HIV diagnosis on women’s health. We must redouble our efforts, however, to ensure that this work addresses the full spectrum of women’s needs, including all aspects of sexual and reproductive health, by placing it within a gender-based framework of ethics and human rights.

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