

Antiretroviral interventions to reduce mother-to-child transmission of human immunodeficiency virus: challenges for health systems, communities and society

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This paper examines the ethical, economic and social issues that should be considered when antiretroviral interventions are being planned to reduce mother-to-child transmission of the human immunodeficiency virus. Interventions aiming to reduce mother-to-child transmission should be concerned with the rights of both the child and the mother. Women should not be seen as vectors of transmission but as people entitled to adequate health care and social services in their own right. For women accepting mother-to-child transmission interventions it is important to consider their medical and emotional needs and to ensure that they are not stigmatized or subjected to abuse or abandonment following voluntary counselling and testing. Seropositive women who do not wish to continue with pregnancy should have access to facilities for safe termination if this is legal in the country concerned. Problems arise in relation to the basic requirements for introducing such interventions via the health services in developing countries. A framework is given for making decisions about implementation of interventions in health care systems with limited resources where there is a relatively high prevalence of human immunodeficiency virus infection among pregnant women.

Keywords: human immunodeficiency virus infections, diagnosis; disease transmission, vertical; pregnancy complications; acquired immunodeficiency syndrome, prevention and control; breastfeeding, adverse effects; maternal welfare; child welfare.

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Introduction

A study in Thailand showed that short-course zidovudine treatment reduced mother-to-child transmission of the human immunodeficiency virus (HIV) by approximately half among women who did not breastfeed (1). This intervention, involving the administration of zidovudine orally for four weeks, including the day of delivery, requires minimal monitoring and has few adverse effects. It may therefore be feasible and affordable under certain conditions in low-income and middle-income countries.

Negotiations are in progress to obtain a substantial reduction in the price of zidovudine for this indication to make its use relatively cost-effective, even in developing countries. The United Nations Children's Fund (UNICEF), WHO, the United Nations Population Fund (UNFPA) and the Joint United Nations Programme on HIV/AIDS

(UNAIDS) support the development of programmes for reducing mother-to-child transmission of HIV in developing countries as rapidly as possible. It is hoped that such interventions may also serve as catalysts for improving associated HIV care and prevention services.

In Uganda a single-dose treatment with nevirapine for mothers and infants (200 mg orally during labour and 2 mg/kg to infants within 72 hours after birth) significantly reduced the risk of perinatal transmission in women who breastfed during the first 14 weeks after childbirth (2). In settings where resources are poor this treatment, which is more affordable and practicable than previously documented interventions, offers promise for the future. It provides hope that strategies will be found for preventing the spread of HIV from infected mothers to their children, particularly where women have difficulty in gaining access to antenatal care and have no safe alternatives to breastfeeding.

Resource allocation

Finance and other resources

There is general agreement that interventions providing antiretroviral treatment for the reduction

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of mother-to-child transmission in developing countries should not divert resources from other HIV care and prevention activities, and that they should be funded with additional money (Chevalier E, personal communication, 1998). Seven million perinatal deaths, 98% of them in developing countries and most of them preventable, occur globally each year. Maternal mortality is very high at 400–1600 per 100 000 live births (3).

In the sub-Saharan countries where antiretroviral interventions against mother-to-child transmission have been proposed it is arguable that there are more pressing unmet health needs. The general health services are inadequate: mortality among children aged under 5 years is often 200 per 1000 (4) and malnutrition affects up to 40% of children (5). The lifetime risk of maternal death is 1 in 9 in Ethiopia, Mozambique, and Rwanda, and 1 in 14 in Côte d'Ivoire, the Republic of the Congo, and Zambia (6) because of inadequate services in the areas of family planning and antenatal, delivery and postpartum care (7). Furthermore, 30–75% of the people have no access to safe water supplies (8, 9).

The aim of these antiretroviral interventions is to reduce the number of children infected with HIV. However, measures to reduce the number of infections in women and men, such as the treatment of sexually transmitted diseases (10), the provision of condoms (11) and HIV education (12) are not being implemented. Primary prevention aimed at reducing the number of infected pregnant women may be more cost-effective (13). It can therefore be argued that it is more ethically acceptable and rational to devote resources to the prevention of HIV infection in future mothers than to give antiretroviral treatment after maternal infection has occurred.

Financial sustainability

Once antiretroviral interventions have been implemented as pilot projects with external funding, together with associated services such as voluntary counselling and testing, the provision of enhanced maternal and child health services, and the provision of subsidized breast-milk substitutes, and when the prevention of mother-to-child transmission has been demonstrated, demand for these services should be created. It could be argued that it would be unethical to discontinue these services once they have been introduced. Long-term funding should, therefore, be ensured before implementation begins. In sub-Saharan Africa it is unlikely that short-course zidovudine treatment will become affordable in the foreseeable future for all HIV-infected women, even if substantial reductions in the price of antiretroviral drugs and breast-milk substitutes are achieved, nor is it probable that a significant proportion of the costs can be met by cost-recovery initiatives. Average annual public health expenditure per capita in sub-Saharan Africa is less than US\$ 20 (Sudan, US\$ 4; Kenya, US\$ 5; Nigeria, US\$ 5; Uganda, US\$ 5;

Senegal, US\$ 8; Zambia, US\$ 12 (4). In lower-prevalence, middle-income countries, including many in South America and Asia, partial or full cost recovery may be an option. However, the use of nevirapine is far less costly at approximately US\$ 4 for the drug for mother and child (14) and may be more widely affordable, although external support and/or government subsidy may nevertheless be required in the worst-affected areas where health resources are extremely limited.

Selection and equity

UNICEF/UNAIDS pilot projects for the provision of antiretroviral interventions to reduce mother-to-child transmission of HIV have been proposed and sites have been selected in developing countries. Initially, the intervention is expected to be available to only a small percentage of women in most participating countries, and consequently difficult ethical questions exist relating to the selection of participants. Whether criteria are set or the process is entirely random, selection is bound to seem unfair to the majority. The projects can be justified, however, on the ground that they are being undertaken to establish feasible approaches to reduce mother-to-child transmission in ways that respect women's health and social needs.

HIV testing

Mothers

To benefit from interventions against mother-to-child transmission, women must first be aware of and accept their HIV status. They therefore have to be tested for HIV, and this raises many ethical considerations. A woman may be coerced or pressured to undergo testing for the sake of her unborn child. Clinics may adopt a policy of routine testing of pregnant women, and this could undermine the right to voluntary informed consent. The benefits of the intervention should not obscure the risks following testing, namely fear, stigma, rejection, abuse and abandonment (15, 16). Women should be presented with comprehensive balanced information about the benefits and risks of testing. If routine testing becomes the policy of a clinic and the benefits and risks are not presented in an unbiased manner, women may feel too intimidated to go against the system or may fear exclusion from antenatal care if they do not agree to be tested. Decreased attendance at antenatal care clinics following the introduction of voluntary counselling and testing was noted during a study at Nsambya Hospital in Uganda (17). Women may defer to health care workers and the policy without understanding the implications of the test. Being aware of the benefits for children, health care workers may not explain both the risks and benefits of testing to mothers. Thus women may be coerced into being tested without having received sufficient information.

Coercion may also occur outside the clinic. A woman's partner may pressure her into testing so as to improve their child's chance of being born uninfected. The partner may feel that he has the right to compel her to have the HIV test since the baby is his as well as hers. He may insist that she be tested yet refuse to be tested himself. Conversely, he may oppose her being tested and may refuse to allow her to consent, fearing possible shame and discrimination should she prove to be infected (18). Thus the man may deprive the woman of the opportunity to protect her child from HIV infection.

Autonomy and bodily integrity are human rights related to informed consent. Coercion in testing violates these rights. The ultimate informed decision to undergo testing should therefore be made by the woman herself. Preferably, she and her partner should choose to be tested as a couple so that they can make appropriate decisions jointly which have a bearing on their future. The partner's wishes should be considered but should always be subordinate to those of the woman. It should be noted that many benefits are associated with a knowledge of one's HIV status, quite apart from the prevention of mother-to-child transmission (19–22).

Confidentiality

Without confidentiality a woman may be subject to stigma and discrimination leading to ostracism, loss of employment, loss of housing, abandonment and abuse. As a consequence the health and well-being of herself and her child may be seriously harmed. Maintaining confidentiality for an HIV-positive woman who chooses mother-to-child transmission prevention is difficult, particularly if short-course zidovudine treatment is being given. In cultures where breastfeeding is the norm, the use of breast-milk substitutes may suggest that a woman is HIV-positive. Furthermore, it may be impossible to take zidovudine discreetly. With the nevirapine regimen, on the other hand, it appears that breastfeeding may not represent a risk of transmission for at least the first 14 weeks, and if a mother chooses to stop breastfeeding at this time it is to be expected that she will attract less attention in her community.

Maintaining the confidentiality of a woman's serological status creates a dilemma if her partner's serological status is different or if he has not been tested, i.e. if his health may be at risk. A woman may not wish to reveal her HIV infection to her partner for fear of abuse and abandonment. However, a partner who is at serious risk of infection may have a legitimate right to know the woman's status in order to protect himself. Nevertheless, benefits and risks should be weighed carefully. Routine notification of partners may deter women from undergoing an HIV test, thus preventing access to life-saving treatment for their children and/or clinical care for themselves. It should be borne in mind that in areas of high

prevalence the majority of women with HIV have been infected by their only partner.

The child

At what point should a child born to an HIV-infected mother be tested, and what care and support should be offered postnatally? If antiretroviral interventions are performed, fewer HIV-positive children will be born. However, safeguards should be developed so that children born with HIV infection are not subject to stigma and discrimination, leading to their rejection by either their families or the community (23). Moreover, provision should be made for the care of both HIV-negative and HIV-positive children whose parents die as a result of HIV infection.

Issues relating to antiretroviral treatment

If they are to be effective, antiretroviral interventions require interrelated services. Women with HIV should accept their status and should receive counselling on their options regarding the prevention of mother-to-child transmission of HIV. They should be informed of the risks and benefits of treatments for the health of themselves and their children. It has been assumed that neither single-dose nevirapine nor short-course zidovudine would lead to clinically significant viral resistance and viral rebound. Reports of adverse effects such as anaemia are rare. Nevertheless, if short-course zidovudine treatment is administered to a woman during several pregnancies it is possible that viral resistance may occur, and this could subsequently reduce the effectiveness of antiretroviral treatments for her. Furthermore, a report has suggested that viral resistance may be induced following single dose nevirapine (24). However the clinical significance of this is not currently known. Further research is needed on the long-term effects of antiretroviral interventions.

Asking a woman to compromise her health in the interest of that of her fetus is ethically questionable. The woman should be provided with accurate information about the risks and benefits of antiretroviral drugs for herself and her child before deciding whether to accept such intervention. However, some countries might claim a compelling interest in protecting the health of unborn children, and in this circumstance it is conceivable that HIV-positive women would be forced to accept antiretroviral drugs.

Counselling on antiretroviral interventions should cover the risks and psychosocial implications of breached confidentiality. Measures should be taken to preserve a woman's confidentiality to the greatest possible extent.

The provision of antiretroviral drugs to prevent mother-to-child transmission of HIV raises ques-

tions about the obligation to provide women with other drugs, supplements and care which improve their babies' health, such as folic acid, iron, vitamin A, multivitamins (25), malaria prophylaxis (26) in pregnancy, screening and treatment for syphilis, and hepatitis B vaccination of the neonate in the postpartum period. Such interventions are inexpensive but may not be routinely available in countries where antiretroviral interventions are being considered, and they may have a greater impact on infant morbidity and mortality. HIV is one of many preventable diseases of infants which should be addressed at the national level.

The opportunity costs of antiretroviral interventions for health systems should also be considered. These interventions could divert funds and scarce resources from other public health programmes, such as health education for women on HIV prevention. Antenatal care services might be strained, and an inability to sustain antiretroviral implementation could have severe public health repercussions. For example, women on short-course zidovudine treatment who have begun artificial feeding might be unable to resume breastfeeding if supplies of breast-milk substitutes ran out, and this could conceivably result in malnourishment and/or mortality among infants.

Alternative infant feeding: implications for society and child survival

HIV can be transmitted to infants during pregnancy and delivery and through breastfeeding. Mother-to-child transmission of HIV can be significantly reduced by avoiding breastfeeding and using breast-milk substitutes, and by using breast-milk substitutes in combination with zidovudine therapy. It is not known whether zidovudine administration for the prevention of mother-to-child transmission is effective when women breastfeed. It may be unethical to consider providing free or subsidized zidovudine without providing breast-milk substitutes on the same basis for women who choose not to breastfeed. The problem is less acute with single-dose nevirapine as it appears that children can be safely breastfed for the first 14 weeks. If mothers choose to stop after that time the question of providing free or subsidized breast-milk substitutes arises. However, the immune system of children who have received early breastfeeding can be expected to withstand the risks of artificial feeding more successfully.

Where there are adequate alternatives to breastfeeding they should be considered. In their absence, more research is necessary before the appropriate infant feeding practice for infected mothers can be determined. Preliminary data for a breastfeeding population in Côte d'Ivoire revealed a reduction in the perinatal transmission rate from 24.9% to 15.7% at 3 months when 300 mg zidovudine was given twice daily from 36 weeks and every three hours during labour, and a reduction

from 25.1% to 16.8% occurred with the same regimen plus 300 mg zidovudine twice daily postpartum (27). The gap in transmission rates between those treated and those not treated narrows where women breastfeed. If infected women can avoid breastfeeding they should be counselled about doing so. If there are no adequate alternatives, breastfeeding should continue for as short a time as possible but sufficiently long to safeguard the nutritional needs of the infant.

If subsidized infant formula is made available to infected women, appropriate counselling and support should be in place. Women need training in preparing the feeds; the requirements include clean water, fuel, time, sufficient breast-milk substitutes and an understanding of proportions. If breast-milk substitutes are incorrectly prepared or given there is a high risk of infant infection and malnourishment. Effective infant feeding is impeded if education, infrastructure and resources are inadequate (e.g. clean water, electricity, fuel supply, sufficient breast-milk substitutes).

For infected women who are aware of and accept their seropositive status, choosing not to breastfeed, even when infant formula is provided for them, can be particularly difficult, especially in societies where breastfeeding is the norm. In Côte d'Ivoire and Uganda, fewer than 1% decided to feed their babies artificially despite the provision of free infant formula (28). If women are to be encouraged to take advantage of antiretroviral interventions the acceptance of artificial feeding is vital. With single-dose nevirapine the decision is comparatively easy as the mother can breastfeed for the first 14 weeks.

In making artificial feeding acceptable to HIV-infected mothers, however, it is important to discourage greater numbers of women, regardless of their HIV status, from adopting the practice. Because of the complexity and cost of preparing infant feeds, as well as the natural advantages of mother's milk for the infant, this could be extremely harmful to public health. Women who breastfeed have naturally reduced fertility, an advantage that would be lost if they were to feed artificially. For this reason, women receiving antiretroviral treatment for mother-to-child transmission who are supplied with breast-milk substitutes have a legitimate claim to and a need for appropriate family planning services. With interventions such as the use of antiretroviral drugs and breast-milk substitutes there is an increased risk of infant morbidity and mortality because of poor preparation of feeds. Studies are needed to measure the effects of artificial feeding where antiretroviral interventions are introduced.

Care

Continuing care of pregnant women

The reason for prescribing antiretroviral drugs in pregnancy is to reduce mother-to-child transmission.

However, ethical concerns arise regarding stopping the administration of antiretroviral drugs after delivery and the appropriateness of identifying seropositive women for mother-to-child transmission interventions without offering them any care for their own HIV disease.

Short-course or single-dose antiretroviral treatments are likely to be of minimal benefit to a mother's health. Antiretroviral use for mother-to-child transmission reduction should be provided to all seropositive women regardless of their clinical status. Some of these women would not require continuing antiretroviral treatment for their own HIV infection. Women with early HIV infection may, however, benefit from preventive therapies (such as tuberculosis preventive therapy) and continuing social and emotional support.

The cost of continuing to administer these drugs throughout a mother's life is likely, in most settings, to be prohibitive. Nonetheless, in those areas where the majority of HIV infection occurs and where safe use, adequate monitoring, trained physicians and additional sustainable financing can be assured, an attempt should be made by health ministries, drug authorities, pharmaceutical companies and international agencies to make the drugs more widely available and accessible to people (29).

There is no justification for diverting large amounts of money from other prevention and care activities to provide antiretroviral drugs for a few people. Strategies aimed at reducing mother-to-child transmission, therefore, should identify large numbers of HIV-positive women who would be able to receive or be referred to continuing care at least at the level of the standard available in their communities. Where the standard of care is comparatively low, enhanced care for infected women should be considered. Continuing counselling, the provision of family planning services, the treatment of HIV-related infections and the provision of other therapies such as tuberculosis preventive therapy once active tuberculosis has been excluded, or cotrimoxazole prophylaxis (30), are especially desirable. Women should be made aware of support groups in the community.

Continuing care of infected children

The Thailand study (1) and other studies (31) showed that although mother-to-child transmission was significantly reduced by short-course zidovudine, approximately 10% of children born to mothers with HIV were nevertheless infected. With single-dose nevirapine the proportion still infected at 3 months is 13%, but longer follow-up is awaited. By offering women an intervention to prevent mother-to-child transmission, health care demands may be raised. The question arises as to whether paediatric services should be expanded simultaneously to provide appropriate treatment of infected children, continuing counselling and social support for children and

families, and adequate palliative care. There may be no paediatric HIV services, or inadequate services may exist. Consideration should be given to the possibility of making improvements and, if this is done, to who should pay for them. There is a danger of destroying fragile health care systems because of the increased demand for expensive humanitarian services such as that of palliative care. However, supportive care to improve the quality of life for persons with HIV disease in its late stages has been shown to be feasible by linking institutional care with home care (27).

Antiretroviral interventions for the reduction of mother-to-child transmission make it theoretically possible that more children will be born with HIV. Seropositive women who previously decided not to have children may change their minds if the risk of mother-to-child transmission can be significantly reduced, and fertility levels among seropositive women may increase as the natural protection from breastfeeding is lost.

Continuing care of uninfected children

Uninfected children born to infected mothers have significantly higher rates of morbidity and mortality than uninfected children born to uninfected mothers (32). This may be partly attributable to increased transmission of HIV-associated infections such as tuberculosis, but social and economic deprivation arising from parental illness, stigma and discrimination are probably more significant. For this reason, regular follow-up and social support through nongovernmental organizations, church groups and others may be required for the uninfected children of infected mothers. Funding issues should be examined in this connection.

Orphans

Mothers and fathers may become symptomatic or die before their children reach adulthood. Orphans have a decreased access to education (33) and medical care (34) and are more likely to be malnourished (35) than other children. They are also particularly vulnerable to emotional, physical and sexual abuse, and consequently to HIV infection (36). Furthermore, there may be a profound psychological impact. Services capable of dealing with these matters should be provided or enhanced if antiretroviral interventions result in an increased number of orphans in societies that are already overwhelmed and overburdened by the social and economic consequences of HIV. It is important to make links with organizations caring for orphans and to monitor the needs of orphans over time.

Care of siblings

If a child has undergone a mother-to-child transmission intervention he or she may receive better medical treatment than his or her siblings. Appropriate health care should be provided for siblings, and the medical, psychological and social needs of

siblings infected or affected by HIV should be taken into consideration.

Care of father/partner

A father may have medical needs because of HIV infection, and emotional needs stemming from the infection of his wife and perhaps of their child. The hidden costs of associated services are not usually acknowledged in calculations of the cost-effectiveness of mother-to-child transmission prevention. Unless they are taken into account so that additional funds are provided to strengthen care provision, antiretroviral interventions may lead to a decrease in the overall quality of health services.

Special concerns

Women who decide not to have children

High HIV prevalence often occurs in areas of low income and poor provision of medical care and social and psychological support. Singling out pregnant women for an intervention discriminates against seropositive women who make informed decisions not to have children. These women may imagine that antiretroviral intervention would be beneficial to their own health and may become pregnant in order to receive it.

Women who wish to terminate pregnancy

The number of induced abortions in developing countries is high and steadily increasing (37). Because abortion is illegal in many places there is a high maternal mortality resulting from improperly performed procedures and postoperative complications (38).

Some women who are offered voluntary counselling and testing during the antenatal period may have legitimate reasons for considering the termination of pregnancy. They should have access to voluntary counselling and testing early enough in pregnancy to allow them to make an informed choice. Unfortunately, it is not usually an option that health care workers and counsellors can propose if there are no legal and safe abortion services. This has been shown to create difficulties for health care workers counselling seropositive women (39).

Women everywhere seek and find pregnancy termination services irrespective of the cost, legality or danger (40). The AIDS epidemic provides another compelling reason for ensuring that all women have access to abortion services that are voluntary, safe and legal, including services for the treatment of septic abortion.

Women who are unable to have children

The prevalence of infertility is more common among women with HIV (41) than among uninfected women. This raises issues about the provision of

continuing support and treatment for women who are unable to have children.

Conclusions

Where antiretroviral therapy is planned during pregnancy to reduce mother-to-child transmission of HIV it is necessary to establish or strengthen voluntary counselling and testing and maternal and child health and family planning services. Initial pilot projects or research projects may have external designated funding and technical support and may provide free or subsidized antiretroviral drugs and breast-milk substitutes. However, where treatments are being introduced as a service, governments and nongovernmental organizations supporting health care programmes should foster the political will and responsibility required to sustain them in the long term, taking into account the various costs involved.

Interventions aiming to reduce mother-to-child transmission of HIV should be concerned with the rights of both the child and the mother. Women should not be seen as vectors of transmission but as people entitled to adequate health care and social services in their own right. For women accepting mother-to-child transmission interventions it is important to consider their medical and emotional needs and to ensure that they are not stigmatized or subjected to abuse or abandonment following voluntary counselling and testing. Seropositive women who do not wish to continue with pregnancy should have access to facilities for safe termination if this is legal in the country concerned.

Primary prevention should be reinforced and effective interventions should be promoted. Efforts should be intensified, in particular, to reduce women's vulnerability and provide them with the means to protect themselves: sex education, access to male and female condoms, screening and treatment for sexually transmitted infections, and special services for young women, including greater opportunities for employment and education. Programmes targeting adolescent boys and men should emphasize their responsibilities and opportunities for preventing transmission to women and their children, and should raise awareness about gender inequalities leading to women's greater vulnerability.

Voluntary confidential counselling and testing with explicit informed consent should be promoted for women at the antenatal stage and, where appropriate, for couples, in situations where mothers and children have access to effective measures for the reduction of mother-to-child transmission and to continuing medical care and social support. This should be accompanied by continuing educational campaigns that combat stigmatization of and discrimination against people with HIV/AIDS.

Box 1. Further studies are required in the following areas**Epidemiological**

Effects of artificial feeding on morbidity and mortality of infants of seropositive mothers.

Quality of life, morbidity and mortality patterns of orphans and children born to mothers with HIV.

Clinical

Long-term efficacy of shorter, single daily or single-dose regimens.

Possible antiretroviral drug resistance and adverse effects of drugs in women and infants.

Adherence to drugs taken during pregnancy and on day of delivery (particularly important in connection with antiretroviral drugs given to women who deliver at home or away from a central health care institution).

Operational

Possible spill-over of breast-milk substitute usage to seronegative women or women who have not been tested for HIV.

Regulation and supply of antiretroviral drugs and prescription behaviour; possible inappropriate use of antiretroviral drugs.

Social

Acceptability of voluntary counselling and testing; demand patterns of voluntary counselling and testing.

Role and involvement of fathers in the mother-to-child transmission of HIV and voluntary counselling and testing process.

Possible adverse consequences of mother-to-child transmission interventions, such as stigma, abandonment and abuse of women.

Availability and use of associated social, care and support services.

Economic

Direct and indirect costs and opportunity cost for families and health system.

Cost-benefits of mother-to-child transmission prevention measures, including the various antiretroviral interventions and infant feeding options.

Lower-cost interventions: cost-benefit analysis weighing the advantages of promoting HIV-specific measures against improving general antenatal, postnatal and maternal and child health care.

Efforts to improve antenatal, delivery and postnatal services and maternal and child health care in general should be supported to allow the gradual introduction of voluntary counselling and testing, as many women are unaware of, or have no possibility of discovering, their HIV status. Despite plans to develop mother-to-child transmission pilot projects in sub-Saharan Africa, short-course antiretroviral therapy during pregnancy to reduce mother-to-child transmission will not be available in the near future to the majority of women with HIV. The less expensive options for reducing perinatal transmission, including those not requiring HIV testing, such as vitamin supplementation, avoidance of invasive procedures during delivery, and modification of breastfeeding practices, therefore deserve increased emphasis and support.

Health workers, including traditional birth attendants, need training on ways of decreasing risks during delivery, especially through simple measures such as preventing routine episiotomy and other unnecessary invasive practices, and cleaning maternal secretions from babies after delivery.

Since our knowledge of antiretroviral interventions for the reduction of mother-to-child transmission is based on a small number of studies it is important that all the components of interventions be carefully documented and monitored (See Box 1). The development of outcome indicators is urgently needed for the determination of the feasibility, usefulness and effectiveness of the proposed interventions. ■

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Résumé**Interventions visant à réduire la transmission mère-enfant du virus de l'immunodéficience humaine par l'administration d'antirétroviraux : problèmes posés aux systèmes de santé, aux communautés et à la société**

Le présent article examine les questions d'ordre éthique, économique et social qu'il faut prendre en compte lorsqu'on planifie des interventions visant à réduire la transmission mère-enfant du virus de l'immunodéficience humaine par administration d'antirétroviraux. Les problèmes viennent du fait des exigences minimales

requis pour introduire ce type d'intervention par l'intermédiaire des services de santé dans les pays en développement.

Lorsque le traitement antirétroviral est planifié pendant la grossesse, il est nécessaire de créer ou de renforcer les services de conseil et de dépistage

volontaires, les services de santé maternelle et infantile, ainsi que les services de planification familiale. Les projets pilotes ou projets de recherche initiaux peuvent bénéficier d'un financement externe à objet désigné et d'un appui technique et fournir les antirétroviraux et les substituts du lait maternel gratuitement ou grâce à des subventions. Cependant, lorsque des traitements sont introduits en tant que service, les organisations gouvernementales et non gouvernementales qui soutiennent les programmes de soins de santé doivent éveiller la volonté et la responsabilité politiques requises pour les maintenir à long terme, en tenant compte des divers coûts que cela implique.

Les interventions qui visent à réduire la transmission mère-enfant du virus doivent s'intéresser aux droits de l'enfant et de sa mère. Les mères ne doivent pas être considérées comme de simples vecteurs de la transmission, mais comme des personnes qui, *de facto*, ont droit à des soins de santé et à des services sociaux appropriés. Concernant les femmes qui acceptent les interventions visant à réduire la transmission mère-enfant, il est important d'examiner leurs besoins médicaux et psychologiques et de faire en sorte qu'elles ne fassent pas l'objet d'une stigmatisation ni d'abus, ni qu'elles soient abandonnées à la suite d'un dépistage et d'un

conseil volontaires. Les femmes séropositives qui ne souhaitent pas poursuivre leur grossesse doivent avoir accès à des installations leur permettant de bénéficier d'une interruption de grossesse si cette dernière est légale dans le pays concerné.

La prévention primaire doit être renforcée et pour cela il faut promouvoir des interventions efficaces. Il convient, en particulier, d'intensifier des efforts visant à réduire la vulnérabilité des femmes et donner à ces dernières les moyens de se protéger : éducation sexuelle, accès aux préservatifs masculins et féminins, dépistage et traitement des infections sexuellement transmissibles et services spéciaux destinés aux jeunes femmes, notamment leur offrant de plus grandes possibilités d'emploi et d'études.

Cet article définit un cadre dans lequel prendre les décisions relatives à la mise en œuvre de ces interventions dans les systèmes de soins de santé disposant de ressources limitées et où l'on observe une prévalence relativement élevée de l'infection par le virus de l'immunodéficience humaine chez les femmes enceintes. Il faut de toute urgence élaborer des indicateurs de résultats pour pouvoir déterminer la faisabilité, l'utilité et l'efficacité des interventions proposées.

Resumen

Intervenciones antirretrovíricas para reducir la transmisión maternoinfantil del virus de la inmunodeficiencia humana: retos para los sistemas de salud, las comunidades y la sociedad

El presente artículo examina los aspectos éticos, económicos y sociales que se deben tener en cuenta al planear el uso de antirretrovíricos para reducir la transmisión del virus de la inmunodeficiencia humana de la madre al niño. Se plantean problemas relacionados con los requisitos básicos para llevar a cabo esas intervenciones a través de los servicios sanitarios en los países en desarrollo.

En los casos en que se prevé emplear terapia antirretrovírica durante el embarazo, es necesario establecer servicios de apoyo psicológico y pruebas voluntarias del VIH, de salud maternoinfantil y de planificación familiar, o fortalecerlos cuando los haya. Los proyectos piloto o de investigación iniciales disponen a veces de fondos externos para fines determinados y de apoyo técnico, y pueden proporcionar medicamentos antirretrovíricos y sucedáneos de la leche materna gratuitos o subvencionados. No obstante, si los tratamientos se establecen como un servicio, los gobiernos y las organizaciones no gubernamentales que apoyan los programas de atención sanitaria deben fomentar la voluntad política y la responsabilidad requeridas para mantenerlos a largo plazo, teniendo en cuenta los diversos gastos implicados.

Las intervenciones que tienen por objeto reducir la transmisión del virus de la madre al niño deberían ocuparse de los derechos tanto del niño como de la madre. No se debería considerar a las mujeres vectores de transmisión, sino personas con derecho a unos

servicios adecuados de atención sanitaria y social. En cuanto a las mujeres que aceptan las intervenciones contra la transmisión maternoinfantil, es importante considerar sus necesidades médicas y emocionales, y asegurar que no queden estigmatizadas ni sufran abusos o abandono tras recibir apoyo psicológico y someterse a las pruebas del VIH de forma voluntaria. Las mujeres seropositivas que no deseen continuar con su embarazo deben tener acceso a instalaciones que puedan practicar una interrupción sin riesgos, siempre y cuando ello sea legal en el país en cuestión.

Se debe reforzar la prevención primaria y promover las intervenciones eficaces. Es preciso intensificar los esfuerzos, sobre todo para reducir la vulnerabilidad de las mujeres y proporcionarles los medios necesarios para que se protejan: educación sexual, acceso a preservativos masculinos y femeninos, cribado y tratamiento de las infecciones de transmisión sexual, y servicios especiales para las mujeres jóvenes, incluidas mayores oportunidades para acceder al empleo y a la educación.

Se ofrece un marco para la toma de decisiones respecto a la ejecución de las intervenciones en los sistemas de salud con recursos limitados que han de hacer frente a una prevalencia relativamente alta de la infección por el VIH entre las mujeres embarazadas. Es necesario desarrollar urgentemente indicadores de los resultados para determinar la viabilidad, la utilidad y la eficacia de las intervenciones propuestas.

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