Field Experiences Integrating Family Planning into Programs to Prevent Mother-to-Child Transmission of HIV

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This article reviews field experiences with provision of family planning services in prevention of mother-to-child transmission (PMTCT) programs in ten countries in Africa, Asia, and Latin America. Family planning is a standard component of most antenatal care and maternal–child health programs within which PMTCT programs are offered. Yet PMTCT sites often miss opportunities to provide HIV-positive clients with family planning counseling. Demand for family planning among HIV-positive women varies depending on the extent of communities' openness about HIV/AIDS, fertility norms, and knowledge of PMTCT programs. In Kenya and Zambia, no differences were observed in use of contraceptives between HIV-positive and HIV-negative women in the study communities, but HIV-positive women have more affirmative attitudes about condoms and use them significantly more frequently than do their HIV-negative counterparts. In the Dominican Republic, India, and Thailand, where HIV prevalence is low and sterilization rates are high, HIV-positive women are offered sterilization, which most women accept. This article draws out the policy implications of these findings and recommends that policies be based on respect for women's right to informed reproductive choice in the context of HIV/AIDS. (Studies in Family Planning 2005; 36[3]: 235–245)

More than two million children worldwide are infected with HIV, almost all of them through mother-to-child transmission of the virus, and nearly 500,000 deaths from AIDS occurred among children younger than 15 in 2003 (UNAIDS 2004). Nearly 90 percent of HIV infections of children occur in sub-Saharan Africa, where AIDS has increased infant mortality in the most severely affected countries. In 1994, researchers found that a prolonged course of the antiretroviral drug zidovudine (AZT) taken during pregnancy significantly reduces HIV transmission from mother to child (Connor et al. 1994). Later clinical trials revealed the effectiveness of far less expensive courses of treatment, such as short courses of AZT or single doses of Nevirapine. These discoveries suddenly made widespread treatment an affordable prospect for HIV-positive mothers in resource-poor settings (Guay et al. 1999; Shaffer et al. 1999). Research that led to a better understanding of the transmission risks of different infant-feeding options also improved the ability of programs to counsel and support women in protecting their children postpartum (Coutsoudis et al. 1999). As of 1999, countries in resource-poor settings have begun to develop programs to reduce vertical, that is, mother-to-child, transmission.

Preventing children from being infected with HIV in utero, during delivery, and in the postpartum period are just a few of the elements of a comprehensive program for prevention of mother-to-child transmission (PMTCT) (WHO 2002). Preventing unintended pregnancy among HIV-positive women by means of family planning services, primary prevention for HIV-negative women, and care and support for HIV-infected women and their families are other key program strategies for PMTCT. Reducing unintended pregnancies among HIV-positive women decreases not only the number of HIV-infected infants but also the number of children orphaned when their parents die of AIDS-related illnesses. It also decreases HIV-infected women's vulnerability to morbidity and mortality related to pregnancy and lactation, as well as potential in-utero harm during pregnancy from taking antiretroviral medications. Finally, family planning safeguards all women's health by enabling them to space births and, through the promotion of contraceptive barrier methods such as the male and female condom, provides protection against HIV and other sexually transmitted infections (STIs).

The global public health community, nongovernmental organizations (NGOs), governments, and international donors have mobilized to offer voluntary coun-

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seling and testing for HIV/AIDS, counseling on infant feeding, outreach to communities and families, and a short course of antiretroviral therapy to reduce the risk of HIV infections among infants. In most cases, the implementation approach has been to incorporate PMTCT into services that reach pregnant women or mothers of young children: antenatal and obstetrical care, growth monitoring, and immunization services. Family planning services are frequently offered as one element of these forms of care. Yet family planning used as a strategy to reduce unintended births among HIV-positive women as well as to meet other sexual and reproductive health needs has received much less attention (Rutenberg et al. 2003).

The importance of strengthening the linkages between reproductive health and HIV/AIDS prevention and care in order to achieve internationally agreed-upon development goals has recently been highlighted in a series of international meetings. United Nations (UN) agencies have initiated consultations with a wide range of stakeholders to identify opportunities for strengthening such linkages (UNFPA 2004; WHO 2004). One of these consultations culminated in the issuing of the Glion Call to Action, a statement calling for specific courses of action focusing on one particular linkage: between family planning (a key component of reproductive health) and prevention of mother-to-child transmission (a key component of HIV/AIDS programs) (WHO 2004). The authors of this article contributed to the Glion Call to Action, providing a review of program experiences with the integration of family planning and PMTCT services. Below, we present our findings from that review on the availability of family planning for HIV-positive women during antenatal and postpartum care as well as on the demand for and use of these family planning services.

Methods

The review analyzed data collected from clients of PMTCT programs as well as interviews with program managers and providers. The methodologies used include: (1) tabulation and analysis of qualitative and quantitative data on the availability of services and attitudes about and use of family planning by PMTCT clients from three operations-research studies—two in Kenya and one in Zambia—carried out during 2000–02 by the Population Council's Horizons Program (see Dadian 2003 for an overview of these studies); (2) a review of results from a global evaluation of UN-supported PMTCT pilot sites (Rutenberg et al. 2003); (3) four face-to-face or telephone interviews with international program managers from UNFPA, Elizabeth Glaser Pediatric AIDS Foundation, and Family Health International (from these interviews and from the others mentioned below, either detailed or verbatim notes were taken and were collated for review and analysis); (4) 27 face-to-face or telephone interviews with national program managers and stakeholders in Cameroon, Kenya, Namibia, South Africa, Uganda, Brazil, the Dominican Republic, India, and Thailand (these programs were selected based on three criteria: representation of different regions of the world; variability in HIV and contraceptive prevalence; and availability of interviewees within the time frame of the review); and (5) visits to PMTCT programs that included face-to-face interviews with site managers and providers in Kenya, Uganda, the Dominican Republic, India, and Thailand. In each country, two to three sites were visited, and at each site one to three providers were interviewed (for a total of 13 sites and 32 providers). The time spent undertaking site visits was two to three days for each country. Interviews were conducted in the preferred language of the managers and providers by interviewers fluent in that language. PMTCT sites were selected on the basis of feasibility, given time and resource constraints. Many of the sites visited were either in or near the capital city or were the sites of ongoing HIV/AIDS operations research supported by the authors' institution. Observations from these sites are not intended to be representative of a country's experience with family planning and PMTCT. Rather, they provide glimpses of activities happening "on the ground" among different types of service-delivery organizations.

Caution should be used in generalizing from the findings from the sites included in the review to a larger population of PMTCT sites. This review is based on a relatively small number of predominantly urban sites, and it is a convenience sample. About half of the sites in the sample received supplemental funding and technical support at startup as part of national pilots of PMTCT services and had been in operation for two to four years. Thus, they are likely to have had more time and funding to make family planning–PMTCT linkages than were sites not included in the study. The results described here measure the success and insufficiencies at better-resourced sites; the challenges of strengthening linkages at sites with newer or weaker PMTCT programs will be greater.

Findings

PMTCT stakeholders widely endorse preventing unintended pregnancy among HIV-positive women as a cornerstone of PMTCT services. Yet when this strategy is discussed, a tension is evident concerning whether to prioritize public health or reproductive rights. Although

some shared ground exists, two competing perspectives are obvious. The public health approach recommends that HIV-positive women avoid future pregnancies out of concern for the health of the woman and the well-being of her already-born infant and other children. The approach centered on reproductive rights supports women's achieving sexual and reproductive health regardless of their HIV status and reproductive intentions. These viewpoints were contributed spontaneously, so that quantifying from the review the proportion of respondents who hold each point of view is not possible.

In their interviews, managers guided by the public health approach discussed family planning programs for HIV-positive women that actively discourage future pregnancy. Without prompting from interviewers, stakeholders in different regions commented that the promotion of family planning is important because they have observed PMTCT clients in their second pregnancy. Implicit in such a comment is the view that although the initial pregnancy that brings a client into contact with the program may be viewed as unavoidable, subsequent pregnancies should be discouraged, and that the program fails when it has not prevented further pregnancies.

One international program manager remarked that perhaps programs should take a more direct approach in what HIV-positive women are told:

> When we say [we seek] to prevent unwanted pregnancy, I don't know how many unwanted pregnancies there are. I wonder if [what we say] will play a crucial role in the number of averted infections. Should we be advising HIV-positive women not to become pregnant? This is a more active approach. Should we advise in general that HIV-positive women not become pregnant, but leave room so that we are not forcing them?

Providers in Kenya and Uganda echoed this sentiment:

> Most pregnant mothers who come to the clinic and get to know that they are HIV-positive opt not to have another child after receiving adequate counseling. A small number of women find it hard to imagine that they cannot have another child, but after counseling the couple, they come to terms with their state. (Kenyan provider)

> When we are educating these mothers on PMTCT and especially those who are HIV-positive, we tell them about positive living and tell them to avoid a pregnancy. The protocol says a mother is supposed to deliver the child and after that go for a family planning method. We counsel them about family planning and advise them about permanent methods because we don't expect them to deliver again. We tell mothers that family planning is one of the PMTCT methods. In PMTCT, family planning is also included because we need these mothers to live for more years, since they need to care for their child. (Ugandan provider)

In contrast with this public health approach, which consciously directs HIV-positive women toward the use of permanent or temporary methods of avoiding future pregnancies, the approach based on reproductive rights centers around responding to women's desire for reproductive health. This approach is guided by the principle that all women have a right to bear children regardless of their HIV status. From this perspective, the role of the PMTCT program is to help women make informed choices and to provide information and services that minimize the probability that they will transmit HIV to their infants if they choose to become pregnant. This strategy informs the client of the risk of vertical transmission without discouraging future pregnancy. For example, the woman may be instructed on the probabilities of vertical transmission with and without PMTCT interventions, and is supported in whichever decision she makes about future pregnancies. As one provider in Kenya explained, "We only inquire whether they [clients] are interested in family planning and leave the clients to decide."

Integrating PMTCT Programs and Family Planning Services

Although program managers continue to struggle with policies and procedures for integrating family planning and PMTCT, in practice both services are offered within the maternal and child health (MCH) nexus of a given health facility, and often by the same providers. In all sites visited for this review, as is the norm globally (Rutenberg et al. 2003), PMTCT services have been incorporated into existing maternal and child health facilities, particularly into antenatal and obstetric care. PMTCT services are offered as part of routine antenatal care services and for the most part are provided without hiring extra staff.

Without exception, family planning has been adopted as one of the elements of national PMTCT programs, although the content of services varies considerably (Rutenberg et al. 2003). Visits to sites in Kenya, Uganda, the Dominican Republic, India, and Thailand confirmed that family planning services are being provided. These services are generally offered in the same building as, or very close to, other PMTCT services. Sites tend to offer family planning counseling and education as part of their antenatal care and offer contraceptive methods (and

counseling) either immediately after delivery or at four to six weeks postpartum.

Nonetheless, PMTCT program managers have yet to give the same priority to family planning specifically as a PMTCT service as is given to the program's other interventions, such as a short course of antiretroviral therapy or infant-feeding support to reduce transmission from HIV-infected pregnant and lactating women. For example, PMTCT communications generally emphasize how their services can help couples have an uninfected child, yet they rarely mention family planning. In training for PMTCT service provision, family planning is usually allotted little time because providers are assumed to have received family planning training already. Finally, family planning is infrequently monitored or evaluated as a PMTCT service.

Generally, PMTCT programs have incorporated family planning services by using, and in some cases building upon, family planning services that are already in place. Thus, the nature, strengths, and weaknesses of those services—the quantity and quality of counseling, preferred methods, and problems with contraceptive supplies—tend to mirror those of the overall program.

In Uganda, providers at three health facilities discussed the family planning counseling they provide. Their success in integrating counseling with PMTCT services appears to be mixed. Family planning counseling is first introduced during antenatal care in group talks. Women learn about the range of services offered at the clinic, including family planning and PMTCT. Providers at different sites emphasized the importance they place on continuous family planning counseling throughout antenatal care and stated that family planning methods are offered at six weeks postpartum. Yet a program manager reported that most women do not return to health-care facilities for postnatal visits.[1] At two out of the three sites, family planning services are provided in the same building as are PMTCT services. At the third facility, they are provided about 80 meters (88 yards) away. One provider indicated that patients were escorted to this nearby clinic; another expressed the desire for reorganization of services so that "a PMTCT mother" did not have to be referred.

Greater success at integrating family planning and PMTCT services has been achieved at a hospital in Kenya. Family planning services are offered at four to six weeks after delivery, when the woman has come for a postnatal checkup. During one visit, she is offered the opportunity to receive consultations about her clinical care, about care for her infant (including information about feeding), and about family planning. She also can participate in the post-test club, where women who have learned their HIV status meet and support one another. Not all of the nurses are trained to provide both PMTCT and family planning services, however. As one of the providers indicated, "It is only nurses who have been trained in PMTCT that deliver both services. Currently, we are planning to conduct a big PMTCT training for all nurses and doctors in our antenatal-care clinic so that all our staff can know how to handle our positive clients."

Temporarily, family planning and PMTCT services at this hospital in Kenya are being offered in the same building. One nurse commented, "It has worked so well with us and it is really convenient. . . . [We] see it as a model for integrating family planning and PMTCT." Her observation suggests a perceived benefit of having all PMTCT-related services in the same building, but another provider cautioned that placing family planning services in the same building as those for PMTCT could lead to overcrowding. At an NGO clinic where family planning and PMTCT services are also in the same building, family planning counseling is provided during antenatal care, and counseling and contraceptive methods are offered at the six-week postnatal visit. As one provider explained, "Those mothers who come to the clinic after they have delivered are reminded about family planning. So far, all of our PMTCT clients turn up on this first postnatal-clinic visit [at six weeks]."

At the hospitals in the Dominican Republic and Thailand visited for this review, family planning services appear to be tightly integrated with PMTCT activities. In the Dominican Republic, family planning counseling and services are provided in the same building as PMTCT services by a multidisciplinary team of doctors, nurses, nurse assistants, psychologists, health educators, and volunteers. Family planning counseling and education begins at group talks that all women attend during their first antenatal-care visit and prior to taking an HIV test. From post-test counseling onward, family planning is discussed in markedly different ways, however, depending on the woman's HIV status. HIV-negative patients are offered a range of family planning methods immediately after delivery, as well as standard services at the family planning clinic thereafter. HIV-positive women, by contrast, are offered the option of sterilization immediately after an elective cesarean section. At one site, the head of the PMTCT program explained that sterilization could also be performed ten days after delivery.

Family planning services in Thailand are also considered part of the PMTCT program. At the three hospitals we visited, family planning counseling and services are provided in the same building as are PMTCT services and by the same multidisciplinary team. Patients hear about family planning during antenatal care and then are offered additional postnatal counseling and

services. Providers explained that women could ask questions about, or access, family planning services at any time they wished.

Missed Opportunities for Counseling HIV-positive Women

Despite these reports of efforts to integrate family planning into PMTCT programs, little family planning counseling appears to be provided. As is often the case in settings with few resources, providers simply lack the time. Moreover, because women are discovering their HIV status during antenatal care, issues such as understanding and accepting the test result and its implications often far outweigh any family planning concerns. One program manager remarked:

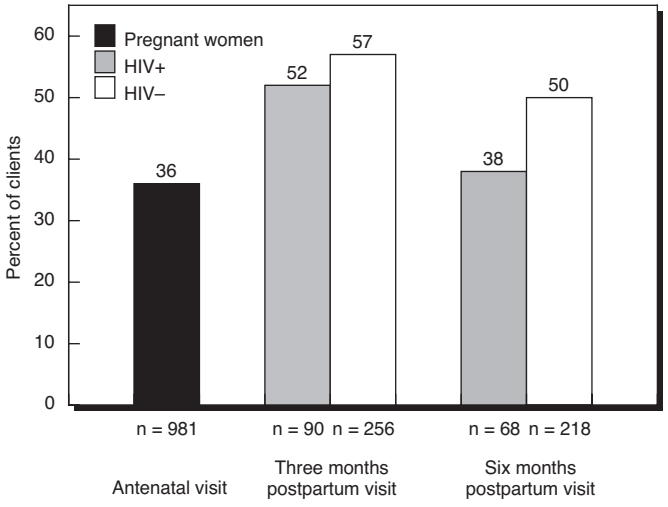
> I'm not sure how much family planning counseling is done by antenatal care providers—nursing staff are overworked and overburdened by patient care. . . . And in relation to the counselors, my impression is that counselors focus on the pre- and post-test counseling . . . , which means a discussion about family planning is unlikely.

Finally, program managers, particularly in sub-Saharan Africa, state that women generally do not return to facilities for postnatal care, which includes family planning counseling and services.

Although family planning counseling theoretically is provided at various points during the period that women attend antenatal care and maternal–child health services in Kenya and Zambia, data from the operations-research studies in these two countries show many missed opportunities to provide PMTCT clients with family planning counseling.

At the two Kenya PMTCT operations-research sites, more than one-fifth of women reported that they engaged in a discussion about family planning during their antenatal visit on the day of the interview, but less than 4 percent of women reported receiving any postpartum counseling on this topic. In Lusaka, Zambia, during their first antenatal visit, slightly more than one-third of the pregnant clients, most of whom did not know their HIV status, received family planning counseling (see Figure 1). Among those reinterviewed when they visited at three-months postpartum (37 percent of the women originally interviewed), a greater proportion of women said that they had received family planning counseling: 52 percent of HIV-positive women and 57 percent of HIV-negative women discussed family planning with the provider on that day. Attention to family planning decreased slightly at the six-month-postpartum visit: 38 percent of HIV-positive women and 50 percent of HIV-negative women discussed family planning at the later visit. These findings highlight the inadequate reach of family planning services in these settings, particularly for HIV-positive women.

Figure 1 Percentage of antenatal and maternal–child health clients at PMTCT program sites who received antenatal and postpartum family planning counseling in Lusaka, Zambia, 2000–02



PMTCT = Prevention of mother-to-child transmission.

Constraints to Family Planning Provision

As one program manager in Cameroon explained, the limited variety of contraceptive methods offered is a constraint on family planning counseling and services. This constraint exists primarily in rural areas, however, rather than in the urban hospitals and clinics visited for this study. Facilities visited in Kenya, Uganda, the Dominican Republic, India, and Thailand attempt to offer several different methods of contraception, both temporary and permanent, including the pill, condoms, injectables, implants, the IUD, and tubal ligation.

Even in the urban settings examined, the lack of availability of contraceptives is a general problem, although the extent of the problem varies in the different locales. At facilities in the Dominican Republic and Uganda, stockouts were considered a problem. In Kenya, national stakeholders did not talk about an overall problem of stockouts, but identified two methods that were not available at the time of the interview: Norplant® and Depo-Provera. (The lack of Depo-Provera is significant because providers identified this injectable as the most popular method

among Kenyan women.) In Thailand, too, Norplant was mentioned as being unavailable. One provider spoke about the relationship between unavailability of a particular method, women's use of that method, and the effects of the stockout on the PMTCT program: "We have had stockouts with injectables, resulting in the prevalence of women's use of this method falling substantially. Presently, we are having problems with Norplant, as our supplies are limited. I believe that as a result, the number of HIV-positive women becoming pregnant has been increasing."

Sites run by faith-based organizations provide limited family planning counseling and few or no family planning services, according to national and international program managers. At some Roman Catholic facilities, only natural methods are discussed, and women find it difficult to ask these health providers, who may be nuns, about other methods. One Protestant group reported: "We discuss all the methods of family planning and then we emphasize the favorable methods for HIV-positive mothers, like the oral contraceptives and condoms, but we emphasize condoms only for family planning, not for HIV prevention, because our mission health facilities insist on abstinence as a prevention method." Because faith-based organizations are important implementers of PMTCT services, their highly limited offering of family planning counseling and services points to the importance of these facilities' becoming part of a functioning referral network that includes family planning services.

Demand for Fertility Control Among HIV-positive Women

Implicit in the heightened attention to providing family planning services in conjunction with PMTCT services is the assumption that once HIV-positive women learn their status, they will seek to use a method of contraception to avoid unintended pregnancies. If this assumption is correct, emphasizing family planning during PMTCT counseling, when a significant proportion of women learn their HIV status, is a sensible strategy for providing information and services and for meeting women's needs. If upon learning their status, however, HIV-positive women do not express a desire for fertility control, the promotion of family planning services requires careful attention to ensuring their informed choice.

What do we know about attitudes concerning childbearing by HIV-positive women and concerning the demand for contraception among such women who are aware of their serostatus? This knowledge is difficult to measure quantitatively, because relatively few women participating in large-scale surveys know, or will volunteer, their HIV status. Therefore, we draw on qualitative data, collected from: (1) community members where PMTCT programs have been introduced, (2) PMTCT providers, and (3) responses to survey questions among the subset of women who have been tested and who have received their test results in PMTCT services.

No clear answer emerges from our data. Attitudes toward the continued fertility of HIV-positive women vary depending on the extent of openness about HIV/AIDS, fertility norms, and knowledge of PMTCT programs. In communities where HIV is still stigmatized and denial is pervasive, informants were unable to describe community norms concerning HIV-positive women's bearing children, because they did not know public opinion about the matter. In these communities, providers believed that the decision to become pregnant is discussed individually among the infected and affected.

In some settings, the existence of PMTCT services has changed community attitudes toward HIV-positive women's fertility because such communities are aware that the children of such women may survive to "carry the name" of their parents. As the following quotations illustrate, respondents noted that PMTCT programs offer hope to HIV-positive couples who want to have children, and that such programs would and should help parents have uninfected children.

> Although family planning counseling is a good strategy for preventing mother-to-child transmission, the problem is that if people were to use condoms all the time, there would be no children in the compound. So the drug [antiretrovirals for PMTCT] is giving hope to us HIV-positive individuals about the possibility of having healthy children. We must tell people not to use condoms but to go and access PMTCT in order for them to have children." (Community focus-group participant, Zambia)

> Previously they [HIV-positive women] used to fear producing [a child] because they knew that it would lower their immunity and that the child might be infected. But now with PMTCT awareness, that fear is gone. They now know there is a way of preventing mother-to-child transmission. (Ugandan provider)

> With PMTCT services available, women are coming back for a second delivery even after the first child was born HIV-positive; they hope to have an HIV-free baby. (Indian provider)

Not everyone shares these views, however. The majority of women who received services at antenatal clinics with PMTCT programs disapproved of HIV-infected

peoples' bearing children. HIV-negative and HIV-positive women in both operations-research sites in Kenya strongly agreed with the statement that HIV-positive people should not bear children; more than 85 percent of women expressed this view. The overwhelming reason they gave was that the children will be infected, then suffer and die. The next most common reason mentioned was concern for the health of the mother. More rarely cited as a reason for avoiding pregnancy was the prospect of the child's becoming an orphan. The principal reasons given for supporting HIV-infected people's desire to have children, among the minority who held that view, were that childbearing is natural and important and that children will not necessarily be infected with HIV.

HIV-positive women continue to have concerns about becoming pregnant. The health-care providers surveyed mentioned several reasons why HIV-positive women want to avoid pregnancy. One is the fear that pregnancy further reduces their immunity. Second, learning one's HIV-positive status is stressful, and going through another pregnancy would exacerbate that stress. Third, HIV-positive women have doubts about whether the PMTCT intervention will be effective. As discussed above, the quality or content of counseling may also influence women's decisions.

According to reports of providers, when HIV-positive women (and sometimes their partners) say that they want to have more children, their motivations may be that they want one or two children, or at least one boy, or at least one boy and a girl, or at least one child with a second husband, depending on the setting. As one provider in India explained, "A lot of [PMTCT clients] say that if they have two children, at least after their parents' deaths the siblings will be together and not alone." Other motivations for having children among HIV-positive women include wanting to cement their marriage, to leave offspring to carry on their name, and to prevent attracting attention and community stigma by avoiding childbearing.

Attitudes Toward Contraception

The demand for family planning is shaped not only by fertility desires but by the acceptability and availability of contraceptives, as well as by concerns about the effect of contraceptive methods on HIV infection. Particularly in areas surveyed in East Africa where contraceptive prevalence is low, strong fears persist about the impact of contraceptive methods on women's health, regardless of their HIV status. Litanies of such fears were not uncommon. As one provider reported: "Regarding the pill, [the women] say that it accumulates in one place in your abdomen and causes fibroids. Some women also say that Depo-Provera causes them to bleed and lose libido. Others say that Norplant goes up to the heart and leads to death, while others claim that the IUD causes cancer." Providers also reported women's fears about contraceptives' causing infertility or abnormalities in future children, and that pills and injectable contraceptives might contain the HIV virus.

In the operations-research study in Lusaka, clients in their ninth postnatal month were asked which among a list of family planning methods are good for HIV-negative women (see Table 1). The majority of women responded that all of the family planning methods are good for HIV-negative women. The responses of HIV-positive women were similar to the responses of HIV-negative women, with no statistical difference in attitudes about any specific method. Postnatal clients were also asked about which family planning methods are good for HIV-positive women. In contrast to the generally high level of approval of all major contraceptive methods for HIV-negative women's use, both HIV-negative and HIV-positive women fear that many contraceptive methods will make HIV-positive women's illness worse. The condom alone met with high approval for HIV-positive women's use; all women, regardless of their HIV status, were two times more likely to approve of condom use for HIV-positive women than of use of any other method.

Condoms were found to be perceived positively by HIV-positive women, in part because they offer protection against reinfection and STIs as well as against unwanted pregnancy, but also because they are seen as safe, cheap, and readily available. Moreover, PMTCT sites promote their use for HIV-positive women.

In all nondenominational sites visited in Kenya, Uganda, India, Thailand, and the Dominican Republic, providers and managers indicated that condoms are offered. Condoms are promoted actively for triple protection against HIV transmission, STI acquisition, and un-

Table 1 Percentage of antenatal and maternal–child health clients at PMTCT program sites at nine-month postnatal interview who expressed views about use of family planning methods among HIV-positive and HIV-negative women, by method, according to respondent's HIV status, Lusaka, Zambia, 2000–02

	HIV-positive respondents (N = 50)		HIV-negative respondents (N = 174)	
Method	Good for HIV-positive women	Good for HIV-negative women	Good for HIV-positive women	Good for HIV-negative women
Condoms	88	84	89	83
Pills	44	80	41	87
Injectable	42	80	35	85
IUD	40	72	39	75

PMTCT = Prevention of mother-to-child transmission.

wanted pregnancy, or for HIV/STI prevention in conjunction with a highly effective contraceptive method such as sterilization. Individuals at the national and international levels underscored the importance of condom use for HIV-positive women in their programs.

Although HIV-positive women are receptive to the use of condoms, whether condoms are actually used depends to some extent on whether partners have disclosed their HIV status to one another. Introducing condom use is easier when a woman has disclosed her status; then she (and sometimes her partner) is motivated to avoid infection or reinfection. According to one provider in Uganda, "[Some HIV-positive women] are on Depo, but later they withdraw after they have disclosed their HIV status to their husband and opt for condoms." Another provider in Uganda told us, "Those who have tested [positive] and are living together use condoms. We have a saying, 'Let your virus be yours and mine be mine.'" Women are often reluctant to disclose their HIV status, however, out of fear of their husband's reaction, particularly of being "chased away." A third Ugandan provider explained, "The ones who come with their husbands when they already know their status are fine, but those who test alone have a problem. When you ask those who've tested positive whether they are going to tell their husbands, the answer is 'No!' "

The extent to which HIV-positive women are concerned about using condoms in order to protect their partners seems to vary across sites. One site in India reported a large number (almost 40) of discordant couples—all the husbands are negative, know the status of their wives, and have come in for counseling sessions. The women are worried about infecting their husbands, and condom use is high. In Thailand, however, providers noted that little interest was found in dual protection, because most women are infected by their husbands and therefore do not see the necessity of using a barrier method.

Contraceptive Use Among PMTCT Clients

In settings such as Kenya and Zambia with low contraceptive prevalence and emphasis on postpartum contraception, we found that among PMTCT clients the use of family planning among HIV-positive women at six months postpartum is similar to that of HIV-negative women, with the exception of condom use. Comparing the rates of use of various family planning methods between HIV-positive and HIV-negative women in Karatina and Lusaka, we found a significant difference in their rates of condom use, but no statistically significant difference in their use of any other method (see Table 2). In Lusaka, 25 percent of HIV-positive women reported condom use at six months postpartum, two and a half times the proportion of HIV-negative women who reported use of condoms. The 10 percent of HIV-negative women who reported condom use is consistent with the rates reported in the Demographic and Health Survey (DHS) for Lusaka, whereas HIV-positive women in the DHS reported much higher use than did women in the general community. HIV-positive and HIV-negative women in Karatina also reported similar rates of use of certain contraceptive methods (especially injectables) with the exception of condoms. The figure of 1 percent of HIV-negative women who reported condom use is consistent with DHS findings for the central province in Kenya. HIV-positive women, by contrast, reported significantly higher use of condoms (11 percent).

Two-thirds of women interviewed in Homa Bay and roughly half in Lusaka reported that they were using no family planning method, although they did have a regular sexual partner, indicating that future pregnancies will likely occur among both HIV-positive and HIV-negative women in these areas.

Although we do not have information about contraceptive use among these clients before they became pregnant and were offered PMTCT services, these site-specific rates are broadly comparable to the contraceptive prevalence figures reported for the respective districts in recent Demographic and Health Surveys. This observation suggests that the rates of use among women at these sites were not influenced in large measure by the addition of PMTCT services. Furthermore, the similarity in levels of method use among HIV-positive and HIV-negative women suggests that other factors, such as local norms about fertility control and the acceptability of contraception, play a greater role than HIV status in determining contraceptive use.

Condom Use

Women were asked at nine months postpartum in Zambia and 12 months postpartum in Kenya whether they "never," "rarely," "sometimes," "often," or "always" used condoms with their spouse or regular partner. In Lusaka, a noticeable difference was found in reports of condom use with a spouse or regular partner between HIV-positive and HIV-negative women at nine months postpartum (see Figure 2). Thirty-six percent of HIV-positive women reported using condoms with a regular partner or spouse "often" or "always," in contrast with just 10 percent of HIV-negative women. Thirty-six percent of HIV-positive women, compared with 55 percent of HIV-negative women, reported no condom use.[2] These findings suggest much greater incidence of con-

Table 2 Percentage of antenatal and maternal–child health clients at PMTCT program sites reporting use of family planning methods at six months postpartum, by HIV status, according to method, Lusaka, Zambia, and Homa Bay and Karatina, Kenya, 2000–02

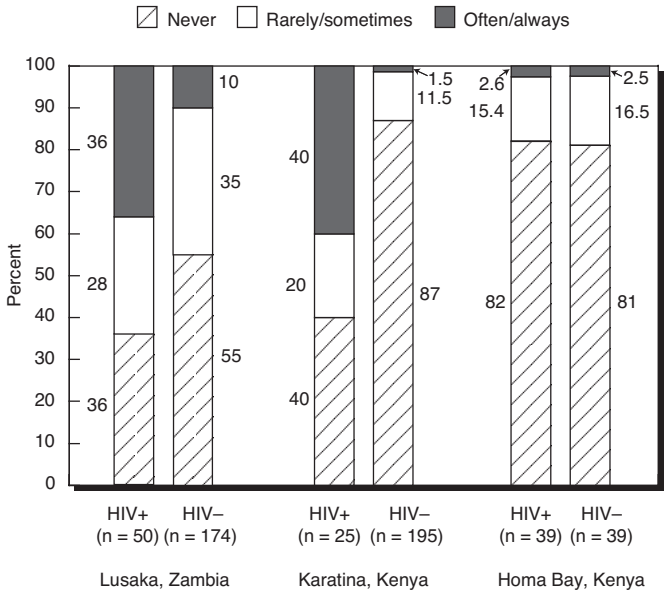
Site/client's serostatus	(N)	Pill	Injectable	Long-term [a]	Condom	Total modern methods [b]	Natural family planning	None/no partner	None/regular partner
Lusaka, Zambia									
HIV+	(63)	8	5	0	25*	35	3	16	43
HIV–	(192)	16	11	1	10*	38	3	8	51
Homa Bay, Kenya									
HIV+	(62)	2	16	2	0	19	3	11	65
HIV–	(163)	4	12	4	1	21	1	5	69
Karatina, Kenya									
HIV+	(37)	24	49	3	11*	87	0	11	3
HIV–	(237)	17	47	11	1*	77	5	9	8

*Difference significant at p≤0.05. PMTCT = Prevention of mother-to-child transmission.
[a] Long-term methods include the IUD, Norplant®, and tubal ligation. [b] Total modern methods may be different from the sum of individual modern methods as a result of dual-method use or rounding.

dom use among HIV-positive women and their partners or spouses than among HIV-negative women and theirs.

In Karatina, Kenya, a dramatic difference also was seen in reports of condom use with a regular partner or spouse by client's HIV serostatus at 12 months postpartum. Forty percent of HIV-positive women reported regular (often or always) condom use, in contrast with less than 2 percent of their HIV-negative counterparts. Forty percent of HIV-positive women reported that they never used condoms, whereas 87 percent of HIV-negative women so reported. In Homa Bay, however, this same pattern did not emerge.

Figure 2 Percentage distribution of antenatal and maternal–child health clients at PMTCT program sites who at 9–12 months postpartum reported never, rarely/sometimes, or often/always using condoms with a partner or spouse, by HIV status, Lusaka, Zambia, and Homa Bay and Karatina, Kenya, 2000–02



PMTCT = Prevention of mother-to-child transmission.

These data suggest that at two sites, Lusaka and Karatina, a significant minority of HIV-positive women who are still connected with the maternal–child health system (that is, the subset of the original study cohort who returned for maternal and child health visits) have been successful in using condoms regularly within their relationships. This level of condom use is much higher than the general community practice. At both sites, these levels of condom use reflect increases from those reported by HIV-positive women at six months postpartum. These findings suggest that, with time, clients may have heard more messages about the importance of condom use and received support from maternal and child health-care providers, and that those who remain in the system are able to act to protect themselves and their partners from infection, reinfection, and unintended pregnancy. Apparently, by contrast, PMTCT and family planning services in Homa Bay had not yet succeeded in communicating messages in support of condom use to HIV-positive women.

Sterilization

In areas of higher contraceptive prevalence and greater resources, HIV-positive women receive counseling about, and many women undergo, sterilization. Providers in India reported that sterilization is the most commonly used contraceptive method in the country and the most popular method among HIV-positive women. Providers strongly recommend that women who choose to be sterilized use condoms as well.

In a study of HIV-positive women with a median age of 26 from 37 hospital sites throughout Thailand, Lallemant and colleagues (2004) found that the overall

prevalence of sterilization at six weeks postpartum was 56 percent, whereas 92 percent of women indicated that they were using some form of contraception (n = 1,764). Sterilization is the second most common contraceptive method in Thailand; one-fourth of currently married women have been sterilized. Sterilization is more common among HIV-positive Thai women compared with their HIV-negative counterparts (Lallemant et al. 2004).

In the Dominican Republic, all HIV-positive women are offered elective cesarean sections for delivery and are offered sterilization—either in conjunction with the cesarean or by tubal ligation—following a vaginal delivery. HIV prevalence is low, a circumstance that contributes, in part, to increased follow-up of HIV-positive women. One hospital in Santo Domingo reported that among the 14,000–15,000 annual deliveries in the hospital, 110–120, or less than 1 percent, were performed for HIV-positive women. Eighty-five percent of HIV-positive women elect to have a cesarean section, and 99 percent choose sterilization, either at delivery or at ten days postpartum. A PMTCT program manager at a second hospital in the city reported that condoms from the PMTCT program are used primarily for HIV prevention rather than for contraception because almost all of the HIV-positive women have undergone sterilization.

No data on sterilization rates by HIV status or on the age and parity of HIV-positive women who are sterilized are available for the Dominican Republic. However, almost universal rates of sterilization among HIV-positive women are not incongruous with the general high acceptance of and prevalence of sterilization in the country; more than one-fourth of women are sterilized before age 25 and more than two-thirds of women in union over the age of 35 have undergone sterilization (Achécar et al. 2003). Nonetheless, such data, as well as the reports from Thailand and India, raise the issue of whether some PMTCT programs are placing greater emphasis on reducing the number of infants born with HIV than on ensuring the reproductive health and rights of the mothers.

Conclusions and Recommendations

A consensus exists among PMTCT stakeholders in support of the UN framework to prevent mother-to-child transmission of HIV, including preventing unintended pregnancy among HIV-positive women. Yet within this strategy, two perspectives operate: one that recommends that HIV-positive women avoid future pregnancies and another that focuses on supporting all women in achieving their sexual and reproductive health goals. Regardless of some differences in approach, family planning has been adopted as an element of national PMTCT programs, although the content of services and modes of integration vary. Although family planning and other PMTCT services occur within the nexus of maternal and child health services, opportunities are missed to provide family planning counseling during antenatal and postpartum care. Constraints to family planning service provision include overstretched providers' lack of time, contraceptive commodity shortages, and ideology. Attitudes regarding further pregnancies for HIV-positive women depend on the extent of a community's openness about HIV/AIDS, its fertility norms, and its exposure to PMTCT services. Attitudes about contraception also vary and shape demand for fertility control. In Kenya and Zambia, with high HIV prevalence and low contraceptive prevalence, no differences were found in the use of contraceptives between HIV-positive and HIV-negative women within the study communities except in condom use. HIV-positive women use condoms significantly more often than do their HIV-negative counterparts. Although condom use is promoted at most PMTCT sites, introducing the possibility of using condoms within a relationship is easier once a woman has disclosed her HIV status to her partner. In the Dominican Republic, India, and Thailand, with low HIV prevalence, high contraceptive prevalence, and greater resources, HIV-positive women are offered sterilization, and many accept it. Although sterilization is a common method of contraception in these countries, the nearly universal rates of acceptance of the method among HIV-positive women suggests that these programs may give priority to reducing the number of infants born with HIV rather than ensuring mothers' reproductive health and rights.

PMTCT programs will be more successful in promoting effective contraceptive use among their clients if family planning counseling and services are more closely linked in space and time to PMTCT programs, rather than offered as adjacent or subsequent services. In many settings, a large proportion of women do not return for postnatal follow-up. Putting more emphasis on family planning counseling for HIV-positive women and ensuring that women make a decision about a contraceptive method in the antenatal period would reduce the need to reestablish contact after delivery. Health systems should also develop mechanisms for informing family planning providers confidentially about a client's HIV status in order to ensure a continuum of care. Finally, programs that provide HIV care and antiretroviral treatment to pregnant women found to be HIV-positive (often referred to as PMTCT-plus programs) should also offer family planning counseling and services.

Family planning counseling for HIV-positive women must be sensitive to their needs and respect their rights, including their right to make an informed decision about having another child and their desire to involve, or not involve, their male partners. The emphasis will vary depending on the setting, but family planning counseling should ensure that HIV-positive women have the opportunity to make a genuinely informed choice about permanent contraception and should help women prepare not only for the benefits but also for the potential risks of introducing condoms to their partners, which may elicit angry or hostile reactions. Counseling should go beyond the advantages, disadvantages, and mechanics of use. It should also address whether and how a woman can disclose her HIV status, and how to encourage her partner to have an HIV test. PMTCT programs should also offer female condoms and counseling, as well as supplies of emergency contraception as a backup for condom use.

Support from HIV-positive women's partners will strengthen a number of components of PMTCT programs. These programs, therefore, should continue to involve men, provide them with information, and encourage them to be tested for HIV.

Awareness of the need to emphasize family planning within PMTCT programs at many different levels is growing. Two important recent initiatives are the Glion Call to Action (WHO 2004) and the New York Call to Commitment (UNFPA 2004), based on consultations by United Nations agencies with a wide range of stakeholders, that identify opportunities for strengthening potential synergies between reproductive health and HIV/AIDS-prevention efforts. PMTCT implementers, too, are turning their attention to family planning, yet far too few women have received this key service for reducing mother-to-child transmission of the infection.

Notes

1 The most recent Demographic and Health Survey indicates that 63 percent of women in Uganda do not deliver at a health-care facility. Of these women, 92 percent have not accessed postnatal care within 41 days after delivery. Moreover, the contraceptive prevalence rate in Uganda is low; less than one-fifth of married women use a modern method.

2 Similar results are obtained from a question about whether respondents used a condom the last time they had sex with their spouse or regular partner (not shown). When women in Lusaka were asked at nine months postpartum about condom use the last time they had sex, nearly half of HIV-positive women indicated that they had used one, whereas more than a fifth of HIV-negative women so indicated.

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