Quick Reference Guide to Family Planning Research
Family Health International (FHI) believes that incorporating the following research and programmatic findings more widely into policies and programs will improve family planning and reproductive health services. We are committed to promoting more extensive use of these and related research findings. If you want more information on these results or need technical assistance to use them, please write to quickreferenceguide@fhi.org.

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Preventing Unintended Pregnancies: An Essential Component for the Prevention of Mother to Child Transmission of HIV

- Preventing unintended pregnancies in HIV-positive women is one of the United Nations’ four strategies for reducing HIV infections in infants. The contributions that contraception has made to reducing mother-to-child transmission have been well documented. Increasing voluntary contraceptive use among women with HIV can improve maternal and infant health, prevent mother-to-child transmission (PMTCT) of HIV, and reduce the number of children needing HIV treatment, care, and support.

  - Rutenberg N, Baek C. Field experiences integrating family planning into programs to prevent mother-to-child transmission of HIV. Stud Fam Plann 2005;36(3):235-45. (abstract)

- Contraception is also a cost-effective intervention for PMTCT of AIDS. Models project that contraception can be much less costly in reducing the vertical transmission of AIDS than traditional PMTCT services (e.g., HIV counseling and testing during antenatal care and providing antiretroviral (ARV) prophylaxis to women who test positive for HIV).

  - Halperin D, Stover J, Reynolds H. Benefits and costs of expanding access to family planning programs to women living with HIV. AIDS 2009;23(Suppl 1):S123-S130. (abstract)

- HIV infection and certain drugs used in antiretroviral therapy (ART) can have adverse effects on a fetus and on pregnancy outcomes. Preterm birth, low birth weight, small fetus size for gestational age, and perinatal death have been associated with maternal HIV infection. In particular, the World Health
Organization (WHO) recommends that pregnant women not use the antiretroviral drug efavirenz, because of its possible teratogenicity (capability of producing birth defects). (Efavirenz should not be given to women of childbearing potential unless they have assured access to effective contraception.) For these and other reasons, effective family planning (FP) methods should be made available to HIV-positive women who want to prevent pregnancy.


- In general, more research is needed to determine the consequences for uninfected children of mothers who are treated with highly active ARV therapy (HAART) drugs during the gestation period. One study showed that these children are born with lower levels of T cells, and another study associated ART during pregnancy with low birth weight. More study is needed to determine the adverse effects of ART on pregnant mothers and their children.

Additional research is also needed to determine the association between HAART and maternal outcomes. Research to date has shown an increased risk of preeclampsia, gestational diabetes, toxicity, and pregnancy-induced hypertension. A 2005 study argued that “the benefits of ART continue to outweigh the risks” and underscored the importance of continued research on the effects of HAART on maternal outcomes, particularly as treatment regimens become increasingly complex. Additional studies have produced contradictory results, but the general consensus remains that “the potential side effects of HAART use for HIV-positive women during pregnancy appear minimal, but further research is required.”

The Rationale for and Impact of Integrating Family Planning into HIV/AIDS Services

- Research shows that many women living with HIV have an unmet need for FP.
  
  
  
  
  
  
  
  - Johnson KB, Akwara P, Rutstein SO, Bernstein, S. Fertility preferences and the need for contraception among women living with HIV: the basis for a joint action agenda. *AIDS* 2009;23:S7-S17. ([abstract](#))
  
  - Population Council. Women living with HIV have unmet family planning needs. FRONTIERS operations research summary, no. 75 [Internet]. New York: Population Council; 2008 [cited 2008 Dec 12]. ([full text](#))
  

- In the absence of HIV treatment services, HIV-positive women are less likely than HIV-negative women to want more children. With an increase in access to HIV treatment, however, fertility desires among HIV-positive women appear to increase to a similar level as HIV-uninfected women.
  
  
  
  
  
  
  
Guidance from WHO indicates that almost all FP methods are safe for almost every HIV-infected woman. Even women on ART can safely use most contraceptive methods. The most common contraceptive methods that are safe for HIV-infected women are combined oral contraceptives (COCs), depot-medroxyprogesterone acetate (DMPA), implants, intrauterine devices (IUDs), sterilization, and condoms. Spermicides and diaphragms with spermicides, however, are contraindicated for use by women living with HIV.

- Medical Eligibility Criteria for Contraceptive Use. 2004. World Health Organization. (full text)

Integrating FP services into HIV prevention, treatment, and care services provides an opportunity to increase access to contraception among clients of HIV services who do not want to become pregnant, or to ensure a safe and healthy pregnancy and birth for those who wish to have a child. A 2007 Cochrane review of the literature on reproductive health (RH) and HIV linkages found that integrating FP and HIV services was generally feasible and effective, although overall evaluation rigor was low. More recent evaluations of programs integrating FP services into voluntary counseling and testing (VCT), PMTCT, and care and treatment programs have demonstrated improvements in contraceptive uptake.

Integrating FP into HIV services can require some changes to service delivery. HIV-service sites differ in the types of contraceptive methods they are equipped to provide. Each facility should decide what level of FP services is needed and what it can offer. Sites that begin to offer FP might need to adjust their procedures for making referrals, keeping records, and managing stocks of commodities. For the integration of services to be successful, program managers might need to restructure the way they provide both FP and HIV services, instead of simply inserting a new service into an existing one. Program managers should rethink the service site’s overall goals, revise policy, retrain providers, revisit processes for procuring commodities, and rewrite guidelines and manuals as needed.

- Fischer S. Integrating family planning into HIV voluntary counseling and testing services in Kenya: Progress to date and lessons learned. Family Health International, 2006. (full text)
Integrated service delivery models continue to evolve, and evaluations of those models are ongoing. A significant number of early interventions for integrating FP and HIV services revolved around VCT settings, and as such, evaluations of FP/VCT models comprise much of the literature to date. Studies show that integrating VCT and FP services has the potential to improve effectiveness of service delivery, to reach more people in need of these services, and to be more cost-efficient than separate delivery of these services. Family planning and VCT integration is acceptable to providers, supervisors, and clients; and it is feasible if facilities are improved and providers are trained.

Intrauterine Devices

There are many types of IUDs. Some are inert, some contain copper, and some are medicated with levonorgestrel or indomethacin. IUDs are available in various sizes and shapes, including some that are frameless. The two most common IUDs (and those that will be profiled in this section) are the Copper T and the levonorgestrel intrauterine system (LNG-IUS). The Copper T is a T-shaped plastic device that has copper attached to the arms and stem. The LNG-IUS is also made of plastic and is similar in shape to the Copper T, but the LNG-IUS contains the hormone levonorgestrel, which is released from a reservoir on the stem. Whenever the IUD is referred to without specifying one of the two types, both are being described.


Modern IUDs are safe and extremely effective.

- Efficacy rates for IUDs are comparable to female sterilization. The Copper-T 380A IUD (TCu-380A), the most effective copper-containing IUD, has a cumulative pregnancy rate of 0.3 percent and 0.6 percent at three years and nine years, respectively. The U.S. Food and Drug Administration (USFDA) labels IUDs as effective for 10 years. Long-term studies have shown that the TCu-380A is effective for as long as 12 years. A recent study demonstrated that copper IUDs can retain their effectiveness for as long as 20 years. The IUD offers the benefits of requiring no regular action by the user and the return of fertility immediately after its removal.

  - New Attention to the IUD. Population Reports, Series B number 7, February 2006. (full text)
  - Sivin I. Utility and drawbacks of continuous use of a copper T IUD for 20 years *Contraception.* 2007;75(6 S):S70-5. (abstract)

- While the TCu-380A is the most effective copper-containing IUD, the LNG-IUS (commercially known as the Mirena), is the most effective hormonal IUD. Only 0.1 percent of women using the LNG-IUS will experience an unintended pregnancy during the first year of typical use. The LNG-IUS has a lifespan of five years after insertion, and the potential for approval for up to seven years in the near future. It can lead to decreased menstrual bleeding or amenorrhea, and it is approved by the FDA for the treatment of menorrhagia. The LNG-IUS can also be used to treat endometriosis and endometrial hyperplasia. No generic version of the LNG-IUS is currently on the market, so it is typically more expensive than the TCu-380A.

The IUD does not increase the risk of infertility. The presence of sexually transmitted infections (STIs) at the time of IUD insertion is the main risk factor for pelvic inflammatory disease (PID) and possible subsequent infertility. The IUD itself is thought to contribute very little to this risk. Even in settings with high STI prevalence (10 percent), the PID risk that is attributable to IUD insertion is estimated to be less than 0.15 percent. For any woman, the risk of PID after the IUD is inserted decreases over time. Twenty days after an IUD has been inserted, the IUD user is no more likely to develop PID than a nonuser. Initiating use of the IUD is usually not recommended for women with an increased individual risk of STIs, although a recent study has shown that providers can identify appropriate IUD candidates in areas of high STI prevalence by asking a set of targeted questions.

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- **IUDs can be safely provided to nulliparous women and young women (under the age of 20).** Use of an IUD does not increase the risk of tubal infertility among nulliparous women. Regardless of whether a woman has had a child, the IUD is among the safest methods of contraception, especially if a woman is free of STIs when the IUD is inserted. Studies on continuation rates have widely varied results. In studies comparing IUD and birth control pills, continuation rates were similar or higher among IUD users.
Family Health International has devised a checklist that service providers can use to determine whether clients are medically eligible to use an IUD.


Recent research shows that IUDs, both copper and levonogestrel-containing, are safe and effective for use by women who are infected with HIV. Women with AIDS who are on ART and seem to be doing well clinically on these drugs may initiate use of IUDs. Women who have developed AIDS and are either not on ART or do not improve while on ART generally should not initiate IUD use unless another method is not available or acceptable. But if an HIV-positive woman chooses to have an IUD inserted and later develops AIDS, she does not have to have the IUD removed.

- An IUD can be inserted during the first 12 days of the menstrual cycle or at any other time in the menstrual cycle, as long as the provider is reasonably sure that the client is not pregnant. A woman can receive an IUD any time within 48 hours after giving birth, but the provider must have special training to do this. After 48 hours, insertion of an IUD should be delayed for four weeks after delivery. An IUD can be inserted immediately postabortion. In this case, a provider should insert the IUD following an aspiration procedure, or when he or she has confirmed the absence of any retained products of conception.


- Expulsion rates are higher among nulliparous women using copper IUDs than among parous women. The expulsion rates are also higher for immediate postpartum insertions than for interval insertions. For adolescent insertion, research suggests that expulsion rates might be inversely related to age; but findings on expulsion rates and their relation to parity are inconsistent between studies.


- Providing antibiotics before IUD insertion does not necessarily reduce the risk of PID. In populations with a high prevalence of STIs, however, prophylactic administration of antibiotics might reduce the incidence of PID.

- Even among first-time users, pain from IUD insertion is generally low; misoprostol and prophylactic non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, do not appear to affect the level of pain at insertion. For users who experience IUD-induced side effects in the weeks after insertion, such as increased menstrual blood loss and pain, NSAIDs can make IUD use more comfortable. New research has shown that some types of side effects from the copper IUD decrease naturally over time.


- Expanding access to postabortion IUD services can help prevent repeat abortions.


- Copper IUDs, when placed within five days of an act of unprotected sex, can be used as emergency contraception.


- Misinformation about the IUD persists in a number of sources, including medical textbooks and Internet Web sites. Many providers have misconceptions about the IUD, believing them to be riskier and less effective than they actually are. Potential users also have misconceptions about the device. Changing providers’ knowledge and practices will require time and careful strategies.

The IUD is the most cost-efficient form of reversible contraception when program costs (including materials and staff time) and the length of time each method will protect a woman from pregnancy are taken into account. For clients, the start-up cost for IUDs might be higher than for other contraceptive methods, but the IUD costs are substantially lower over time.


- Unless a client experiences some complication, she requires only one follow-up visit (three to six weeks after insertion). Additional follow-up visits can be eliminated without a significant decrease in quality of care and with substantial cost savings.

Emergency Contraceptive Pills

- Emergency contraceptive pills (ECPs) are a safe and effective contraceptive method that can be used after unprotected sexual intercourse or a contraceptive method failure.

- Emergency contraceptive pills are effective at reducing the risk of pregnancy for up to 120 hours after unprotected intercourse or a contraceptive accident, although they are more effective if used within 72 hours. Women should be advised to take ECPs as soon as possible, but treatment should not be withheld from those who request ECPs after the 72-hour guideline (as long as clients are within 120 hours of unprotected intercourse).


- Emergency contraceptive pills are more effective when they are used sooner. A study showed that when levonorgestrel (progestin-only) or Yuzpe (combined pills) ECPs are used within 12 hours after unprotected intercourse, the pregnancy rate was 0.5 percent. For women who used ECPs between 60 and 72 hours after unprotected intercourse, the pregnancy rate was as high as 4.1 percent.


- In a recent review, authors found that the mid-dose of mifepristone (25 mg to 50 mg) was more efficacious than low-dose mifepristone (<25 mg) or a levonorgestrel regimen. The levonorgestrel regimen of ECPs is more effective and has fewer side effects than the Yuzpe regimen. Nausea and vomiting occurred significantly less frequently with the levonorgestrel regimen than with the Yuzpe regimen. But Yuzpe should be offered if it is the only available option.

- A single dose of levonorgestrel (1.5 mg) given within five days after unprotected intercourse is at least as effective and has the same frequency of side effects as the commonly used regimen of two 0.75-mg doses of levonorgestrel given 12 hours apart. Using a single-dose regimen might increase compliance and therefore the effectiveness of the treatment.

- Mifepristone can cause menstrual delay. The effect of the single-dose levonorgestrel ECP regimen on the timing and duration of the next menstrual period depends on when during the cycle the pill is taken. The pill might cause early menses, but intermenstrual bleeding after treatment is uncommon.

- While effective for occasional use, ECPs are not recommended as a regular contraceptive. When taken repeatedly, ECPs seem to be less effective than most regular methods of contraception and have more side effects, including menstrual disturbances.

- A 2009 prospective cohort study found no increased risk for major congenital malformations, pregnancy complications, or other adverse pregnancy outcomes among children born after EC failure. There is, however, some debate about a potentially greater risk of ectopic pregnancy following the use of levonorgestrel ECPs.

- ECPs have not reduced the number of unintended pregnancies at a population level, which is probably a result of under-use and incorrect use. Recent research suggests that the lack of a population-level effect results from the fact that those who are most at-risk of pregnancy do not understand the level of risk associated with their behaviors. Thus this group does not use ECPs, while those whose actual risk is less perceive it to be greater and use emergency contraception.
Analysis has shown that ECPs are a cost-efficient approach to preventing unintended pregnancy after unprotected intercourse, assuming clients take the pills. Recent work, however, has found that earlier cost-effectiveness estimates might have been overstated.


Emergency contraceptive pills do not interfere with an established pregnancy. They are not effective after implantation takes place. Depending on the stage of the menstrual cycle during which they are taken, ECPs act primarily by inhibiting or delaying ovulation. Other mechanisms are not well established, but might include interference with sperm and egg movement through fallopian tubes or thickening of the cervical mucus, which prevents the sperm from reaching the egg.


When women already have ECPs on hand, they use them sooner after unprotected intercourse or method failure than if they have to go to a provider to get them afterwards.


Research indicates, however, that providing ECPs in advance does not reduce pregnancy rates in the populations studied. A recent study suggests that this might be because women with less risk for pregnancy are more likely to take advantage of advance provision than those women who are at more risk.

- Baecher L, Weaver MA, Raymond EG. Increased access to emergency contraception: why it may fail. *Hum Reprod* 2009;24(4):815-9. (full text)
Several studies suggest that advance provision of ECPs does not reduce the continued use of an established method, and at least one study in a developed country suggests that there is no reduction in the subsequent adoption of a new, regular method. But recent evidence from studies in the United States suggests that some women will substitute ECPs for their usual contraceptive methods when given unrestricted access to them.

- Weaver M, Raymond E, Baecher L. Attitude and behavior effects in a randomized trial of increased access to emergency contraception. *Obstet Gynecol.* 2009;113(1):107. ([abstract](#))

In developed countries, evidence shows that advance provision of ECPs is not associated with an increased incidence of STIs. Although recent evidence suggests that advance provision of ECPs is associated with an increase in sexual acts that put a woman at risk for pregnancy, there is still conflicting evidence.

- Weaver M, Raymond E, Baecher L. Attitude and behavior effects in a randomized trial of increased access to emergency contraception. *Obstet Gynecol.* 2009;113(1):107. ([abstract](#))

A recent study in the United States of women between the ages of 14 and 24 found that neither recent nor historical use of ECPs is an effective predictor of subsequent pregnancy, infection, or sexual behavior that increases the risk of unintended pregnancy. But among the subset of women in the study who were highly effective method users or who had no history of an STI at baseline, recent ECP use did predict an increase in the occurrence of sexual behavior that increases the risk of unintended pregnancy.

■ It is safe to provide ECPs over the counter.

- Emergency contraceptive pills meet all the customary criteria for over-the-counter use, including low toxicity, lack of potential for overdose or addiction, no teratogenicity, no need for medical screening, self-identification of the need, uniform dosage, and lack of drug interactions. There are no pre-existing conditions that preclude the use of ECPs. Over-the-counter provision to adolescents, a population in particular need of ECPs, is also biologically safe.
  

■ Emergency contraceptive pills are underused worldwide.


- Several studies have shown that community health workers, pharmacists, midwifery students, and doctors lack important knowledge about ECPs, and that these groups need initial and ongoing education.


- Some providers do not dispense ECPs, because of their own discomfort with the method, supply stock-outs, or safety concerns. Physicians often have greater discomfort providing ECPs in advance than providing them after an act of unprotected sex.

• Provision of ECPs is inconsistent. One study showed that pharmacists who provide ECPs over the counter do not counsel consistently and they deal with male and female clients differently. In multiple studies, providers have been more likely to provide ECPs to the survivor of an assault than to a woman whose unprotected sex act was not part of an assault, even though their risk of pregnancy is identical.
  
  
  
• Research indicates that in many settings, knowledge of ECPs is low among potential users, including those who are well educated.
  
  
  
  
  
  
  
  
  
  
• Perceived stigma against ECP use is high among some young people. Study respondents say that they are embarrassed to buy ECPs in local drug stores and that they anticipate negative responses from health professionals if they were to seek ECPs.
  
  
  
• Interventions to increase knowledge of ECPs among potential users have been effective in a variety of settings. In Mexico, a 10-year, multi-faceted strategy to increase access to ECPs has been largely successful.
  
  
  
  
In developed countries, a logical time to discuss primary FP methods with women is when they come to clinics for ECPs. Many users of emergency contraception are not using other effective primary methods of contraception, and they might be interested in beginning to do so. Programmatic experience and unpublished research by FHI and others, however, suggest that most ECPs in the developing world are provided through private-sector commercial pharmacies, which poses a unique challenge to the receipt of timely and effective counseling. Additionally, men often purchase ECPs at pharmacies, further distancing women from counseling. More research is needed in this non-clinical setting to inform the evolving issues of ECP provision and use.

**Vasectomy**

- The skill and training of a surgeon and the techniques he or she uses to perform the vasectomy can affect the success rate, degree of pain, and number of complications that the client experiences.

- Studies continue to show that vasectomy is an extremely safe and effective form of contraception, short-term and long-term. Vasectomies are not associated with decreased sexual fulfillment, and a recent population-based study found that “sexual problems are no more prevalent among vasectomized men than they are among nonvasectomized men.” The vasectomy procedure involves two steps: (1) isolation of the vas, using the standard incision or no-scalpel technique; and (2) occlusion of the vas, for which a variety of techniques can be used. One study also suggests that the type of suture material used for ligation of the vas might affect the rate of vasectomy success. Metal clips do not seem to be any more effective than any other suture materials.


- A recent study demonstrated that junior-level doctors can safely and effectively perform a vasectomy. Some experts believe that task-sharing to allow lower-level cadres of workers to perform the procedure is also appropriate.


- A comparison of the no-scalpel and standard incision methods reveals that the efficacy of the two approaches is virtually identical. However, the no-scalpel technique requires a shorter operating time, has a likelihood of fewer complications and less pain, and allows a more rapid resumption of sexual activity.


- Ligation and excision is currently the most common method used for vas occlusion worldwide. The risk of failure with this procedure is between 1 percent and 13 percent, based on semen analyses. The risk of recanalization is even higher. Adding fascial interposition to ligation and excision reduces failure and recanalization rates by about half. Providers who are currently using only ligation and excision should consider adopting fascial interposition, and get the appropriate training. Some experts advocate open-ended vasectomy, which decreases the time necessary for the procedure. Open-ended vasectomy does not increase the risk of failure when the prostatic end is adequately closed using fascial interposition and cautery.

- Research and expert opinion suggest that intraluminal thermal cautery with fascial interposition is a more effective method of vas occlusion than ligation and excision with fascial interposition, but they have not been compared in a randomized controlled trial. Additionally, there is not enough evidence to suggest that any one cautery technique should become the standard. Hand-held thermal cautery devices, powered by standard AA alkaline batteries, are inexpensive and practical for use in low-resource settings. More study of a specific cautery technique in low-resource settings should be done before cautery is recommended for routine use. A recent study, however, showed that training and adding new techniques, such as fascial interposition, thermal cautery, or thermal cautery combined with fascial interposition, are cost-effective compared to the continued use of ligation and excision alone.

- Vasectomy is underused in the developing world. Female sterilization, which is less safe, more expensive, and more complex, is twice as common in the developed world and eight times as common in the developing world. Many health care professionals in developing countries are not knowledgeable about vasectomy. There is a need for increased education on the procedure at all levels.

- Successful promotion of vasectomy as a permanent contraceptive method relies on detailed and accurate counseling, including a discussion of culturally relevant motivators. There is evidence that men are more likely to undergo vasectomy when they are motivated by a desire to share the FP burden out of love for their wives.
Patients should be counseled on the procedure’s effectiveness, follow-up visits, pain, and the use of a backup contraceptive method.

- Although vasectomy failure rates are generally low, they can vary depending on the vasectomy method, the surgeon’s experience, and the age of the patient’s female partner. Since vasectomy is not 100-percent effective, it is essential that counseling emphasize the small possibility of vasectomy failure. Because a postvasectomy pregnancy could potentially lead to marital conflict, couples should be counseled to assume that the pregnancy is due to method failure and not infidelity.


- Irrespective of occlusion technique, it takes several months after the procedure is performed for a vasectomy to become effective. Older guidelines suggested a waiting period of 20 ejaculations or three months (whichever comes first), but new WHO guidelines, based on data from studies by FHI and EngenderHealth, suggest that a three-month waiting period is significantly more reliable than 20 ejaculations.


- When possible, the success of vasectomy should be confirmed by semen analysis. In developed countries, between one-third and one-half of vasectomy clients do not return for their follow-up semen analyses. Several studies report that between 15 and 97 percent of clients do not comply with the follow-up protocol recommended by their provider. If clients are ignoring counseling messages on follow-up semen analyses, it is likely that some of them are also ignoring the counseling to use a backup contraceptive method for the proper amount of time after their vasectomy. Men or their partners should use another method of contraception during the first 12 weeks after vasectomy to avoid an unplanned pregnancy. The USFDA recently approved SpermCheck Vasectomy, an immunologic semen analysis test that men can do at home, similar to a home pregnancy test. This test deserves study to determine (1) if it can improve men’s compliance with instructions for postvasectomy semen analysis, and (2) if the test will be practical or cost-effective for use in low-resource settings.

  
  
  o Pollack A. Prevalence of occlusion techniques, vasectomy follow-up protocols and compliance with follow-up. Presentation at Expert Consultation on Vasectomy Effectiveness (sponsored by FHI and EngenderHealth), Durham, NC, April 18-19, 2001. (summary report)
- The use of local infiltration anesthesia with a small, 30-gauge needle, supplemented with cord block, is more effective at reducing pain during the procedure than local infiltration anesthesia alone or no-needle, jet anesthesia. Topical anesthesia with a mixture of local anesthetics does not reduce pain. Research indicates that as many as 30 percent of men will experience pain that lasts during the first few weeks after vasectomy, and one in 1,000 will experience postvasectomy scrotal or testicular pain for months or years after the vasectomy. Usually, the pain is mild and does not cause men to regret having had a vasectomy, but they should be informed of this possibility.

  o Aggarwal H, Chiou RK, Siref LE, Sloan SE. Comparative analysis of pain during anesthesia and no-scalpel vasectomy procedure among three different local anesthetic techniques. *Urology* 2009;74(1):77-81. ([abstract](#))
  o *Male and Female Sterilisation, Evidence-based Clinical Guideline No. 4.* London, UK: Royal College of Obstetricians & Gynaecologists Press, 2004. ([full text](#))

- Reversal of a vasectomy is possible, with pregnancy rates varying between 31 and 63 percent, depending on the quality of the sperm. The procedure is much more invasive and resource-intensive than the vasectomy itself. Regret and requests for reversal are more common among men who had vasectomies before the age of 30. The success of a reversal is significantly reduced as the time from vasectomy to reversal approaches 10 years.

Male Condoms

- Latex male condoms are highly effective in reducing the risk of HIV if used consistently and correctly.
  - Correct and consistent use of male condoms has been estimated to reduce the risk of HIV transmission by 80 to 90 percent.
  - Abstinence, mutual monogamy between uninfected partners, and reduction in the number of sexual partners also slow the spread of HIV/AIDS. The extent to which health care providers emphasize each of these strategies should vary according to the target population. All people need complete and accurate information about all available options.
  - Correct and consistent use of male condoms reduces the risk of gonorrhea, chlamydia, hepatitis B, and trichomoniasis. Condoms provide less protection from STIs that are transmitted primarily through skin-to-skin contact, such as genital herpes, syphilis, chancroid, and genital warts.
    - CDC. Male Latex Condoms and STDs. (full text).
  - Condoms can reduce the risk of STIs that impair women’s fertility.
- The condom is the only contraceptive method that effectively reduces the risk of both STIs and pregnancy.
  - Approximately 2 percent of couples using male condoms will experience an unintended pregnancy during the first year of “perfect use” (defined as compliance with product directions). Within the first year of typical (or actual) use, approximately 14 percent of couples will experience an unintended pregnancy.
  - Using both a condom and another method (dual-method use) reduces the risk of pregnancy more than using just a condom.
• Married or long-term stable couples might be receptive to condom promotion as a dual-protection method for FP, thus reducing the chances of mutual distrust. Recent research shows that targeted condom interventions and education can greatly improve self-reported rates of condom use in stable couples, as well as in other relationships.


• The quality of condoms has been improving, and for most users, condom failure (breakage and slippage) is relatively rare. Condom effectiveness, however, depends greatly on the skill level and experience of the user and the circumstances under which a sexual act occurs. Alcohol and drug use and sexual exchange are both associated with condom breakage. Appropriate education, counseling, and training on partner negotiation skills can increase the ability of a person to use a condom consistently and correctly.

User errors that increase the likelihood of pregnancy or STI/HIV transmission include failure to use condoms throughout intercourse, poor withdrawal technique, incorrect placement of the condom on the penis, and failure to use a new condom during every act of intercourse. Issues of acceptance should be addressed in condom counseling, because some users report experiencing physical and psychological “turn-offs” (such as decrease in physical pleasure and condom smell) while using male condoms.


• Approximately 4 percent of condoms slip or break during intercourse. Because condom slippage and breakage tends to be concentrated in a small number of users, providers should question clients about past problems with the method and provide counseling on correct use. Additionally, nonlatex condoms may have higher breakage and slippage rates and be less effective than latex condoms at protecting against pregnancy. Nonlatex condoms are, however, an acceptable alternative for those with sensitivities or aversion to latex.

Condom use among populations at high risk of acquiring HIV and other STIs has increased over the past decade, especially when condoms have been made readily available in locations where high-risk sex occurs. Despite evidence of the condom’s effectiveness and increased acceptability, however, condom availability in many countries remains low. More resources should be devoted to ensuring that condom supplies are adequate to meet growing demand. Additionally, concentrated counseling on risk reduction can heighten use of the male condom and should thus be a focal point for promotion. A recent study in Kenya suggests that HIV-prevention messages that promote condom use with higher-risk partners have achieved a moderate level of acceptance.


Recent studies demonstrated that interventions have the ability to increase condom use in serodiscordant couples. In a 2009 study, however, HIV-positive women that were undergoing ARV treatment in serodiscordant couples were more likely not to use condoms after the initiation of treatment, especially if they hoped to conceive naturally.

Female Condoms

- Female condoms are a safe and effective method of contraception and STI prevention, although they are slightly less effective at preventing pregnancy than the male condom.

  - Within the first year of consistent and correct use, about 5 percent of women using female condoms will have an unintended pregnancy, compared to 3 percent for those using male condoms. With more typical use, the unintended pregnancy rate has been estimated at 21 percent for the female condom, compared to 14 percent for the male condom.

  - Laboratory studies have found that the female condom is impermeable to various STIs, including HIV. Because the outer ring partially covers the external genitalia, the female condom may provide more protection against ulcerative STIs, such as herpes and chancroid, than the male condom, although further research is needed to substantiate this hypothesis.

  - Research shows that the new synthetic latex female condom (FC2) performed comparably with Reality (Femidom), the first female condom to be made commercially available. Synthetic latex condoms have lower material and manufacturing costs than the first-generation polyurethane female condoms, and they have the potential to lower overall retail costs and increase uptake.

- The female condom is an acceptable form of contraception to men and women, and its use is increasing.

  - A 1997 WHO review of 41 acceptability studies of the female condom indicated that acceptance ranges from 41 to 95 percent of study participants. Counseling helps overcome women’s initial difficulties using the device, and promotional campaigns should be directed toward men as well as women. Over time, use tends to become concentrated among a subset of women or couples with high motivation to use the device. A recent study in the United States showed that an increase in self-reported female condom use did not result in reduced male condom use among women. A study of female sex workers in the Dominican Republic demonstrated that the introduction of the female condom was associated with fewer acts of unprotected sex compared to an earlier period when the only barrier methods available were male-controlled.
Female condoms are not as widely distributed as male condoms. Worldwide, in 2007, roughly 423 male condoms were produced for every one female condom. Female condoms currently have a unit cost that is about 18 times higher than that of male condoms. In fiscal year 2008, the Female Health Company shipped 34.7 million FC Female Condoms to 93 countries, an increase of 34 percent from the previous fiscal year and nearly triple the number sold in 2003 (12.6 million) [FHC 2008 Annual Report]. More investment is needed to expand women’s access to this method and to lower its costs.

- Social networks have great potential to increase female condom use. In a 2009 study conducted in the United States, a woman who had a “conversation network” in which using a female condom was encouraged by someone other than the woman’s partner was much more likely to use a female condom than a woman without such a network.

- Adding the female condom to a program that promotes the male condom can result in better-protected sex, but initial research has indicated that this does not necessarily have a measurable impact on STI rates. While there are reasons to believe that increasing the availability of female condoms has the potential to improve public health, more research is needed to determine whether increasing the number of protected sex acts through provision of female condoms can consistently affect STI/HIV prevalence.

- In Zambia, couples who had a choice of using either the male or female condom reported using the female condom more often (28 percent to 47 percent of the time) and reported fewer unprotected sex acts than couples who used the female condom less than 10 percent of the time. These figures suggest that the availability of the female condom in addition to the male condom results in more protected coital acts.


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A study in Thailand showed that STI incidence rates decreased when women had an option to use a female condom if their partner refused to use a male condom. A community intervention trial in rural Kenya suggested, however, that the availability of the female condom, along with the availability of the male condom, did not affect STI rates, compared to the availability of only the male condom.


Research on reusing a female condom is promising, but the clinical studies published to date were conducted with the first-generation female condom (FC1). As new female condom models enter the market, additional studies would have to be conducted to examine the structural integrity of the condom and elimination of microbial contamination with washing and re-using it.

- Separate studies by both FHI and the Reproductive Health Research Unit of the University of Witwatersrand, South Africa have found the structural integrity of the female condom (first-generation) after multiple washings (as many as eight times) remained above manufacturer standards for new female condoms.


- Preliminary findings indicate that multiple disinfections, washings, and uses of the female condom do not harm the vaginal wall, cervix, or penis in healthy individuals.


- A WHO expert panel in January 2002 issued a consensus statement that while it is always better to use a new male or female condom, the female condom could be disinfected, cleaned, and used as many as five times if it is handled according to a prescribed protocol. This protocol includes soaking the used female condom in a 1:20 dilution of sodium hypochlorite (household bleach) for one minute before washing it with soap and water. Perborate bleaches (i.e., many powdered bleaches or bluing agents) should not be used for this purpose. The active ingredients on the bleach container label should be checked to ensure that a sodium hypochlorite (or chlorine) bleach is used.

A recent study concludes that dish detergent appears to be a viable alternative to bleach for cleaning used female condoms (first-generation). Dish detergent was as efficacious as bleach in reducing organism counts of female condoms, at a removal rate of 99.99 percent for HIV, gonohorrea, Chlamydia, and HSV-2. It is not yet clear, however, whether organisms removed or reduced by dish detergent were still viable in the wash water.


There is a dearth of evidence on whether the female condom can be used for anal sex. Some providers are counseling clients to use FCs during anal intercourse without knowledge of whether FC use decreases risk of disease transmission. Studies on the ability of the FC to protect users from STIs during anal sex are badly needed.

The Standard Days Method (SDM) can be effective for women who meet the method’s criteria.

- The first-year probability of pregnancy for SDM users is about 5 percent with correct use and 12 percent with typical use if the length of the user’s menstrual cycle falls within the 26- to 32-day range prescribed by the method. Results about the method’s efficacy led the WHO to include the SDM in its 2004 *Medical Eligibility for Contraceptive Use* guide.


- SDM requires that couples abstain from sexual intercourse or use a backup method (typically condoms) during the woman’s fertile period. Clinical trial data indicate that most couples are able to alter the timing of intercourse and to negotiate the use of protection to meet the method’s requirements. The extent to which couples rely on condoms or choose to abstain during the fertile period varies from setting to setting.


- CycleBeads, a color-coded string of beads with a cost of less than U.S. $1 that lets a woman track her menstrual cycle, may be used as a visual aid to simplify use of SDM. Alternatively, a user card printed on paper with an image of CycleBeads and instructions for use has been validated as a less expensive supporting tool. While both tools are equally effective, a recent study conducted in Guatemala found that both users and providers preferred CycleBeads to the user card because it was more attractive and easier to use.

SDM is acceptable to clients and clients’ partners.

- Satisfaction with SDM is high. Although they do not necessarily find managing fertile days easy, both men and women report that SDM is easy to use and that they would recommend the method to others. Women, however, tend to be somewhat more satisfied than men. For example, in El Salvador, 96 percent of women and 90 percent of men said they would recommend the method to others. According to two studies in India, between 98 and 99 percent of women and between 70 and 77 percent of men would recommend the method to others.


- A recent study of more than 1,600 SDM acceptors in six countries in Latin America, Asia, and Africa revealed that respondents’ primary reasons for choosing SDM included the method’s lack of side effects and lack of impact on women’s health. Other reported reasons were that the method was inexpensive, it did not involve any medicine or device, it had no effect on breastfeeding, and the partners were opposed to using other methods. The relevance of moral and religious factors varied across sites.


- SDM users vary in their demographic characteristics and prior experience with FP.

- SDM attracts mostly women who are new to FP. Although previous use of modern methods is common in some settings, few acceptors reported using a modern method in the two months prior to initiating SDM. Among women who were using a method when they began using SDM, the previous method tended to be an inconsistent use of condoms or periodic abstinence.

- Women of all education levels are able to use the method correctly. For instance, 51 percent of users in a study conducted in urban India had never attended school at all, and 65 percent of users in a study conducted in urban settings in the Philippines had attended college.

- SDM encourages male involvement in FP. Men’s interest in and commitment to SDM vary, but evidence suggests that male partners are in general interested in the method and actively participate in its use by tracking the menstrual cycle or by agreeing to abstain or use condoms during fertile days.

- The leading reasons for method failure that were reported during efficacy studies were that couples had knowingly had unprotected sex on fertile days and user failure. Pressure from male partners to have sex on fertile days and desire for pregnancy were also cited.

- Few data are available on long-term use of SDM. A study reporting on 1,183 women from diverse service-delivery settings in six countries found one-year continuation rates ranging between 23 and 61 percent. This study faced some methodological challenges, however, and more evidence is needed to confirm its findings.

- SDM can be integrated successfully into a range of FP services and offered by a range of providers.

- Counseling on SDM requires about the same amount of time as counseling on other methods. Providers, however, tend to focus counseling on a personal selection of items that can fail to include the most essential elements of SDM counseling.
- Providers’ biases against the lack of effectiveness of fertility-awareness-based methods sometimes apply to SDM, but attitudes tend to improve after training. Providers can still pose barriers to SDM access, however, particularly when they refuse to give the method to a client until they can study her menstrual cycle or until the women bring in their partners for the consultation.


- Community-based providers can offer high-quality SDM services. In addition, pharmacists have successfully offered the method through social marketing initiatives. In a study in Benin, DRC, and Ecuador, although pharmacists gave less information about SDM than clinic-based providers, there was no difference in clients’ ability to use the method correctly.


- Evidence about the impact of the introduction of SDM on the overall quality of care is mixed. In Peru, improvements in quality of provision of DMPA and oral contraceptives counseling were observed. In Rwanda, however, SDM integration appears to have negatively affected the quality of DMPA care.

Eligibility Screening and Provider Checklists

- A WHO-endorsed checklist for ruling out pregnancy can increase the number of new contraceptive users by eliminating the widespread requirement that women must be menstruating at the time they initiate a new contraceptive method.

- The checklist was designed for use in clinics, but health care providers in non-clinical settings, such as pharmacists, community-based workers, or nursing staff at health posts, can use it, too.
  
  

- The checklist is effective for identifying women who are not pregnant. In locations where FP services are often denied to nonmenstruating clients, using this simple, low-cost pregnancy checklist can reduce service-denial rates significantly.

  
  

- Eligibility checklists for COCs, DMPA (or the injectable contraceptive norethisterone enanthate, also known as NET-EN), implants, and the copper IUD have been developed to help determine if clients can safely use these methods or if they have medical conditions that might prevent use or require further screening. All eligibility checklists also include questions to rule out pregnancy.

  - These checklists are based on the WHO’s *Medical Eligibility Criteria for Contraceptive Use*. Training and reference guides for each checklist are also available.

  
  

- While the IUD checklist can help improve quality of care, it may not be enough to stimulate interest in the IUD among providers or clients.


To access copies of the provider checklists or training guides, go to the following Web site: [http://www.fhi.org/en/RH/Pubs/servdelivery/checklists/index.htm](http://www.fhi.org/en/RH/Pubs/servdelivery/checklists/index.htm)
Community-Based Services and Distribution

- Using service-delivery channels outside the clinic is feasible and increases the use of contraceptives and the availability of a wide range of methods, including DMPA.
  - Oral contraceptive pills, DMPA, and condoms can be socially marketed effectively.
  - Restrictive policies about who can provide the methods frequently constrain the provision of services.
    - Shelton JD, Angle MA, Jacobstein RA. Medical barriers to access to family planning. Lancet 1992 Nov 28;340(8831):1334-5. (abstract)
  - Medical barriers that have no scientific basis can limit clients’ choice of methods and increase the likelihood of unplanned pregnancies.
    - Best K. Medical barriers often unnecessary: barriers with no scientific basis can limit choice and endanger health. Network 21(3). Family Health International, 2002. (full text)
- When properly trained to use eligibility checklists based on WHO criteria, community-based distribution (CBD) workers can safely provide injectable contraceptives, in addition to pills and condoms.
  - United States Agency for International Development [USAID]. Community Based Family Planning. Improving access to injectable contraceptives. Community Based Family Planning Technical Update 2007;4. (full text)
Allowing CBD workers to provide contraception can increase the use of modern contraception, although some evidence is contradictory.

- Routh S, Ashraf A, Stoeckel J, et al. Consequences of the shift from domiciliary distribution to site-based family planning services in Bangladesh. *Int Fam Plan Perspect* 2001;27(2):82-89. (full text)

Community-based distribution workers must be trained to counsel clients adequately. Counseling can reduce the number of women who stop using contraception because of side effects. In particular, many women experience menstrual disturbances when they switch from other methods to DMPA.


A review of 30 years of CBD programs indicates that, in order to be successful, programs should allow CBD workers to keep all or some of the profit from contraceptive sales and distribution. Also, trainings should be kept short without compromising quality. Additional research demonstrates that CBD programs are feasible even in resource-constrained settings; that social accessibility of clients is more important than geographic accessibility; and that it is important to tailor educational materials for CBD workers, provide regular supervision and support, and ensure a reliable supply of contraceptive methods.

Youth (Ages 10–24)

- **Health Services:** Young people, especially those who are sexually active, need access to a variety of RH and HIV services. Frequently, youth seek services only when they have an acute illness or health issue, such as a symptomatic STI or pregnancy.
  - Training service providers to work with youth, making health facilities more adolescent friendly, and creating demand and community support for youth-friendly services can increase young people’s use of these services.
    - Preventing HIV/AIDS in young people: A systematic review of the evidence from developing countries. 2006. World Health Organization. (full text)
  - Young people can safely use COCs, DMPA, spermicide, implants, IUDs, ECPs, and condoms. There is no medical reason to deny sterilization to youth, but sterilization generally is not recommended for people at the beginning of their childbearing years.
    - Medical Eligibility Criteria for Contraceptive Use. 2004. World Health Organization. (full text)
  - Evidence suggests that it is feasible to integrate RH and HIV/AIDS services for youth. More research is needed to determine cost-efficient and effective models of integrated service delivery.
    - Integrating reproductive health and HIV services for youth. 2007. YouthLens No.21. Family Health International. (full text)
    - Reynolds HW, Wong EL, Tucker H. Adolescents’ use of maternal and child health services in developing countries. *Int Fam Plann Perspect* 2006;32(1):6-16. (full text)
    - Voluntary HIV counseling and testing services for youth and linkages with other reproductive health services in Haiti. Youth Research Working Paper No. 6. Family Health International 2007. (full text)
    - Voluntary HIV counseling and testing services for youth and linkages with other reproductive health services in Tanzania. Youth Research Working Paper No. 5. Family Health International 2006. (full text)

- **Education:** To make good decisions about their sexual and reproductive health, young people need accurate information, values and attitudes that are consistent with health-related goals, and the skills to behave consistently with their knowledge and values.
  - Curriculum-based HIV and RH education can help young people curtail risky sexual behavior. Evidence suggests that curriculum-based education in schools is the most effective setting for educating youth, but community agencies, faith-based organizations, health facilities, and other settings where young people assemble regularly may also be appropriate. When developing and implementing projects, program managers should apply evidence-based standards and choose curricula that have proven effective in changing risky sexual behaviors.
• Young people’s peers are not only a source of information but also a key influence on behavior. When rigorously planned and implemented with the support of youth, parents, and other community members, peer education can be effective in improving young people’s knowledge and, to some extent, attitudes and behavior.
  
  o Assessing the quality of youth peer education programs. Family Health International, 2006. (full text)

■ Mass Media: Mass media can be used to change social norms, share information, and improve health services. Successful interventions should involve a range of media approaches (radio, television, billboards), be explicit about any sensitive issues that need to be addressed, and be culturally relevant.
  
  o Preventing HIV/AIDS in young people: a systematic review of the evidence from developing countries. 2006. World Health Organization. (full text)

■ Program Development: A multi-pronged approach to work on RH in a single country (as opposed to focusing on a single technical area, such as services or education) engages the broader community and develops the capacity of local partners.
  
  o YouthNet/Tanzania End of Program Report—Taking Action: Recommendations and Resources (Result 10). Family Health International 2006. (full text)

■ Youth Participation: Project managers should engage youth in developing and implementing RH programs. Youth involvement serves the best interests of the young people who are involved in implementing the program, as well as the youth who are the program’s target audience.
  
Involving Parents: Evidence suggests that health programs that focus on parents improve their attitudes about sexual and RH, increase parent-child communication, and decrease sexual risk-taking by youth. More research is needed on the most effective ways to work with parents.

- Summaries of Projects in Developing Countries Assisting the Parents of Adolescents. 2007. World Health Organization. (full text)
- Helping Parents in Developing Countries Improve Adolescents’ Health. 2007. World Health Organization. (full text)
Implants

- Hormone-releasing subdermal implants, which are inserted under the skin of a woman’s upper arm, are a safe, acceptable, effective, and reversible form of contraception. Implants prevent pregnancy for an extended period after a single administration. No regular action by the user and no routine clinical follow-up are required. The most common types include Implanon (one rod, effective for three years); Jadelle (two rods, effective for five years); and Sino-implant (II), which is currently marketed as Zarin in much of Africa (two rods, effective for at least four years). Norplant (six rods, effective for five to seven years) was discontinued in 2008. WHO added two-rod levonorgestrel implants to its list of essential medicines in March 2007. Jadelle and Sino-implant (II) fit this category. The inclusion on the list of this type of implant is significant, because many developing countries base their national drug lists on these guidelines.

  - Hannaford P. Postmarketing surveillance study of Norplant in developing countries. Lancet 2001;357(9271):1815. (excerpt)

Implants are one of the most effective contraceptive methods. In three years of Implanon use, less than one pregnancy per 100 users can be expected. For Jadelle, the cumulative pregnancy rate at the end of five years is 1.1 per 100 users. For Sino Implant (II), the cumulative pregnancy rate at the end of four years is 0.9-1.06 percent. These efficacy rates are comparable to those of other long-acting and permanent methods, including the IUD and female and male sterilization. The contraceptive effect of implants ends immediately after removal and fertility returns rapidly. In general, long-acting methods, including implants, are more effective in practice than shorter acting methods, including oral contraceptives and injectables, because compliance and continuation rates are higher with methods that do not require regular action by the user.

• Implants are safe for use by many women, including lactating mothers, HIV-positive women, women who smoke cigarettes, women over the age of 35, postabortion women, diabetic women, women at risk for cardiovascular disease (including those with high blood pressure), and adolescents. Studies have shown that use of implants has no impact on breast-feeding or the healthy development of breast-fed babies. Implants can be initiated immediately after childbirth if a woman is not breast-feeding, and six weeks postpartum if a woman is partially or fully breast-feeding.


• Compared to nonusers, users of implants could have reduced risk of ectopic pregnancies and pelvic inflammatory disease (PID). In some women, implants might help alleviate iron-deficiency anemia through reduced menstrual bleeding. Implanon might also help with dysmenorrhea and can help treat symptomatic endometriosis.


• Implants appear to have a very low metabolic effect. Studies indicate that they have no negative effect in healthy women on bone mineral density; blood pressure; or liver, kidney, or thyroid function. An initial study revealed that Implanon did not increase cardiovascular risk factors among healthy women.

Complications during insertion and removal of implants are rare.


Research has shown that implants can be inserted at any time during the menstrual cycle if the provider can be reasonably certain that the woman is not pregnant. Implants are effective immediately if inserted within the first seven days after monthly bleeding begins (five days for Implanon). If a woman has implants inserted after the seventh day (fifth day for Implanon), she must use a backup contraceptive method for the next seven days after insertion. In studies of experienced providers, insertion required an average of one to five minutes, and removal took three to fifteen minutes, with faster times associated with implants with fewer rods.


Traditionally, reusable stainless steel trocars have been used to insert implants. But these require sterilization between uses, and sterilization equipment is not always available in low-resource settings. A recent study in Kenya demonstrated that a new disposable trocar used for Sino-implant (II) insertion is safe, easy to use, and does not lead to adverse clinical events. As of 2010, Jadelle is now also available with a disposable trocar. Disposable trocars might make implant insertion more feasible in developing countries, enable a more decentralized provision of the method, and reduce the risk that improperly cleaned equipment could lead to HIV transmission.


The majority of implant users experience menstrual disturbances, although the menstrual changes are typically not as severe as those experienced by DMPA users. Disturbances can include heavy and prolonged menses, light intermenstrual bleeding, oligomenorrhea, and amenorrhea. After two years of use, rates of amenorrhea are significantly higher with Implanon than with Norplant. Such disturbances are the overwhelming reason that women stop using implants, followed by minor medical side effects and the desire to have children. Tolerance is lowest for prolonged bleeding (more than seven days), an excessive amount of blood, and frequent and irregular episodes of bleeding. Older women and more educated women tend to have lower rates of removal owing to side effects.

In addition to menstrual disturbances, side effects that can be attributed to implant use include weight gain, vaginitis, acne, breast pain, headache, abdominal pain, ovarian cysts (which typically resolve spontaneously), and mood changes. In contrast to injectable contraceptives, the hormone does not remain in the body after discontinuation, so side effects should resolve quickly after removal.

Users’ attitudes about side effects are strongly influenced by the quality of information and counseling provided. Evidence indicates that thorough pre-insertion counseling can help women accept side effects and, as a result, can reduce their early discontinuation of the method. Providers should address not only menstrual disturbances but also the possibility of infection at the insertion site, the fact that implants do not protect against HIV or other STIs, and other contraceptive options.

• Despite a high incidence of adverse menstrual events, overall levels of user satisfaction are high. Furthermore, implants have higher continuation rates than most other reversible methods. According to a recent Cochrane review, implants have continuation rates as high as 82 percent after two years.
  
  o Hannaford P. Postmarketing surveillance study of Norplant in developing countries. Lancet 2001;357(9271):1815. (excerpt)

  • Although widespread use of implants could substantially reduce the numbers of unintended pregnancies, abortions, and maternal deaths, worldwide use of implants is low. Among married women between the ages of 15 and 49 around the globe, 53 percent use a modern method of contraception but only 0.3 percent use implants.
  

  • High commodity costs and a lack of supplies contribute to unsatisfied demand for implants. Donors and governments might be more likely to purchase large quantities of short-acting, less expensive hormonal methods such as OCs instead of more expensive, longer-acting methods such as implants. Evidence shows, however, that implants are more cost-effective in the long term than short-acting methods. Additionally, Sino-implant (II) has been proven to be similarly effective and safe, and its commodity cost is 60 percent lower than that of other implants on the market. In some areas, a lack of trained providers also poses a barrier to providing implants.
  
* A study of HIV-positive pregnant women in Rwanda found that when access to long-acting reversible contraceptive methods was provided, a substantial number of women chose to initiate use of hormonal implants, but not IUDs. This suggests a need for improved access to implants for postpartum family planning and for HIV-positive women.


- Norplant, the six-rod implant, has not been available since 2008. Compared to Norplant, one- and two-rod implants are easier and quicker to insert and remove. There is no difference in clinical performance among the various types of implants. Clients who currently have Norplant can use it until the time comes for the capsules to be replaced.

  o Power J, French R, and Cowan F. Subdermal implantable contraceptives versus other forms of reversible contraceptives or other implants as effective methods of preventing pregnancy (review). *Cochrane Database of Systematic Reviews* 2007;3(3):1-31. ([abstract](#))
Contraceptive Continuation

- Contraceptive continuation reduces unintended pregnancies, related abortions, and maternal mortality and morbidity. Contraceptive discontinuation contributes to increases in fertility rates and unintended pregnancy.
  

- A recent study suggested that women who became pregnant after discontinuing contraception (unless they stopped expressly because they wanted to get pregnant) were more likely to report their pregnancy as mistimed or unwanted than were women who became pregnant and had not been using contraception during the year before they became pregnant.
  

- Rates of continuation vary by method. Continuation is generally highest among women who use an IUD, followed by implants, OCs, and injectables. Long-acting contraceptive methods are recommended for teenagers, especially because adherence to and continuation of a user-controlled method might be low in this population.
  

- After the desire to become pregnant, negative reactions to side effects are the cause most often reported for discontinuation of any contraceptive method. Side effects and health concerns have the most impact on continuation rates for hormonal contraceptive methods. Levels of acceptance, demand, and education of the clients also affect rates of contraceptive continuation.
  

- Service-delivery factors such as access, supply, provider and program biases about various methods, method mix, and client-provider interaction also affect continuation rates.
  
New research has shown that a woman can return for DMPA reinjection up to four weeks late without an increased risk of pregnancy. Based on this evidence, WHO’s updated guidelines say that a woman returning for reinjection up to four weeks early or four weeks late is still eligible to receive a reinjection. Providers should give the reinjection if the woman returns during the grace period and the provider is reasonably certain she is not pregnant. Adhering to protocol for the reinjection grace period will reduce clients’ risk of unintentional discontinuation and unintended pregnancy.


Offering clients the “quick start” option and initiating advance provision of OCs can improve continuation. Quick start is when a client initiates OCs under the supervision of a health care provider during a clinic visit, no matter where she is in her menstrual cycle. Research shows that this strategy can improve short-term continuation rates, although it does not seem to have an effect on long-term continuation rates. “Advance provision” allows clients to take multiple pill packs home at once. This service economizes on the time and resources for both clients and providers and also can improve continuation rates, by eliminating the re-supply gap. In general, more studies are needed on immediate versus conventional start of hormonal contraceptives.


Discontinuation of injectables is high in comparison with other methods, mostly because of the menstrual irregularities associated with injectables. The time, expense, and inconvenience of clinic visits are also potential barriers to use. Patients can safely administer many other medications to themselves by subcutaneous injection, and patient satisfaction with self-injection is high. For injectables, the convenience of self-injection might improve both compliance and continuation rates, so the potential for self-administration of this contraceptive deserves formal study. For more detailed information about injectables, please refer to the Community-Based Services and Distribution section of this guide.

Results from one study suggested that continuation of modern contraceptive methods steadily increased as quality of care increased. A study of Demographic Health Survey (DHS) data from 15 countries showed that the all-method discontinuation rate for quality-related reasons emerged as the most likely candidate for a summary measure of quality of care. In this study, quality-related reasons included contraceptive failure, a desire for a more effective method, side effects, health concerns, lack of access, and the cost and inconvenience of using the method. Providers can encourage continuation by giving complete and accurate information about side effects to the client at the time they provide a method, and also by managing better the side effects a client might report. One study, however, showed that counseling tools are necessary but not sufficient to improve method continuation.


- For women who do not wish to get pregnant, discontinuation is not inherently negative if they switch to another method instead of discontinuing contraceptive use altogether. Strategies addressing contraceptive continuation should include considerations for women who switch methods to accommodate their changing reproductive desires and needs. A recent study showed that women who are dissatisfied with their method, stopped using it, and started using another reversible method are highly likely to discontinue the new method, as well.

Male Circumcision and HIV

- Results of three clinical trials in South Africa, Kenya, and Uganda showed that male circumcision (MC) can reduce the risk of men acquiring HIV through vaginal intercourse by approximately 60 percent. However, circumcision of HIV-positive men does not decrease the risk of transmitting HIV to uninfected female partners. More research is needed in this area.
  

- In March 2007, WHO and UNAIDS endorsed MC as a means of preventing HIV, but they stressed the importance of promoting MC as just one strategy within a comprehensive package of HIV-prevention services that also includes provision of HIV counseling and testing services, treatment for STIs, promotion of safer sex practices, and provision of male and female condoms. Additionally, MC programs should communicate messages in a culturally appropriate manner to emphasize that MC provides only partial protection against HIV and that providers must follow up with patients after the procedure.
  
  - Moszynski P. Experts recommend circumcision to combat male HIV infections in Africa. *BMJ* 2007;334:712-713. *(abstract)*
  - WHO/UNAIDS. Conclusions and recommendations from the technical consultation on male circumcision and HIV prevention: research implications for policy and programming. Montreux, March 6-8, 2007. *(full text)*

- Circumcision has additional medical benefits. It can prevent inflammation of the glans and the foreskin, lower the risk of penile cancer, and decrease the prevalence of some STIs, especially ulcerative infections such as chancroid and syphilis. Circumcised men also find it easier to maintain penile hygiene and do not suffer from health problems associated with the foreskin.
  

- Research suggests that the biological characteristics of the foreskin make it particularly susceptible to viral entry of HIV. Studies of the pathology of the human penis found that the foreskin contains...
HIV target cells and Langerhans cells that are necessary for viral entry. Moreover, the inner foreskin (or the foreskin mucosa) has little to no structural barrier, known as keratin, to prevent the uptake of HIV viral particles. Also, there is evidence to suggest that the size of the foreskin is also related to HIV acquisition. In a Uganda study, HIV incidence was higher in the group of men with larger foreskins. Additionally, MC reduces specific anaerobic bacteria that may contribute to inflammation and activate Langerhans cells for viral entry.


- Research shows that MC is acceptable to both men and women. In a review of 13 studies across nine African countries, levels of acceptability were consistent. An average of 65 percent of uncircumcised men were willing to become circumcised, 69 percent of women favored circumcision for their partners, and 71 percent of men and 81 percent of women were willing to have their sons circumcised. The barriers to acceptability reported most were cost, fear of pain, and concern for safety. Outside of Africa, a study in Haiti found similar results after education about the benefits of MC.


- Moderate implementation costs, high and durable protective effects, and the resulting averted costs of HIV care make MC a cost-effective public health intervention. Safe, voluntary services in places where the prevalence of MC is low and the prevalence of HIV is high, such as southern Africa, could substantially reduce the burden of HIV. Cost-effectiveness of adult MC has also been established in sub-Saharan Africa with high or moderate HIV prevalence, even when MC coverage is low.

The risks involved in MC are generally low when it is performed under safe and sterile conditions, by well-trained providers who are adequately equipped. In addition to training providers, program managers should also carefully monitor and evaluate their services.

- WHO/UNAIDS. Conclusions and recommendations from the technical consultation on male circumcision and HIV prevention: research implications for policy and programming. Montreux, March 6-8, 2007. (full text)

More research on MC is needed in several areas: HIV prevalence rates, MC prevalence rates, MC for homosexual males, current circumcision practices (especially with regard to safety), the feasibility of introducing or scaling up programs, and the longer-term social and cultural impact of adult MC as a public health intervention. In general, research questions should focus on how to improve MC’s availability, acceptability, quality, and safety—including reducing the potential for increased sexual inhibition following the procedure—as part of comprehensive HIV prevention. Also, despite evidence of MC reducing the incidence of HIV in heterosexual males, there is insufficient evidence to show that MC reduces the incidence of HIV in homosexual males. More research is needed in this area.

Contraceptive Counseling and Job Aids

- Successful FP counseling requires well-trained and engaged providers and active client participation. The counseling process must reflect the principle of informed choice and allow clients to make decisions for themselves. Client-provider interactions can be marred by unnecessary medical barriers, provider biases, providers’ and clients’ discomfort discussing sexual issues, and status differences between the provider and client.
  - Medical barriers that have no scientific basis can limit clients’ choice of method and increase the likelihood of unplanned pregnancies.
    - Best K. Medical barriers often unnecessary: barriers with no scientific basis can limit choice and endanger health. *Network*, Family Health International 2002;21(3). (full text)
- Best practices for quality counseling and provider-client interaction include treating the client well, providing the client’s preferred method, individualizing information, avoiding information overload, and using and offering memory aids. Family planning providers should counsel on contraceptive effectiveness, side effects, advantages and disadvantages, correct use, follow-up, warning signs of complications, and STI/HIV prevention. Innovative and attractive information, education, and communication (IEC) materials can improve the quality of counseling. Health care providers should receive regular training on how to demonstrate sensitivity to and an understanding of female clients’ needs and desires.
  - Murphy EM. Best practices in client-provider interactions in reproductive health services: a review of the literature. Maximizing Access and Quality (MAQ), USAID: 2002. (full text)
- New approaches to counseling include the Population Council’s balanced counseling strategy (to be used in conjunction with job aids), and EngenderHealth’s Client-Oriented Provider-Efficient (COPE) intervention. Both can improve the performance of providers and enhance the quality of client-provider interactions.
- A Cochrane review compared strategies for communicating contraceptive effectiveness to clients. Evidence is limited, but one trial showed that audiovisual materials are better than oral presentations. Another trial showed that categorizing methods by effectiveness is better than using numbers (for example, stating that a method is 85- or 95-percent effective). Further research is needed on the best ways to counsel clients about the effectiveness of contraceptives.
- For information about the effectiveness of antenatal and postpartum counseling on subsequent contraceptive use, refer to the “Postpartum Family Planning” section of this document.
Clients’ participation and communication are essential components of successful health care. Research by the Quality Assurance Project (QAP) of USAID has found that the following factors influence whether or not clients will actively participate in their counseling sessions: (1) the way that providers give information, (2) how well providers encourage communication, (3) whether providers express negative emotion, and (4) the level of education attained by clients.

- Operations research results: Client communication behaviors with healthcare providers in Indonesia. Quality Assurance Project, USAID October 2002. (full text)

- A study in Indonesia showed that a combined community education and mass-media campaign increased clients’ participation and communication in FP consultations.
  

- An intervention in Egypt on client-provider interactions improved client satisfaction more than it improved contraceptive continuation or change in fertility preferences.
  

- Client surveys and exit interviews can be quick and inexpensive ways to determine how service quality can be improved.
  

Interest in and use of FP guidelines for improving the quality of care have increased in recent years. The WHO’s *Medical Eligibility Criteria for Contraceptive Use* (MEC) serves as a reference for providers in RH. The results of a study that FHI conducted in 2002 indicated that the methodological quality of the WHO’s MEC exceeded that of 279 other sets of guidelines.


- Trainings and supportive supervision on clinical guidelines, such as the MEC, can improve the quality of care given by providers.
  
Job aids and decision-making tools, such as screening checklists, help improve the quality of care offered by providers, although they might not be sufficient to get clients to use contraception.

- Use of the WHO’s Decision-Making Tool for Family Planning Clients and Providers improved client-provider communication, according to a 2006 evaluation in Nicaragua. A follow-up study, however, showed that clients of providers who were trained to use the tool did not have higher rates of contraceptive use than the members of a control group, although the clients in the intervention group did report having a better counseling experience. The authors concluded that counseling tools alone do not affect rate of use.
  

- A contraceptive effectiveness counseling chart can help provide information to clients about method effectiveness.
  

Service-delivery guidelines alone do not improve practice—adherence to recommended practices requires active intervention. A recent study in South Africa found that DMPA clients are commonly late for their reinjections and sometimes are denied reinjection despite being in the extended grace period for reinjection. In response to this study, a DMPA job aid reflecting 2008 guidance from WHO was developed to clarify how late a woman can be for reinjection without incurring a risk of pregnancy.


- Active dissemination of guidelines that include provider training and supportive supervision produces better outcomes than passive dissemination. “Cascade training,” which is often criticized because of the potential for a lack of quality control, can be effective and cost-efficient under the right circumstances.
  
**Healthy Timing and Spacing of Pregnancies**

- Current recommendations on the healthiest timing and spacing of pregnancies include the following: (1) a first pregnancy should be delayed until a woman is at least 18 years of age; (2) after a live birth, pregnancy should be delayed for at least 24 months, but not longer than 59 months; (3) after having an abortion or miscarriage, a woman should delay pregnancy for at least six months.

  - Healthy timing and spacing of pregnancies: a pocket guide for health practitioners, program managers, and community leaders. Extending Service Delivery, 2006. (full text)
  - HTSP 101: Everything You Want to Know About Healthy Timing and Spacing of Pregnancy. Extending Service Delivery, 2008. (full text)

- *Interpregnancy interval* is the span of time between a live birth and the start of another pregnancy. Interpregnancy intervals that are too short or too long can contribute to poor perinatal health outcomes.

  A meta-analysis of 67 studies conducted in 62 countries, as well as an additional study in Brazil, revealed that poor perinatal outcomes are associated with interpregnancy intervals of less than 18 months and longer than 59 months, compared to pregnancy intervals of 19 to 59 months. Poor outcomes include an increased risk of fetuses that are small for their gestational age, preterm birth, and low birth weight. Results also suggested that intervals shorter than six months and longer than 50 months are associated with fetal and early neonatal death.

  A separate study that examined Demographic and Health Survey (DHS) data from 17 developing countries indicated that the risk of neonatal and infant death decreases as the interval between live births increases up to 36 months, at which point it reaches a plateau. These data also showed a pattern of chronic undernutrition among children born after short birth intervals, controlling for factors including—but not limited to—the mother’s age at birth, use of health care services, breast-feeding, socioeconomic status, and type of area of residence.

  In addition, a study in Bangladesh revealed that interpregnancy intervals of six to 14 months and longer than 75 months are associated with an increased likelihood of miscarriage, induced abortion, and stillbirth.

  Analysis of a recent family health survey in El Salvador showed that in comparison to birth intervals of 36 to 59 months, birth intervals of less than 24 months and intervals of 24 to 35 months significantly increase the odds of stunting. This analysis controlled for variables related to household resources, household structure, previous reproductive outcomes, and household social environment.

Interpregnancy intervals that are either too short or too long also contribute to poor maternal health outcomes. A review of 22 studies showed that intervals longer than 48 to 75 months are associated with an increased risk of preeclampsia and labor dystocia. Intervals shorter than six months are associated with a higher risk of uterine rupture in women who attempt a vaginal birth after cesarean delivery. Results were conflicting on certain other outcomes, including maternal death and anemia, although some evidence indicated that short interpregnancy intervals contribute to a higher risk of both.

Another study in Bangladesh demonstrated the following: Preeclampsia and high blood pressure are more likely with interpregnancy intervals shorter than six months and longer than 75 months; premature rupture of membranes (PROM) is more likely with intervals of 6 to 14 months; and edema is significantly more likely after interpregnancy intervals longer than 50 months.

In Brazil, a study of approximately 15,000 births revealed that intervals longer than 59 months are associated with a higher incidence of PROM but a lower incidence of cesarean deliveries.

A study of births in public hospitals in Latin America demonstrated that interpregnancy intervals of less than six months after a miscarriage or induced abortion (including safe and unsafe) are significantly associated with poor maternal and perinatal health. Negative health outcomes include fetuses that are small for their gestational age, preterm birth, low to very low birth weight, maternal anemia, PROM, and preterm delivery.

- Rutstein, SO. Effects of preceding birth intervals on neonatal, infant and under-five years mortality and nutritional status in developing countries: evidence from the Demographic and Health Surveys. *Int J Gynaecol Obstet* 2005;89 Suppl 1:S7-S24. (abstract)
- Stover J, Ross J. How increased contraceptive use has reduced maternal mortality. *Matern Child Health J* 2009; ePub ahead of print. (abstract)
Research on health outcomes of adolescent mothers in Latin America demonstrated that adolescents 15 years of age or younger are more vulnerable to maternal death, early neonatal death, and anemia. All adolescent mothers in the study were more likely than older mothers to have experienced postpartum hemorrhage, puerperal endometritis, episiotomy, and preterm delivery. They were also more likely to have delivered babies with low birth weight. Young mothers were less likely than older mothers to experience gestational diabetes, third-trimester bleeding, or cesarean delivery. A study in Cameroon, which controlled for maternal age, gravidity, antenatal visits, marital status, and education level, demonstrated that adolescent mothers there were more likely to suffer from eclampsia, preeclampsia, perineal tear, and episiotomy, and that babies were more likely to be born premature and with low birth weight and to suffer from early neonatal death.


Because of the health risks associated with interpregnancy intervals that are too short and too long, healthy timing and spacing of pregnancies is a critical strategy to promote maternal and child health worldwide. One author estimates that, in 2003, 35 percent of deaths among children under the age of five in developing countries could have been avoided if the births of these children had been spaced 36 months apart.

- HTSP 101: Everything You Want to Know About Healthy Timing and Spacing of Pregnancy. Extending Service Delivery, 2008. (full text)
- Rutstein SO. Effects of preceding birth intervals on neonatal, infant and under-five years mortality and nutritional status in developing countries: evidence from the Demographic and Health Surveys. *Int J Gynaecol Obstet* 2005;89 Suppl 1:S7-S24. (abstract)

A paper based on evidence from India argues that the timing of a child’s birth has consequences not only for the child, but also for his or her siblings, noting that spacing between consecutive siblings is an important measure of the intensity of sibling competition for limited parental resources.


A comparison of data from two successive DHS surveys conducted in nine sub-Saharan African countries revealed that there has been very little change in the percentage of birth intervals that are less than or equal to 24 months.

- A number of demographic and sociocultural factors help predict the desire for birth spacing and the length of interpregnancy intervals in families.

- Demographic Health Survey data from 14 countries in sub-Saharan Africa revealed that infecundability, a smaller number of children, and older age of the mother are the strongest predictors of spousal agreement on how long to space births. Typically, when there was spousal agreement about timing and spacing, the couple wanted a shorter interval. When there was disagreement, the wife usually wanted a longer interval. Another study of DHS data from 20 African countries showed that women’s knowledge and approval of contraception helped predict the desire of mothers for longer intervals. Educational status helped predict the desire of fathers for longer intervals.
  
  o Gebreselassie T, Mishra V. Spousal agreement on waiting time to next birth in sub-Saharan Africa. Macro International and MEASURE DHS, November 2007. (full text)

- Key-informant interviews in Burkina Faso showed that child spacing had low acceptability in Muslim populations there. Women respondents indicated that husbands and male village elders made the decisions regarding child-spacing norms.
  

- A study in Saudi Arabia demonstrated that education and employment status helped predict birth-spacing preferences, and age and employment status were predictors of interval length. In Jordan, longer interpregnancy intervals were positively associated with use of modern contraception, breast-feeding at 12 months, number of children, existence of male children in the family, maternal age, duration of marriage, and a woman’s educational status.
  

- Research in the Philippines revealed that higher levels of decision-making autonomy among women were positively associated with longer interpregnancy intervals. Among married couples, attitudes toward birth-spacing were influenced by levels of spousal communication, prescribed gender roles, religion and the Catholic Church, and the degree and type of FP education available.
  
  o Upadhay UD, Hindin MJ. Do higher status and more autonomous women have longer birth intervals? Results from Cebu, Philippines. Soc Sci Med 2005;60:2641-55. (abstract)

- Analysis of a sample of 2,648 Filipino women followed for 24 months postpartum revealed that low body mass index and lower dietary fat intake are associated with increased duration of postpartum amenorrhea. Contraceptive use, high dietary fat consumption, higher parity, and absence of a spouse predict longer waiting time to conception once menses have returned.
  
Family planning can help ensure the healthiest timing and spacing of pregnancies. Public health advocates recommend that education and counseling about spacing and timing should be integrated into FP services and offered antenatally: during the postpartum period, through child health services; and during postabortion care, through STI services and youth and male involvement programs.

- Healthy timing and spacing of pregnancies: a pocket guide for health practitioners, program managers, and community leaders. Extending Service Delivery, 2006. (full text)

A male-involvement study conducted in Mumbai, India, found that interspousal communication, age, income, the desire for only one or two children, and knowledge of five or more contraceptive methods were all predictors for using contraception to space pregnancies. A study in Western Kenya found that most men’s knowledge and perceptions about contraception were poor and misconceived, leading to discouragement of FP.


Traditionally, lactational infertility has played a significant role in natural birth-spacing in developing countries. However, the contraceptive effects of breast-feeding are dependent on whether the mother meets the criteria for the lactational amenorrhea method (LAM): engaging in exclusive or nearly exclusive breast-feeding on demand, experiencing amenorrhea, and within six months postpartum.


There is a greater unmet need for contraception among women who wish to engage in birth spacing than among women who wish to limit births. Demographic and Health Survey data (1990–2004) from 17 developing countries revealed that among married women between 15 and 29 years old, demand for birth spacing was the most significant reason women gave to explain their desire for FP. Demand for birth spacing existed even among young women who wanted to postpone their first birth.

Postpartum Family Planning

- After giving birth, many women who want to delay or avoid future pregnancies have an unmet need for FP services, even though there are many safe and effective contraceptive options for use during the postpartum period.

- Data from the DHS in 27 countries revealed that two-thirds of women who had given birth within the past year had an unmet need for contraception. Additional analysis revealed that 40 percent of women with an unmet need reported an intention to use contraception during the year after childbirth, but were currently not doing so. Even more striking, two-fifths of all unmet need occurs among women in the extended postpartum period (the 12-month period following a birth). Because the period during and after pregnancy might be one of the only times that many women receive formal health care, it is important not to miss this opportunity to provide FP services.

  o Ross JA, Winfrey WL. Contraceptive use, intention to use and unmet needs during the extended postpartum period. *Int Fam Plann Perspect* 2001;27(1):20-7. (full text)
  o Technical Update No. 5: Family Planning During the First Year Postpartum. USAID, January 2008. (full text)

- Studies have shown that barriers to postpartum contraceptive use include husband’s refusal, cost, lack of access to contraception and education about FP, religious opposition, and cultural norms. Denial of contraceptive services to non-menstruating women presents an additional barrier to contraceptive use.

The IUD can be inserted any time within 48 hours after birth, but the provider must have special training. After 48 hours, experts recommend delaying insertion for at least four weeks after delivery, when the uterus returns to normal size. A 2003 review of articles on immediate IUD insertion (within 10 minutes after delivery of the placenta) indicated that this approach is safe and effective, although spontaneous expulsion is more likely than with interval insertion (performed at least four weeks after delivery). Subsequent studies also demonstrated that expulsion rates were higher both after immediate postplacental and after early postpartum insertion (first 48 hours after delivery), as compared to insertion six or more weeks postpartum. A small pilot study suggested that immediate and early IUD insertion after vaginal delivery carries higher risk of expulsion than insertion immediately after a cesarean section. Overall, expulsion rates varied from study to study and from provider to provider, which suggests that proper training can reduce expulsion rates.


Postpartum tubal ligation can be safely performed within seven days of childbirth, unless a woman had severe preeclampsia or eclampsia, or if she has a serious postpartum complication. If not performed within the first seven days after childbirth, sterilization should be delayed until six weeks (42 days) postpartum.


Progestin-only pills, injectables, and implants can be initiated immediately after childbirth if a woman is not breast-feeding, and six weeks postpartum if a woman is partially or fully breast-feeding. Combined oral contraceptives, combined injectables, patches, and vaginal rings can be initiated six months after childbirth if the woman is breast-feeding, and 21 days (three weeks) after childbirth if she is not breast-feeding.


The contraceptive effects of breast-feeding depend on whether the mother meets lactational amenorrhea method (LAM) criteria: engaging in exclusive or nearly exclusive breast-feeding on demand, experiencing amenorrhea, and being within six months postpartum. The lactational amenorrhea method should be included in the method mix for postpartum women, because it is highly effective (99.8-percent effective for perfect use and 98-percent for typical use), simple, affordable, beneficial to the health of the child and mother, and readily accessible. A study of Yoruba mothers in southwest Nigeria, among whom exclusive breast-feeding is highly prevalent, demonstrated great potential for the use of LAM for contraception, because lactational amenorrhea lasted six months in two-thirds of the women nursing during that period. A study from Mexico revealed that counseling can improve LAM’s acceptability.

Lack of access to health services, sociocultural dynamics, and other factors affecting both supply of and demand for contraception contribute to unmet need during the postpartum period.

- A study of HIV-positive pregnant women in Rwanda found that when access to long-acting reversible contraceptive methods were provided, a substantial number started using hormonal implants, but not IUDs, in the postpartum period, suggesting a need for improved access to implants for postpartum FP.

- Public health advocates recommend that contraceptive counseling be offered at several key points: during antenatal visits, immediately after delivery, at six-week follow-up appointments, and throughout the extended postpartum period. Family planning services also should be integrated into maternal and child health services. The Extending Service Delivery (ESD) Project has published a training manual for Postpartum Family Planning for Health Pregnancy Outcomes, which provides training material for facility-based health workers at the primary level on providing community-based postpartum family planning education, counseling, and referral.

2010 Quick Reference Guide to Family Planning Research
• Research on the effect of antenatal FP counseling on postpartum contraceptive use is mixed. Low-income women in Mexico who received FP counseling during antenatal visits were more likely to use contraception during the postpartum period than those who did not receive counseling. But a randomized study of women in South Africa, China, and Scotland who received contraceptive counseling during antenatal visits demonstrated that the participant group showed no significant difference in postpartum contraceptive use or pregnancy rates compared to the control group. Also, in a prospective study of postpartum women in Nigeria who had received antenatal FP education, their access to services and their knowledge and perceived benefits of modern contraception were high, yet 59 percent of participants did not use contraception during the postpartum period. Including expectant fathers in antenatal counseling and education programs in Turkey and Egypt increased the likelihood that couples would engage in postpartum FP.

  o Barber SL. Family planning advice and postpartum contraceptive use among low-income women in Mexico. *Int Fam Plan Perspect* 2007;39(4):493-515. (full text)

• A review of literature on postpartum FP counseling also showed that its effectiveness is not well established. In Lebanon, Peru, and Nepal, postpartum counseling was associated with increased short-term use of contraception, but longer-term effects of preventing unwanted pregnancies are unknown. In a longitudinal study in eastern Turkey, female participants received postpartum FP counseling, but the majority reported using traditional and less effective contraceptive methods. A randomized study in Pakistan showed that couples who received postpartum counseling and educational leaflets were more likely to initiate use of contraception than those who received no formal advice on contraception. Among HIV-positive mothers in Kenya who received counseling on contraception and referrals both antenatally and during the postpartum period, 72 percent used hormonal contraception for at least two months during the follow-up period. A cross-sectional study in Europe found that postpartum counseling on LAM had a very positive effect on its acceptance, though it is recommended that information about LAM be provided antenatally. A 2009 study in rural Kenya revealed that the introduction of a new, comprehensive postnatal care package resulted in an increase in women who accepted an FP method at six weeks from 35 percent to 63 percent.

  o Hiller JE, Griffith E, and Jenner F. Education for contraceptive use by women after childbirth. *Cochrane Database of Systematic Reviews* 2002;1:CD001863. (abstract)
• A survey of physicians and nurses in Finland to examine self-reported professional practices of postpartum contraceptive counseling indicates that initiation of effective contraceptive methods is delayed after childbirth and highlights a need for updated evidence-based guidelines. In collaboration with USAID, ACCESS-FP conducted a survey designed to identify, document, and share information on the status of postpartum care services implemented by USAID cooperating agencies in 2008. The information obtained will be used to design a strategy for strengthening postpartum FP services.
  
  o Postpartum Care Survey Results from Sub-Saharan Africa. Baltimore: ACCESS-FP, 2008. (full text)

• In Morocco, Guatemala, and Indonesia, the degree to which a woman and her children use maternal and child health services was a statistically significant determinant of higher use of contraception. The same relationship, however, was not observed in Tanzania, Bolivia, and Palestine; and results were inconclusive about whether integration of services contributed to this positive association. An assessment of an integrated maternal, newborn and child health, and FP program in northern Nigeria attributed the increased use of FP and other services to systemic integration of services.

  o Center for Development in Primary Health Care. Improving postpartum care among low parity mothers in Palestine. 2003. Study funded by USAID through the Population Council’s Frontiers in Reproductive Health Program. (full text)

• Integrating FP into child immunization services represents a promising approach to meeting the contraceptive needs of postpartum women. Immunization coverage is high in many developing countries and the recommended child vaccination schedule allows for multiple health care contacts with mothers in the year following birth. Providing FP information, referrals, and services during immunization visits can be an efficient way to reach women who might be highly receptive, but have limited access to FP programs. Limited evidence is available regarding this approach. In a study conducted in Togo, the introduction of a simple FP message during immunization services was associated with a 54-percent increase in the average monthly number of new FP clients.

  o More juice from the squeeze: Linking immunization services with other health interventions. Immunization Basics Snapshots 2007 Apr, Issue 5. (full text)