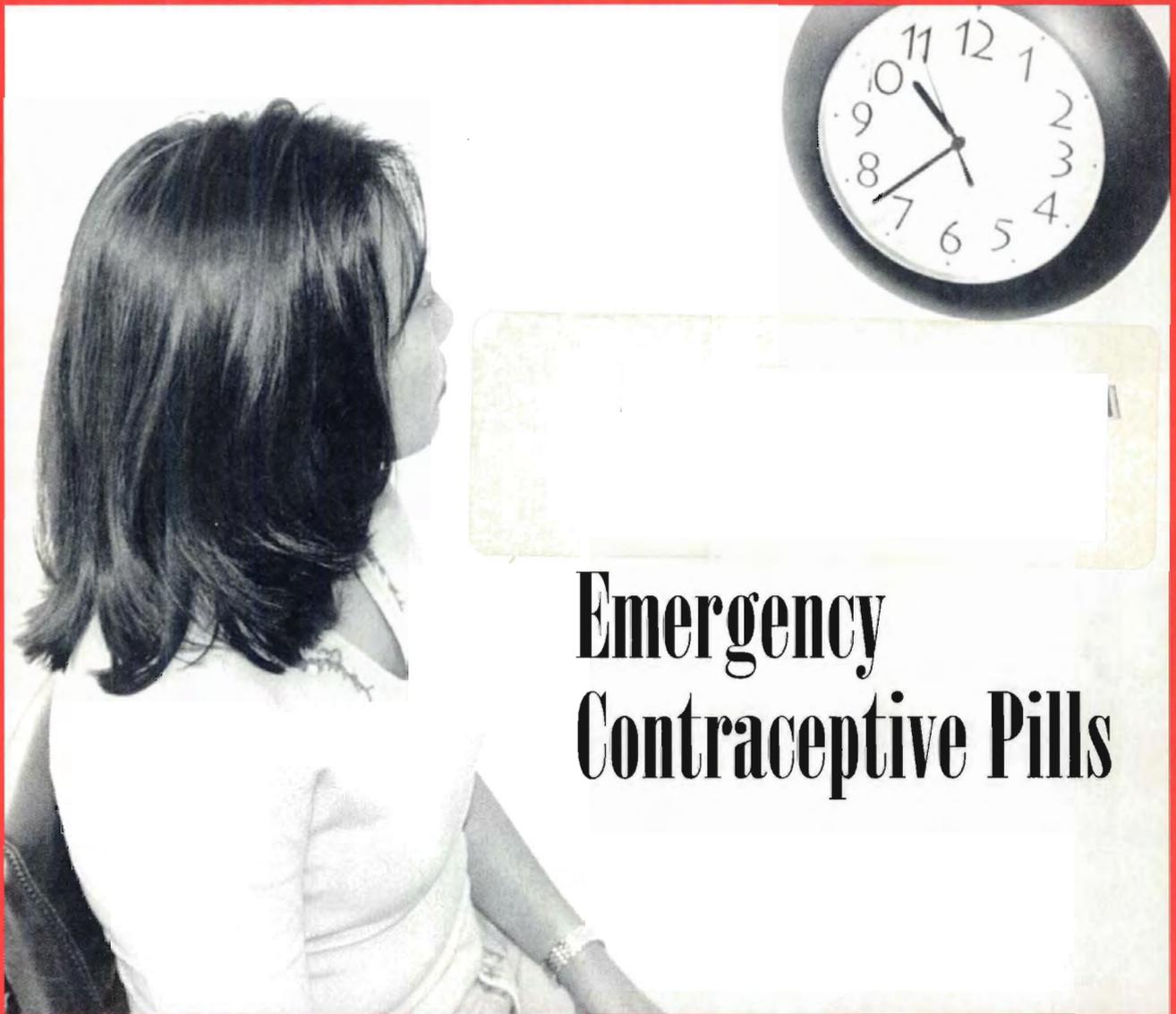


# Network

FAMILY HEALTH INTERNATIONAL, VOLUME 21 NUMBER 1, 2001



## Emergency Contraceptive Pills

# News Briefs

## WHO BREASTFEEDING RECOMMENDATIONS

Most women should exclusively breast-feed their babies for a full six months, the World Health Organization (WHO) has concluded after reviewing more than 3,000 published scientific studies of the subject. Such a practice, particularly in developing countries, protects babies against illness and death from infectious diseases, especially gastrointestinal infections.

Furthermore, WHO experts concluded that exclusive breastfeeding for six months protects against respiratory tract infection (including middle ear inflammation) and atopic disease (sensitivity to environmental allergens); prolongs the duration of lactational amenorrhea in women who breast-feed frequently; and increases postpartum weight loss in mothers.

WHO previously had recommended that most women exclusively breastfeed their babies for four to six months. The recent review recognized that some mothers — such as malnourished or anemic women — should stop exclusive breastfeeding at four months. Otherwise, susceptible infants may develop iron deficiency. Other potential risks of exclusive breastfeeding for six months include micronutrient deficiencies and slower growth in some infants.

Women who decide to breastfeed exclusively for six months should continue breastfeeding thereafter, but also add nutritionally adequate, safe and appropriate foods to a baby's diet, the WHO expert group recommended in April 2001.

## NORPLANT STUDY CONFIRMS SAFETY

The levonorgestrel contraceptive implant Norplant is as safe and effective as sterilization and intrauterine devices (IUDs), a five-year study involving some 16,000 women from eight developing countries has found.

Researchers from the World Health Organization (WHO) and the U.S.-based Population Council, together with colleagues at FHI, concluded that all three methods are very safe, provide excellent long-term protection against unplanned pregnancy, and considerably reduce the risk of ectopic pregnancy.

Dr. Olav Meirik, who directed the study at WHO, said the data "were reassuring with regard to serious health events," indicating no significant excess of cancer or cardiovascular events among Norplant users compared to women using nonhormonal methods or women in the general population. Furthermore, Norplant use was not linked to such diseases as diabetes, severe depression, systemic lupus erythematosus or rheumatoid arthritis.

Norplant users were more likely to experience some less serious disorders, such as irregular or excessive menstrual bleeding, amenorrhea and ovarian cystic enlargement (not requiring hospitalization). Norplant users also reported such conditions as headaches, mood changes, and respiratory tract and skin problems more frequently than IUD users and sterilized women.

The study, which appeared in the April 1, 2001 issue of *Obstetrics & Gynecology*, also found that annual pregnancy rates for all three methods were very low: fewer than one per 100 women. Investigators followed Norplant users in 32 family planning clinics in Bangladesh, Chile, China, Colombia, Egypt, Indonesia, Sri Lanka and Thailand.

## CERVICAL ECTOPY AND HIV INFECTION RISK

A recent study raises doubts that cervical immaturity, or ectopy, increases a woman's vulnerability to HIV infection, as has been suggested in several earlier studies.

The U.S. study of 189 HIV-positive and 92 HIV-negative adolescent girls found that adolescents with more ectopy were less likely to be HIV-infected. Furthermore, no association was found between ectopy and bacterial vaginosis or the sexually transmitted infections of chlamydia and gonorrhea.

Cervical ectopy occurs when a specific type of cell that normally lines the inside of the cervical canal extends onto the outer surface of the cervix, where exposure to sexually transmitted pathogens is greater. Earlier studies have shown that cervical ectopy is associated with increased risk for HIV infection, particularly when women are at high risk for other sexually transmitted diseases.

Adolescents commonly have large areas of ectopy and thus are of special concern, but the U.S. study of cervical ectopy and HIV infection was the first to focus on adolescents. It was published in the March 15, 2001 issue of the *Journal of Infectious Diseases*.

Findings from this study may differ from those of previous studies because more accurate methods were used to measure ectopy in this study. The methods included cervical photography, read without knowledge of patient status, and calculations from digital images. In prior studies, researchers looked through a speculum and visually estimated ectopy, which may have resulted in overestimations of the condition.

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# Network

FAMILY HEALTH INTERNATIONAL, VOLUME 21 NUMBER 1, 2001

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### EMERGENCY CONTRACEPTIVE PILLS

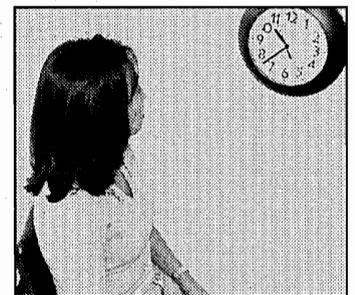
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*Emergency contraceptive pills can prevent pregnancy after unprotected intercourse but should be started as soon as possible. The cover photograph by FHI emphasizes the need to begin pill use promptly, ideally within 72 hours (three days).*



## INTRODUCTION

# Contraception after Intercourse

**E**mergency contraceptive methods can prevent pregnancy after unprotected intercourse, method failure or incorrect method use. Unprotected intercourse may include coerced sex, as well as situations when no method is used. Emergency contraception is a “second chance” method.

“Emergency contraception can help reduce unplanned pregnancies, many of which result in unsafe abortion and take a large toll on women’s health,” says Dr. Paul Van Look of the World Health Organization (WHO), former chair of the international Consortium for Emergency Contraception steering committee. Every year, unintended pregnancies lead to at least 20 million unsafe abortions, resulting in the death of some 80,000 women, according to WHO. Still other maternal deaths result from unintended pregnancies that do not involve an abortion.

The most widely used emergency contraceptives are regimens of birth control pills, which use the same hormonal ingredients found in regular oral contraceptives but in higher doses. The intrauterine device can also be used for emergency contraception, as well as other products (see chart, next page). This issue of *Network* focuses primarily on the use of emergency contraceptive pills.

In the past five years, major international reproductive health organizations, including WHO, have worked to make emergency contraception more widely

available, to increase the knowledge of providers and consumers about this method, and to study unresolved research issues. The consortium has coordinated much of this work, which includes a range of research, development of promotional and information materials, and provider training.

## EMERGENCY CONTRACEPTIVE PILLS

Oral contraceptive pills containing both estrogen and progestin or those that only contain a progestin can be used for emergency contraception. Emergency contraceptive pills do not affect a fertilized egg that has been implanted in the uterus. Hence, it cannot cause an abortion.

Emergency contraceptive pills should be started as soon as possible after unprotected intercourse, ideally no later than 72 hours. Research is examining whether this time frame can be extended (see article, page 10). In some countries, emergency contraception is referred to as “the morning-after pill,” which can be misleading because a woman does not need to wait until morning to begin use — she should begin use as soon as possible after unprotected intercourse. Some research has shown that the sooner she takes the pills, the more successful they will be in preventing pregnancy. Emergency contraception should not be used as regular contraception because it is less effective than regular pill use and can result in unpleasant side effects, such as nausea.

## EMERGENCY CONTRACEPTIVE PILLS

- Emergency contraceptive pills use the same ingredients as regular oral contraceptives.
- The pills, or other oral approaches under study, should be initiated ideally within three days (72 hours) of unprotected coitus. (Recent research indicates some protection may be provided up to five days.)
- Emergency contraceptive pills should be taken in two doses 12 hours apart.
- In addition to pills that are packaged for emergency contraceptive use, regular oral contraceptives can be used, with the number of pills per dose based on the brand involved.

	COMMON BRAND NAMES	DOSAGE
<b>PROGESTIN-ONLY ORAL CONTRACEPTIVES</b>		
Each of the two doses of progestin-only contraceptives should contain at least 0.75 mg levonorgestrel.	Levonelle-2, NorLevo Plan B, Postinor-2, Vikela (packaged and labeled for emergency contraception)	 One tablet per dose: Each tablet contains 0.75 mg levonorgestrel.
	Ovrette	 20 tablets per dose: Each tablet contains 0.0375 mg levonorgestrel.
	Microlut, Microval, Norgestron	 25 tablets per dose: Each tablet contains 0.03 mg levonorgestrel.

<b>COMBINED ORAL CONTRACEPTIVES</b>		
Each of the two doses of combined oral contraceptives should contain at least 100 µg (0.10 mg) ethinyl estradiol and 500 µg (0.50 mg) levonorgestrel.	E-Gen-C, Fertilan, Imediat, PC-4, Preven, Tetragynon (packaged and labeled for emergency contraception) <i>or</i> Eugynon 50, Neogynon, Noral, Nordiol, Ovidon, Ovral, Ovran	 Two tablets per dose: Each tablet contains 50 µg ethinyl estradiol and either 0.25 mg <i>or</i> 0.50 mg levonorgestrel.
	Lo/Femenal Microgynon 30, Nordette, Ovral L, Rigevidon	 Four tablets per dose: Each tablet contains 30 µg ethinyl estradiol and either 0.15 mg <i>or</i> 0.30 mg levonorgestrel.

<b>OTHER EMERGENCY CONTRACEPTIVE APPROACHES</b>		
Intrauterine device	Copper T and others	 Insertion within 120 hours (five days) of unprotected coitus.
Antiprogestins	Under study	 10 mg is effective as a single dose and causes less menstrual delay.
Norethisterone/northindrone-containing oral contraceptives	Under study	 Two tablets per dose: Each tablet contains 50 µg ethinyl estradiol and 1.0 mg norethindrone.

The emergency contraceptive regimens that have been studied closely include pills that use the estrogen, ethinyl estradiol, and the progestin, levonorgestrel. The most common approach is called the Yuzpe regimen, an approach developed in the 1970s by Dr. A. Albert Yuzpe at the University of Western Ontario in Canada that uses pills containing both estrogen and progestin. It is taken in two doses, the first within 72 hours of unprotected intercourse and the second 12 hours after the first. Each of the two doses must contain at least 0.10 mg of ethinyl estradiol and 0.50 mg of levonorgestrel.

The best-studied progestin-only regimen contains 0.75 mg of levonorgestrel per dose. It is also taken in two doses, the first within 72 hours after unprotected intercourse and the second 12 hours later.

Depending on brands used, which vary in formulation, the number of regular oral contraceptive pills containing the necessary amount of progestin varies from two to as many as 25 pills per dose.

Recent products dedicated for emergency contraception offer each dose in a single pill.

### SAFETY AND SIDE EFFECTS

Virtually all women can use emergency contraceptive pills safely. Because they are taken for a brief time, the contraindications for regular oral contraceptive use do not apply. WHO's medical eligibility guidelines include several conditions that providers should consider when giving emergency contraceptive pills, such as a history of severe cardiovascular complications, angina pectoris, acute focal migraine headaches and severe liver disease. But for

all of these, the guidelines say the advantages of using the pills generally outweigh theoretical or proven risks.<sup>1</sup>

If a woman is already pregnant, taking emergency contraceptive pills will not harm the embryo or fetus.<sup>2</sup> In fact, some fertility specialists recommend the use of progestins to prevent spontaneous abortion.

Side effects, especially associated with combined hormonal pills, are frequent and sometimes troublesome. Nausea and vomiting are the most common side effects, along with headaches, dizziness and fatigue. The high dose of hormones may also cause breast tenderness. Most side effects generally subside within 24 hours after the second dose of pills.

Progestin-only emergency contraceptive pills cause significantly fewer side effects than do combined pills. In the largest comparative study, 6 percent of women using the progestin-only regimen experienced vomiting and 25 percent experienced nausea, compared to 19 percent and 51 percent for vomiting and nausea, respectively, when using combined pills.

If a woman begins using progestin-only emergency contraceptive pills within 72 hours, she reduces the chance of pregnancy by about 85 percent. Studies estimate the chance of avoiding pregnancy to be between 57 percent and 75 percent for women using combined hormonal pills within 72 hours after unprotected intercourse.<sup>3</sup>

Like other non-barrier methods of contraception, emergency contraceptive pills provide no protection against sexually transmitted infections (STIs). Condoms

*continued on page 8*

BERYL GOLDBERG



YOUNG ADULTS MINGLE IN DAKAR, SENEGAL. VIRTUALLY ALL WOMEN CAN USE EMERGENCY CONTRACEPTIVE PILLS SAFELY.

## TYPICAL QUESTIONS ABOUT EMERGENCY CONTRACEPTIVE PILLS

### *What are emergency contraceptive pills?*

These are oral contraceptive pills that a woman can take within 72 hours of unprotected intercourse to reduce her risk of becoming pregnant. They contain the active ingredients in regular birth control pills, except in higher doses. Recent research suggests the pills may also be effective if taken within 120 hours (see article, page 10).

### *When should emergency contraceptive pills be used?*

They are intended for use after sexual intercourse when no contraception is used, when a couple's regular contraception does not work properly (as when a condom breaks or slips) or if a woman is sexually assaulted. The pills may be appropriate for adolescent women.

### *How do the pills work?*

Depending upon when the pills are taken during the woman's menstrual cycle, they may:

- prevent or delay ovulation, the release of an egg from the ovary
- prevent fertilization
- stop a fertilized egg from attaching to the uterus

The pills will not work if taken after pregnancy has started. While studies indicate the pills prevent ovulation, more research is needed to show conclusively that they prevent fertilization or stop a fertilized egg from attaching to the uterus.

### *How effective are the pills?*

A woman should begin the pills as soon as possible, since effectiveness declines as time passes. If a woman uses them within three days (72 hours) after sex, progestin-only pills lower the chance of pregnancy by about 85 percent. Combined pills are about 75 percent effective if used within three days.

### *What if a woman had unprotected sex more than three days ago?*

The pills may still work, but the risk of pregnancy increases with time. Another option after three days is the insertion of an intrauterine device (IUD), considered to be effective within five days of unprotected sex, but usually recommended for women who would then continue using an IUD as their routine family planning method.

### *Do the pills cause side effects?*

The pills sometimes cause nausea, vomiting, headaches, dizziness, cramping, fatigue or breast tenderness. If vomiting occurs more than one hour after taking the pill, the woman need not worry because the medication is already in her system.

The pills also may cause irregular bleeding until a woman menstruates again, and menstruation may begin early or late.



### *What should a woman do after using the pills?*

If a woman's menstruation is more than a week later than expected, she could be pregnant and may want to see a health care provider. If she is pregnant, all available evidence indicates that use of emergency contraceptive pills will not have harmed the pregnancy.

### *Can a woman use these pills every time she has sex?*

Emergency contraceptive pills should not be used routinely to prevent pregnancy because they are less effective than other family planning methods such as condoms, regular oral contraceptives, injectables, intrauterine devices and sterilization. Also, they have more side effects than other methods.

### *Do the pills protect against sexually transmitted infections?*

No. They provide no protection whatsoever. Latex condoms provide the best protection against sexually transmitted infections, including HIV.

### *Is the emergency contraceptive pill the same as the "morning-after pill"?*

Yes, but the term "morning-after pill" can be misleading. Women might think they must wait to begin treatment until the morning after unprotected sexual intercourse. Or, they might think incorrectly that it would be too late to use this method if they cannot obtain treatment until the afternoon or evening after unprotected intercourse, or two days after unprotected sex.

Source: Consortium for Emergency Contraception. *Expanding Global Access to Emergency Contraception*. Seattle, WA: Consolidated Printers, 2000. ■

continued from page 6

remain the best method for protection against STIs. Postexposure treatments for bacterial STIs might be appropriate for some people, and guidelines are being considered for posttreatment after potential exposure to HIV and other viral infections (see article, page 24).

— William R. Finger

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## MECHANISM OF ACTION

The primary mechanisms through which emergency contraceptive pills operate appear to occur prior to fertilization.

Research has demonstrated that emergency contraceptive pills can prevent or delay ovulation. Depending on when pills are taken during the menstrual cycle, the pills may also inhibit fertilization by affecting tubal transport of the ovum or, after fertilization, they may interfere with implantation of the fertilized egg in the uterus.<sup>1</sup>

Pills cannot disrupt an established pregnancy — the pills have no effect after implantation has been established.

In a study of 12 women taking the combined pill regimen, with the first dose taken just before their predicted time of ovulation and the second dose 12 hours later, blood samples showed diminished levels of luteinizing hormone (LH) and the steroid hormones, estradiol and progesterone. LH triggers ovulation, the release of the egg from the ovary.

“The mechanism of action appeared to be antioviulatory in three subjects in whom both LH and steroids were suppressed,” the study found. Eight of the other women showed varied hormonal patterns, and the remaining woman already had ovulated prior to beginning the regimen. If one assumes pregnancy had been prevented in all cases, the researchers concluded, the mode of action

must involve other mechanisms besides suppression of ovulation.<sup>2</sup>

In a subsequent study by the same research team, the regimen was administered to 12 women at 36 and 48 hours after ovulation. Endometrial biopsies showed signs of altered binding properties for steroids in the endometrial tissue. “This temporary disturbance of early events in endometrial development is probably sufficient to prevent ... successful implantation,” the study concluded.<sup>3</sup> Other studies that examined the endometrium after administering the combined pill regimen

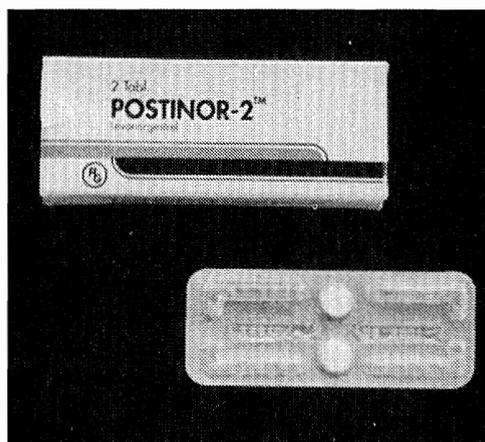
also found alterations that could inhibit implantation.<sup>4</sup>

Other studies have shown only limited impact on the endometrium. An FHI study administered the combined pill regimen to 19 women on the day of the LH surge. Endometrial biopsies and other procedures found no striking effects on the endometrium. The study also concluded that when administered at this time, the regimen does not affect ovulation, leaving “a puzzling gap in our understanding of the mechanism of action of this therapy.”<sup>5</sup>

In a 1996 study, eight women took the combined pill regimen before the LH surge. The researchers reported a variety of hormonal patterns, ranging from fully suppressed LH levels to no significant effect on hormonal patterns. As with other studies, it showed that the combined pill regimen prevented ovulation among some women but not among others.<sup>6</sup>

This study also administered the combined pill regimen to another eight women two days after ovulation. Endometrial biopsies from women in this post-ovulatory group showed only minor changes in development, which the researchers did not consider sufficient to prevent implantation. Another study also found that the combined pill regimen did not result in a significantly altered endometrium, suggesting “emergency contraceptives may exert their effect through

NASH HERNDON/FHI



POSTINOR-2, PROGESTIN-ONLY PILLS PACKAGED FOR EMERGENCY CONTRACEPTIVE USE.

more complex mechanisms than endometrial cell surface changes.<sup>7</sup>

A recent review of mechanism of action concluded that the "most difficult parameter to assess with certainty is endometrial receptivity." Even if the endometrium is altered, "other steps that precede implantation may also be altered enough to interrupt the process at an earlier stage."<sup>8</sup>

A 1999 statistical analysis of the combined pill research studies concludes that preventing ovulation could not be the only mechanism of action. It examined the effectiveness rates from eight studies that reported the number of women treated on each cycle day, using five different reports of the probabilities of ovulation by cycle day.<sup>9</sup> For example, thicker cervical mucus would inhibit sperm from reaching the egg. While no research on cervical mucus has been done regarding emergency contraceptive pills, progestins in regular oral contraceptive pills and injectables do cause cervical mucus to thicken, and this is considered to be a mechanism of action for those contraceptive products.<sup>10</sup>

Regarding progestin-only emergency contraception research, in an FHI-sponsored study of 45 women in Mexico, the levonorgestrel-only regimen was administered to three randomly assigned groups comprised of women at different stages of their menstrual cycle: day 10 of the cycle, immediately after the LH surge and 24 hours after the follicle rupture. Ultrasound was performed daily to monitor ovulatory function, and endometrial biopsies were performed nine days after the LH surge, the

approximate day that a fertilized egg would be implanted. The pre-ovulatory group had significantly suppressed hormonal levels, although some did ovulate. The other two groups of women did not have altered ovulatory function. The study concluded that the mechanism of action for the post-ovulatory groups appeared to be at the endometrial level, suggesting that the pills can help prevent implantation.<sup>11</sup>

Another study of the levonorgestrel-only regimen, involving 12 women in the United Kingdom, concluded that if taken immediately before ovulation, the pills delay or prevent ovulation. If taken after the LH surge, this regimen acts by other mechanisms, which need to be explored further.<sup>12</sup>

— William R. Finger

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# Seeking Ways to Improve Emergency Contraception

An expanded time limit and a one-dose regimen are among options under study.

**E**fforts to improve emergency contraceptive pills include making them easier to use by eliminating the need for a second dose, reducing side effects and investigating whether the recommended time limit of 72 hours for starting use might be extended.

A progestin-only pill regimen is more effective and better tolerated than combined hormonal pills used for emergency contraception.<sup>1</sup> Recent advances in packaging designed for emergency contraceptive use also make progestin-only pills the easier option to use. Progestin-only pills made specifically for emergency contraception consist of a tablet containing 0.75 mg levonorgestrel taken as soon as possible after intercourse, followed 12 hours later by a second tablet containing the same amount of levonorgestrel.

This two-tablet product is a marked improvement over using progestin-only pills intended for daily contraception. To achieve the proper dose needed for emergency contraception, a large number of the low-dose progestin-only pills are needed. For example, a woman must take 20 tablets of daily progestin-only pills (each containing 0.0375 mg levonorgestrel), followed by another dose of 20 tablets 12 hours later.

Yet, the two-dose regimen may be further improved. In a World Health Organization (WHO) study involving some 4,000 women, the contraceptive effectiveness of 1.5 mg levonorgestrel given as a single dose

is being compared with a standard regimen of two doses of 0.75 mg levonorgestrel given at a 12-hour interval, and with one dose of 10 mg mifepristone. The study is being conducted in China, Finland, Georgia, Hong Kong, Hungary, India, Mongolia, Slovenia, Sweden, Switzerland and the United Kingdom.

Also under study is whether two doses of 0.75 mg levonorgestrel given 24 hours apart are as effective as two doses given at the standard 12-hour interval. WHO is collaborating with the Family Planning Association of Hong Kong in this study, expected to be completed in 2002.

Meanwhile, a recent study by the New York-based Population Council found a single dose of combined hormonal pills caused fewer side effects than the standard double dose of combined pills. (The study, involving some 2,000 women, also examined how timing of the first dose and use of a different progestin, norethisterone, affected the effectiveness of the combined hormonal regimen.)<sup>2</sup>

Studying the effectiveness of combined hormonal pills that contain the progestin norethisterone, rather than levonorgestrel, was important because norethisterone-containing oral contraceptives are widely available throughout the world, and might be effective for emergency contraception if the standard combined hormonal regimen or the levonorgestrel-only regimen were unavailable.

The recent Population Council study of modifications of the combined hormonal pill regimen found that the contraceptive failure rate for norethisterone-containing pills was somewhat higher than that for levonorgestrel-containing pills. "The results indicate that if women have the standard combined pills or the levonorgestrel-only pills, they should use them," says Kelly Blanchard, study project director. "But if they do not have access to these pills, norethisterone-containing oral contraceptives clearly are effective for emergency contraception as well. Using them may save women money and time. Many women who need emergency contraception might be able to use the oral contraceptives they already have on hand."

### SIDE EFFECTS, TIMING

Reducing the side effects of nausea and vomiting, which are most commonly experienced by users of combined hormonal pills, is an important goal. A 1998 WHO study involving nearly 2,000 women compared combined hormonal pills with progestin-only pills used for emergency contraception. In the landmark study, half of combined hormonal pill users experienced nausea or vomiting compared to

only a quarter of women taking progestin-only pills. Nineteen percent experienced vomiting compared to 6 percent of progestin-only pill users.<sup>3</sup>

Combined hormonal pills are still the only pill option for emergency contraception in many countries, but a commonly used drug for motion sickness called meclizine may reduce some of the regimen's side effects. In a study conducted by FHI, taking meclizine an hour before starting the combined pill regimen significantly reduced the incidence of nausea (47 percent of women who took meclizine experienced nausea, compared to 64 percent of women who did not take the drug). Severity of nausea and incidence of vomiting were also significantly lower among women who received meclizine before starting the regimen.<sup>4</sup>

The 1998 WHO study — the world's largest randomized, controlled study of

emergency contraception — indicated that the sooner pills are started after unprotected intercourse, the more effective they are.

In the study, progestin-only pills started within 24 hours after unprotected intercourse prevented 95 percent of expected pregnancies. When started between 49 and 72 hours, only 58 percent of expected pregnancies were prevented. A decline in effectiveness as initiation was delayed was even more dramatic for combined hormonal pills, which were less

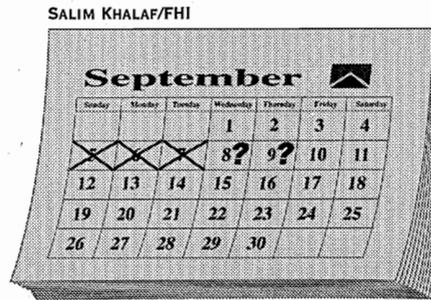
effective than progestin-only pills even when taken soon after unprotected sex. Using combined pills prevented 77 percent of expected pregnancies when started within 24 hours and only 31 percent of expected pregnancies when taken 49 to 72 hours after unprotected intercourse.<sup>5</sup>

Almost all effectiveness studies have involved only women who took the pills within 72 hours (three days), since current advice is to start taking pills within 72 hours after unprotected intercourse. Women using the method after 72 hours should be informed that effectiveness may be limited.

Yet, some researchers have suggested that, depending on the time of ovulation, the recommended time limit for beginning pills might be extended to four or even five days after unprotected intercourse.<sup>6</sup>

The recently completed Population Council study found that starting the combined hormonal pill regimen four to five days after unprotected sex reduced the risk of pregnancy by 50 percent among 108 women using the regimen. (The effectiveness of the combined hormonal regimen, regardless of when it was initiated, was higher in this study than in the WHO study.)<sup>7</sup>

"Our interpretation of data is that the 72-hour recommended cut-off for initiating emergency contraceptive pill therapy is unnecessarily restrictive," says Blanchard, project director of the Population Council study. "Efficacy after 72 hours does drop, but women should be offered the choice of



EXTEND RECOMMENDED TIME LIMIT?

BERYL GOLDBERG



REDUCING NAUSEA AND VOMITING FROM EMERGENCY CONTRACEPTIVE PILL USE WOULD HELP WOMEN HANDLE THEIR DAILY ACTIVITIES. A BUSY WOMAN ATTENDS TO HER SEWING IN BURKINA FASO.

taking the pills up to five days after unprotected sex since the therapy could still halve the risk of pregnancy." One way the pills could still prevent pregnancy up to five days is by inhibiting or delaying ovulation (release of an egg from the ovary) while viable sperm are still present.

In a related study, Canadian researchers recently found that women treated up to five days after unprotected sex had significantly lower pregnancy rates than women who received no emergency contraception. Effectiveness of the method was 72 percent to 87 percent among some 170 women who were treated between three and five days after unprotected sex.<sup>8</sup>

Existing regimens can safely prevent many unplanned pregnancies. But other products may also provide effective emergency contraception. Foremost among these potential products is the drug mifepristone, which can delay ovulation when administered during the pre-ovulatory phase of the menstrual cycle. When administered after the pre-ovulatory phase of the menstrual cycle, it can also block the hormone progesterone, which is essential for implantation.

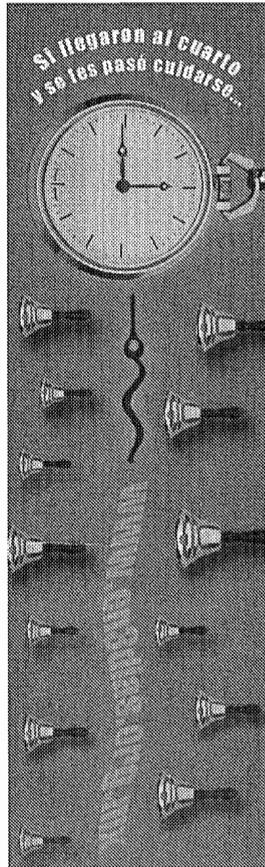
In two studies conducted in the United Kingdom that compared one dose of 600 mg mifepristone to the standard combined hormonal regimen taken within 72 hours after unprotected intercourse, no pregnancies occurred among some 550 women who took mifepristone. In contrast, nine pregnancies

occurred among some 550 women who took the combined hormonal regimen.<sup>9</sup>

According to a WHO multicenter, randomized study involving some 1,700 women, pregnancy rates were similar among groups of women taking 600 mg, 50 mg and 10 mg mifepristone within five days of unprotected intercourse.<sup>10</sup> The

U.S.-based Consortium for Industrial Collaboration in Contraceptive Research is analyzing a pilot study among 400 Chinese women to test the contraceptive effectiveness of 10 mg mifepristone alone or in combination with the anti-estrogen, tamoxifen, used up to five days after unprotected intercourse. Soon to be released are results of the WHO study among some 4,000 women comparing the effectiveness as emergency contraception of 10 mg of mifepristone, a standard regimen of two doses of 0.75 mg levonorgestrel, and 1.5 mg of levonorgestrel given as a single dose.

— Kim Best



A BOOKMARK PROMOTES THE POPULATION COUNCIL'S SPANISH-LANGUAGE WEB SITE.

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# Revealing the “Secrets” of Emergency Contraception

Many providers and potential users know little about emergency contraception.

Many women who have a need for emergency contraception do not use it. Usually, women simply do not know that it exists or, if they know, they do not know where to get it or how or when to use it.

Some mistakenly think it causes abortion. Others believe it can harm them or — if a woman is already pregnant — her fetus. Misconceptions and lack of knowledge about emergency contraception are common among family planning providers, as well.

Efforts to familiarize both women and providers with the use of emergency contraception include media and educational campaigns, telephone hotlines, innovative marketing projects for women, and training for providers.

That oral contraceptives can reduce the risk of pregnancy after unprotected sexual intercourse has been recognized since the early 1970s. In recent years, reproductive health experts have promoted emergency contraception. The Consortium for Emergency Contraception, a group of more than 20 organizations, has set a goal of making emergency contraceptive pills a standard part of reproductive health care worldwide.

Consortium efforts to introduce emergency contraception in settings as diverse as Kenya, Mexico, Indonesia and Sri Lanka have been comprehensive. They include assessing user needs and service capabilities; building support for the method;

selecting and sometimes registering products; developing distribution plans; informing prospective clients; training providers; and monitoring and evaluating emergency contraception services.<sup>1</sup>

## WHY USE IS LIMITED

Surveys conducted by the consortium shortly before it attempted to introduce the method revealed that a majority of prospective users were unfamiliar with the method.

“In Kenya, only about 10 percent of 282 female clients were aware of emergency contraception when an introduction program began in 1996,” says Dr. Esther Muia, program associate in Nairobi for the Population Council, a consortium member. Pathfinder International coordinated the Kenyan program, with assistance from the Population Council.

Initially, only 18 percent and fewer than 5 percent of surveyed women in Mexico and Indonesia, respectively, were familiar with emergency contraception. In Sri Lanka, prospective user knowledge of the method was also low even though the country’s contraceptive prevalence rate of 67 percent is one of the highest in South Asia.

A woman’s desire to prevent pregnancy may be particularly acute when sex has been forced. In Kenyan refugee camps, the International Rescue Committee (IRC) found that fewer than half of 825 women interviewed while living in the camps knew

they could prevent a potential pregnancy following unprotected sex.<sup>2</sup> "Only 11 percent of surveyed women who reported coerced sex in the camps said they had heard of emergency contraception, despite its availability at a camp hospital," says Dr. Fariyal Fikree, who with Dr. Muia and other Population Council colleagues conducted the study in association with IRC. "Furthermore, many health care providers were uninformed about how to provide emergency contraception."

Researchers have found that younger women consistently know more about the method than do older women, but their understanding is usually superficial.<sup>3</sup> Even well-informed women may not use emergency contraception when they need it because they avoid thinking about the possibility of pregnancy. The tendency to overlook or underestimate the chance of becoming pregnant, particularly among younger women, can lead some women to

gamble with the possibility of pregnancy rather than to seek emergency contraception quickly.<sup>4</sup>

Mistaken beliefs that emergency contraception will either cause abortion or harm health may discourage women from using it. However, FHI experts and others say emergency contraception does not terminate already established pregnancies and, thus, is not an abortifacient. The method prevents pregnancy in various ways. It can prevent or delay ovulation, the process by which the egg is released from the ovary. If taken after ovulation has occurred, it may prevent sperm from fertilizing the egg. It may also interfere with implantation of the egg in the uterus.

Birth defects are no more common among babies born to women who accidentally took oral contraceptives after conceiving than among babies born to women who did not take these pills during pregnancy. An analysis of 12 studies conducted since

1969 showed no association between oral contraceptive pills and birth defects. Even use of high-dose oral contraceptives containing up to 150 µg of estrogen per pill during pregnancy (a dose of emergency contraceptive pills contains 100 µg of estrogen) was not associated with defects.<sup>5</sup>

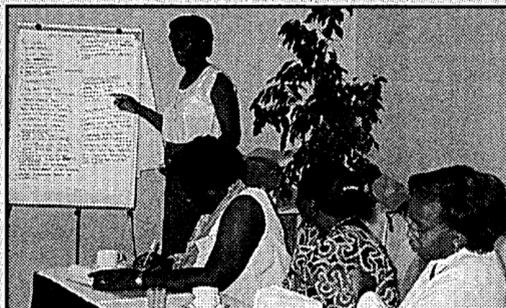
Routine use of emergency contraceptive pills, in place of regular contraception, is not recommended due to concerns other than safety. The pills are simply less effective than most other family planning methods. Many users also experience nausea. Only in rare cases do emergency contraceptive pills pose a health risk to woman taking them. Two studies found that short-term use of the combined hormonal regimen of emergency contraception did not increase risk of thromboembolism.<sup>6</sup> There is no evidence that repeated use of progestin-only emergency contraceptive pills poses health risks under any circumstances.

## WHAT PROVIDERS NEED TO KNOW

Providers of emergency contraceptive pills need to be prepared to give clients specific information about use of this backup contraceptive method. Most experts agree that providers should do the following:

- Emphasize that clients take the first dose of emergency contraceptive pills as soon as possible, and the second dose 12 hours after the first. Women must understand the importance of requesting emergency contraception within 72 hours after unprotected sex, especially in cultures where women normally wait until their period is late before seeking care. In Sri Lanka's program to introduce emergency contraception, more than 60 percent of women who called the telephone hotline initially did so after they had missed a period, at which time it was too late to use the method. Likewise, in Indonesia's introduction program, about 20 percent of clients waited until a missed period to seek the method.

NINA FRANKEL/FHI



FHI TRAINING FOR PROVIDERS IN ZAMBIA.

- Be able to identify the appropriate dosage of available oral contraceptives for use as emergency contraceptive pills, especially in settings where pills specifically packaged for emergency contraception (dedicated products) are not available (see page 5 for dosage by formulation).
- Be able to counsel clients about sexually transmitted infections and to stress that emergency contraception provides no protection against these infections.
  - Consider use of emergency contraception in relation to different family planning methods. Providers must be able to explain how to start or resume routine contraception after use of emergency contraception, and offer clients ongoing methods to prevent both pregnancy and disease. If routine contraception cannot be provided during the visit to obtain emergency contraception, providers should make follow-up appointments for clients. If contraceptive method failure leads to the need for emergency contraception, providers should discuss the reasons for this failure and how other failures can be prevented.
  - Explain that, following use of emergency contraception, a woman should seek evaluation and care for possible pregnancy if her menstrual period is more than a week later than expected.
- Be clear and courteous, and invite clients to ask questions. Providers should maintain a respectful and nonjudgmental attitude, offering emergency contraception to any woman who needs it, regardless of her reasons.
- Routinely educate clients about the availability and use of emergency contraception.

— Kim Best

Routine and frequent use may disrupt a woman's menstrual cycle, which may be unacceptable to some women.<sup>7</sup>

## INFORMING WOMEN

For an increasing number of the world's women, information about emergency contraception is just a telephone call away. Several telephone hotlines that provide key information about emergency contraception — including information about service providers, correct use, potential side effects and price — have been established in the past five years.

In Sri Lanka, an emergency contraception hotline receives more than 75 calls daily from women throughout the country. Family Planning Association of Sri Lanka (FPASL) launched the service supported by the Consortium for Emergency Contraception, with assistance from the U.S.-based Program for Appropriate Technology in Health (PATH) and the World Health Organization in Geneva.

"One of the most valuable things we did as part of our emergency contraception promotion plan was to set up the hotline," says Daya Abeywickrema, FPASL executive director. "We did not think many people would call, but we received 8,000 calls during the project's first two years." Phone attendants received a variety of questions, illustrating a broad need for information. About a quarter of callers wanted to know how to use emergency contraception; another quarter were concerned about delayed menstrual periods; 18 percent asked where to buy the pills; 11 percent requested the name of an emergency contraceptive product; 9 percent asked about side effects, and 6 percent inquired about price.

The promotion plan also included an extensive advertising campaign, information dissemination through television talk shows, radio programs and print media, and an educational campaign conducted by 50,000 field volunteers.<sup>8</sup>

In Mexico, a similar telephone hotline established in 1999 is receiving approximately 10,000 calls per month. The hotline is part of a larger initiative that includes a Web site (<http://www.en3dias.org.mx>) about emergency contraception. Information about emergency contraception is distributed in a variety of other ways, including

postcards in restaurants and flyers at concerts and other large events for youth.

The Population Council conducted surveys before and after these and other dissemination activities in Mexico to assess knowledge and opinions about the method. "Perhaps partly as a result of dissemination efforts in Mexico, nearly one-third of 806 female and male family planning clients surveyed in the year 2000 knew about emergency contraception, compared with fewer than a fifth of 1,127 clients surveyed in 1997," says the Population Council's Angela Heimburger, who has spent the past four years conducting emergency contraception research in Mexico.

Women in the United States can obtain information about emergency contraceptive services by calling a national hotline or visiting a Web site (<http://www.not-2-late>). In the states of Connecticut, Georgia, Maryland and North Carolina, women can obtain prescriptions for emergency contraceptive pills promptly by calling hotlines. (In North Carolina, FHI is assisting Planned Parenthood Federation of America affiliates that offer the telephone service.) In the state of Washington, pharmacists are encouraged to provide emergency contraception directly to clients by collaborating with physicians on prescriptions.<sup>9</sup>

Taking information about emergency contraception to the workplace also has increased awareness of the method. Some 400 workers in four assembly plants in Tijuana, Mexico, have learned about emergency contraception and have been offered kits containing emergency contraceptive pills for pregnancy prevention and condoms for protection against sexually transmitted infections. "The Population Council in collaboration with Fronteras Unidas Pro Salud, a local nongovernmental organization, chose this population, in part, because we anticipated a special need for emergency contraception," says Dr. Sandra Garcia, a regional program associate with the Population Council in Mexico. "Many workers are young, and youth may be more likely than older people to have spontaneous, unprotected sex. These workers also have long, irregular hours that make seeking reproductive health services difficult."

About 50 of the workers (13 percent) took kits home. Notably, about half of the

people attending workplace training sessions in Tijuana were men, and the council now plans to develop specific information about emergency contraception for them.

Few campaigns to promote emergency contraception focus on men. However, young Asian-Pacific island men in Seattle,

### For Emergency Contraceptive Pills:

- Call your doctor or clinic.
- Call 1-888-NOT-2-LATE (1-888-668-2528) for a list of emergency contraceptive providers (confidential and free).
- Visit the Emergency Contraceptive Website [www.not-2-late.com](http://www.not-2-late.com)

path

Program for Appropriate Technology in Health

### LEAFLET FOR ASIAN-PACIFIC ISLAND MEN.

WA, USA, have received brochures about emergency contraception. This initiative by International Community Health Services, in collaboration with PATH, is part of a larger reproductive health program for the minority group.

"We encounter barriers that are unique to this group, such as language, culture, acculturation levels, and lack of culturally relevant educational materials," says Nhan Tran, program specialist for the initiative. "This emergency contraception brochure was a response to that." Unlike typical emergency contraception brochures for women, the brochure for men contains little product information. But it strongly encourages men to support their partners' reproductive health decisions. "Most of the men liked being targeted for something that is traditionally seen as a woman's issue," says Tran.

### PROVIDER KNOWLEDGE

Some providers have long known about emergency contraception and have offered it even when it meant dividing regular packets of oral contraceptives to dispense as emergency contraception. This practice was common at government and family planning clinics in Brazil before a product designed specifically for emergency contraception became available in 1998. The product dedicated to emergency contraception contains the required dosages, as well as instructions.

## COUNSELING ABOUT REGULAR METHODS NEEDED

No one contraceptive method is considered better or more appropriate than any other as a routine method to use following emergency contraception.

Like most other situations in a client's life, starting or resuming regular contraception after emergency contraception should involve a range of choices and should address the needs and preferences of the client.

After using emergency contraception, even women who have previously used a method may need follow-up counseling. For example, if a woman had been using oral contraceptives as a regular method and sought emergency contraception due to missed pills, her physician or provider should discuss the reason why she did not use her regular pills.

Advice on when to resume or initiate a regular method depends on the method involved:

- Barrier and other nonhormonal methods may be initiated immediately after using emergency contraceptive pills.
- Hormonal methods such as oral contraceptive pills, injectables and Norplant can begin immediately as long as the woman is not pregnant. If a client waits for her next menstrual cycle before initiating a reliable hormonal method, she should use condoms or other barrier methods as a backup.
- If a woman chooses an intrauterine device (IUD) as her regular contraceptive method, the provider can insert the device as long as the woman is not pregnant.<sup>1</sup>

An IUD can also be used for emergency contraception up to five days after unprotected intercourse, and could be continued as a regular contraceptive method. However, an IUD should not be inserted if the woman suffers from a sexually transmitted infection (STI).

After using emergency contraceptive pills, a woman's menstruation may be delayed for up to a week. If it is more than a week late, she should be tested to ensure that she is not pregnant.

### ROUTINE USE?

Some providers worry that telling clients about emergency contraceptive pills may encourage women to use emergency contraception routinely.

Most studies indicate that knowledge about and use of emergency contraceptive pills do not discourage women from using regular contraception. A primary reason is that some side effects of emergency contraceptive pills — specifically nausea, menstrual disruption and vomiting — discourage women from using this method routinely.

However, interviews with 29 young, unmarried Nigerian women indicated some of them were using emergency contraception

as their routine method choice. For example, some of the women only have occasional sex with their boyfriends, and felt emergency contraceptive pills suited their situation. The study also noted that women in some cultures believe modern contraceptives are dangerous or social stigmas may discourage using regular methods. "Whether these beliefs and social restrictions have substance in fact, they contribute to young, unmarried women's preference for a one-shot contraceptive, immediately after intercourse," concluded Elisha P. Renne of Princeton University's Office of Population, author of the study.<sup>2</sup>

Emergency contraceptive use can be an opportunity to counsel women who have never used regular contraception or who have used it inconsistently. In the United Kingdom, young women who come to clinics for emergency contraception are routinely counseled about regular methods. A study found that some British women, particularly those in late adolescence, initiate regular contraception after using emergency contraceptive pills.

In a survey of British women ages 14-29 registered in a general practice research database, only 4 percent (608) of 15,200 women who had received emergency contraception received it more than twice in any year, suggesting that few women rely solely on emergency contraception.<sup>3</sup>

For couples using condoms or other barrier methods for dual protection — against pregnancy and sexually transmitted infections — emergency contraceptive pills can be offered as a backup against pregnancy when the barrier method fails or is not used.

In a study conducted in Ghana, emergency contraception counseling was given to women using one of two spermicides (nonoxynol-9 or menfegol). Some women were also given emergency contraceptive pills in case of unprotected sex. Among women who used emergency contraceptive pills, none reported using their spermicide less frequently than they would have if pills

had not been available. Most women said they would like to have emergency contraception only as a backup to spermicide.<sup>4</sup>

— Ellen Devlin

USAID



COUNSELING AT A FAMILY PLANNING CLINIC  
IN EL SALVADOR.

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Such resourcefulness and confidence in dispensing emergency contraceptive pills is the exception to the rule. Numerous studies have demonstrated that providers lack knowledge and have misconceptions about the pills — especially when they are not available as a dedicated product. Even providers who know about the method often do not offer it to eligible women.

A 1997 survey conducted in Ghana by FHI researchers in collaboration with Research International, Ghana, evaluated health providers' knowledge of emergency contraception. The survey found that about one-third of 325 interviewed providers had heard of it but none knew how to prescribe it correctly.<sup>10</sup> As a result, FHI will help the Planned Parenthood Association of Ghana train providers to deliver emergency contraception in eight clinics.

Although the International Planned Parenthood Federation had strongly endorsed emergency contraception for more than a decade, more than half of 72 federation affiliates that responded to a 1994 survey about the method did not offer it. Lack of a dedicated product hindered at least some family planning associations that were willing to offer it. Other obstacles included lack of a perceived need, legal issues, a misconception that the method causes abortion, and a lack of staff training and guidelines for offering it.<sup>11</sup>

A recent survey of 775 U.S. family planning clinics found that 140 of them did not dispense emergency contraceptive pills. The most frequent reasons given for not doing so included lack of demand (46 percent) and inadequate training for providing the method (22 percent).<sup>12</sup> FHI assisted the National Family Planning and Reproductive Health Association and the National Association of Nurse Practitioners in Women's Health Organizations in conducting the survey.

And, in a 1997 U.S. survey of physicians with expertise in adolescent health, 40 percent of 112 respondents who prescribed emergency contraception to adolescents restricted use to women who sought the method within 24 or 48 hours after unprotected intercourse, rather than using the standard of 72 hours. Two-thirds unnecessarily required pregnancy tests before prescribing the method.<sup>13</sup>

In 1996, when the consortium-sponsored project to enhance the use of emergency contraception in Kenya began,

fewer than half of some 90 providers surveyed knew about the method. Few providers knew how to divide regular packets of oral contraceptives to dispense as emergency contraception. As part of the project, emergency contraceptive pills packaged with the proper dosage became available. Some 200 providers were trained about various regimens, effectiveness, modes of action, indications and contraindications, side effects, and client screening and counseling. After three years, the percentage of providers who knew about emergency contraception had nearly doubled from 46 percent to 88 percent. Those providing the method more than quadrupled from 15 percent to nearly 70 percent.<sup>14</sup>

In Mexico, a consortium-sponsored program to introduce emergency contraception initially found that three of every four service providers who were surveyed had heard of the method, but only about 30 percent knew the correct dosages to prescribe, and only 7 percent offered the method. An evaluation showed that training and providing better information helped correct misinformation and reduce unnecessary concerns about the method. Many providers had worried about the safety of emergency contraception and whether it would be used incorrectly or overused.

About two-thirds of some 70 Sri Lankan doctors surveyed by the consortium in 1997 before extensive provider training began were familiar with emergency contraception, but could not confidently describe the method's advantages and disadvantages. A post-training survey found that 94 percent of participating doctors knew about emergency contraception and three-fourths had provided it.

— Kim Best

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# Easy Access to Pills Helps Method Succeed

Requiring prescriptions for emergency contraceptive pills is a major barrier to effective use.

**E**ducating clients about emergency contraceptive pills is an important step to the method's success in preventing unplanned pregnancies. However, keeping clients well informed is only part of a good strategy for improving access to emergency contraceptive pills. Clients must also be able to get the pills readily and at a reasonable cost, within three days of unprotected intercourse. Even if a client knows that emergency contraceptive pills are available, there are often barriers to easy access. Among them are unnecessary requirements for a prescription, reluctance among providers to offer help, cost and inconvenient access.

One important way to improve access to emergency contraceptive pills is to offer them over the counter rather than by prescription. Dr. David A. Grimes of FHI is among those who advocate eliminating the prescription requirement that exists in many countries, including the United States. He recently submitted comments to the U.S. Food and Drug Administration in favor of over-the-counter sales.

"Prescription status is a major barrier to access," he says, since women are often unable to consult a health care provider quickly to obtain a prescription. "Removing the prescription requirement and allowing women to purchase pills directly is the most expedient way to ensure that women

can obtain and use them whenever the need arises."

Many women are likely to need emergency contraception outside regular clinic hours, particularly during weekends and holidays. The lack of time to make and keep an appointment to get emergency contraception from a health care provider can be a major obstacle to proper use.

Even where prescriptions are required, simply eliminating an office or clinic visit can greatly reduce the time needed to obtain emergency contraception. For example, in the state of Washington in the United States, pharmacists can prescribe emergency contraceptive pills directly to women, without the need for a visit to a physician. And in San Francisco, a new program allows women to obtain pills without prescriptions if their physicians or clinics have made previous arrangements with the participating pharmacies.

Providing emergency contraceptive pills directly through pharmacists can improve access because pharmacies are often conveniently located and often open during evenings, weekends and holidays, when physicians and clinic providers may not be available. Also, rural and other remote areas that lack clinics or physicians may be served by pharmacies.

**Why Emergency Contraception?**  
If the condom breaks,  
if you've had unprotected sex or  
if you've been a victim of a sexual assault.

Emergency Contraception (EC) is a higher dose of birth control pills, that if taken within 72 hours of unprotected sex, can prevent pregnancy.



PLANNED PARENTHOOD FEDERATION  
OF AMERICA INFORMATION CARD.

## SAFE TO USE

Family planning providers sometimes limit access to emergency contraception unnecessarily due to unfounded concerns about health effects from using the pills. Because of the short duration of the regimen, emergency contraceptive pills are safe for most women to use. Other than an existing pregnancy, World Health Organization guidelines do not list any contraindications for the use of emergency contraceptive pills.<sup>1</sup> And even if taken while pregnant, there is no known harm to the mother or fetus.<sup>2</sup>

Studies have shown that emergency contraception does not encourage adolescents to engage in sex, especially against their parents' wishes, if they were not otherwise inclined to do so. In the United States, approximately 50 percent of adolescents become sexually active by the age of 17 regardless of parental consent. Since sexually active adolescents typically have unprotected sex, especially during the first six months of sexual activity, easy access to emergency contraception would be important for this population.<sup>3</sup>

Some providers are concerned about potential health risks to adolescents if they have easy access to emergency contraception. However, the very few contraindications for routine oral contraceptive use rarely apply to adolescents.

Emergency contraception for adolescents can help prevent unplanned pregnancy and might also serve as a young woman's introduction to regular contraception. Making access to emergency contraception easier, such as providing emergency contraception through schools and other places where youth congregate rather than only through a physician or clinic, would help many adolescents avoid the trauma of an unplanned pregnancy and perhaps a subsequent abortion.

BERYL GOLDBERG



A PHARMACIST IN PERU TALKS TO A CUSTOMER. ALLOWING OVER-THE-COUNTER SALES OF EMERGENCY CONTRACEPTIVE PILLS IS AN IMPORTANT WAY TO IMPROVE ACCESS. MANY WOMEN NEED PILLS DURING WEEKENDS OR HOLIDAYS, WHEN GETTING A PRESCRIPTION IS DIFFICULT OR IMPOSSIBLE.

Adolescents face many barriers to contraceptive services to begin with. Lack of money to pay for outpatient visits, laboratory fees or prescription medications is a problem for adolescents of all economic backgrounds. Transportation to and from clinics can be a problem for adolescents, as well as simply locating clinics with convenient hours, given school and work schedules. Young adults also struggle with embarrassment and the disapproval of older adults, such as parents and teachers, making it difficult for them to seek help at clinics.

"Emergency contraceptive pills — and the knowledge about their use — should be accessible to adolescents in school-based clinics, pharmacies, convenience stores or other environments where youth are comfortable seeking health care services and products," says Dr. Charlotte Ellertson in Mexico City, the Population Council's director of reproductive health for Latin America and the Caribbean, who has written extensively about emergency contraception.

"Also, having the pills available in packaging dedicated to emergency contraception will make it simpler for women to get the right dose every time, although if necessary, women can certainly also use pills taken from ordinary oral contraceptive packs. Putting detailed emergency contraception information about brands, doses and places to get help on Web sites and hotlines can also point many young people in the right direction when they need help."

## COST AND CONVENIENCE

Even though emergency contraceptive pills should only be used occasionally, treatment may be relatively expensive for women with limited income. Some experts suggest that providing free emergency contraceptive pills for designated populations, as has been done with condoms, would reduce this barrier.

Specially packaged emergency contraceptive pills are available in several countries. Preparing the proper doses from supplies of regular oral contraceptives is an option,

## INTERNET OFFERS INFORMATION ABOUT EMERGENCY CONTRACEPTION

Several Web sites around the world offer emergency contraception information, including where to obtain pills. Here are some of them, available in English only unless otherwise specified:

<http://www.not-2-late.com>

This Web site, operated by the Office of Population Research at Princeton University in the United States, gives general information, a bibliography of research and recent news accounts about emergency contraception. From a directory of more than 2,900 providers, women in the United States can find providers in their communities who prescribe the pills. The site is offered in English, Spanish and French.

<http://www.plannedparenthood.org/ec/>

Planned Parenthood Federation of America provides a description of emergency contraception, how and when it should be used and the locations of Planned Parenthood clinics throughout the United States. This site also lists a telephone hotline.

<http://www.en3dias.org.mx>

The Population Council's Spanish-language site about emergency contraception provides general information, news reports and a listing of reproductive health resources. The site also offers information about regular contraceptive options.

<http://cecinfo.org>

The Consortium for Emergency Contraception offers general information in English and Spanish. The site also includes materials

for providers and policy-makers, such as advice on how to operate local emergency contraception programs.

<http://www.jhucp.org/mmc>

The Media/Materials Clearinghouse at Johns Hopkins University allows health professionals to see samples of pamphlets, posters, photographs, videos, and other materials involving reproductive health and family planning topics, including emergency contraception. Some materials are available in Spanish and French, in addition to English.

<http://www.fda.gov/>

The U.S. Food and Drug Administration offers a database of health documents, including materials on emergency contraception.

[http://www.jamwa.org/vol53/toc53\\_5.html](http://www.jamwa.org/vol53/toc53_5.html)

*The Journal of the American Medical Women's Association* provides articles from its fall 1998 issue, Vol. 53, No. 5, on emergency contraception.

<http://www.fbi.org>

FHI's Web site includes a fact sheet, articles from *Network*, training materials and other resources on emergency contraception. Some materials are available in Spanish and French, in addition to English.

Note: Background design is the Consortium for Emergency Contraception logo, used on its Web site and other materials.

but could be wasteful and is inconvenient. Also, calculating the proper number of regular pills needed increases the risk of dosage error. Depending on the brand, between two and 25 regular oral contraceptive pills would be needed to equal one dose of emergency contraceptive pills.

If over-the-counter access to emergency contraception is not available, another strategy to improve access would be to provide the woman with a supply of pills to keep at home. This would eliminate at least one trip to a clinic or pharmacy with the resultant loss of time and money.<sup>4</sup>

Would women be more inclined to use emergency contraception promptly and correctly if they could get the pills in a convenient, confidential and timely way?

Would women indulge in riskier behavior knowing that emergency contraception would be easy to obtain?

To help answer these questions, researchers studied 1,083 women who attended a family-planning clinic and a hospital in Edinburgh, Scotland, for two years.<sup>5</sup> The researchers gave about one-half of the study participants a renewable supply of emergency contraceptive pills and instructions to take home with them. The other half received no pills but were informed about emergency contraception and told that, in the event of a contraceptive failure such as a condom break or missed pills, they should see a physician to

obtain a prescription for emergency contraception pills.

The study found that nearly half (47 percent) of the women who had emergency contraception on hand used the method at least once and used it correctly. This compares to 27 percent in the group that did not have pills readily available. Neither group was more likely than the other to repeat emergency contraception more than once. Furthermore, 89 percent of the women who had pills said that their regular contraception remained unchanged, and 8 percent reported that the availability of emergency contraception gave them "peace of mind."

The study concluded that women are able to self-administer emergency contraception correctly, at the appropriate time, without adverse effects, and without abandoning regular contraception. The researchers believe that making emergency contraception more accessible may reduce the rate of unwanted pregnancies and abortions.

A study in Zambia sought to determine which emergency contraceptive strategy was most effective at the lowest cost in a developing country where resources are limited. About one-third of the 895 study participants received a supply of emergency contraceptive pills to keep at home.

Another third received a prescription card that could be redeemed for emergency contraceptive pills at local health centers 24 hours a day, seven days a week, "no questions asked." Members of the last group — the control group — were simply told about emergency contraception and where to receive it, but did not receive either pills or prescription cards. All participants were first-time users of regular contraceptive methods — either condoms or oral contraceptives.

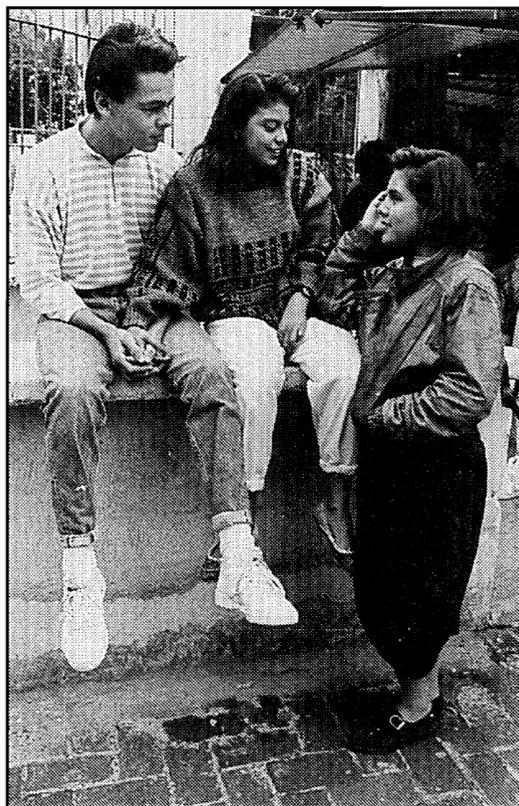
Results revealed that 80 percent of the women who needed to use emergency contraception and who had the pills on hand did use them within 24 hours after unprotected sex. However, women who had the prescription card did not obtain emergency contraception any sooner than those with neither pills nor a prescription card — only about half in each of those two groups used the pills within the first 24 hours. The authors suspect that women with cards were reluctant to use them. Even with cards, these young, unmarried women may find it difficult to visit health centers and explain their need for emergency contraception.

The study also found a need for better emergency contraception counseling. Some clients were inclined to substitute emergency contraceptive pills in place of regular contraception because they thought a regimen that required only two pills when needed rather than a pill every day would be more "powerful," and therefore more effective. Also, availability of emergency contraceptive pills sometimes undermined a woman's ability to negotiate condom use with her partner.<sup>6</sup>

Web sites and telephone hotlines offer advice on how to obtain emergency contraceptive services. However, research raises questions about how useful these services can be.

In one U.S. study, two college-educated investigators posing as women who had a condom break the "previous night" — the number of elapsed hours were not specified — called hundreds of providers listed with an emergency contraception hotline and Web site.

BERYL GOLDBERG



STUDENTS IN GUADALAJARA, MEXICO.

The investigators made their phone calls during business hours in order to maximize caller-provider interaction, giving the providers ample chance to get emergency contraception into the hands of the caller within 72 hours. No calls were made on weekends or holidays, when many clinics and private medical offices would be closed. The callers were native English speakers and followed a script.

Despite these favorable conditions for a timely prescription, only 76 percent of

the providers were able to provide prescriptions or appointments within 72 hours. The authors believe that a more typical hotline caller, perhaps a woman of limited education or one not fluent in English, calling at night or during the weekend, would be far less likely to obtain help in time.

The study concluded that, despite the availability of emergency contraception information on Web sites and hotlines, access to emergency contraception through these routes is poor.

Unless providers prescribe and dispense emergency contraception promptly, the potential to prevent pregnancies through emergency contraception cannot be fully realized.<sup>7</sup>

— Ellen Devlin

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## PERSONAL ACCOUNTS

### MEXICO: 24-YEAR-OLD GRADUATE STUDENT

I knew about emergency contraceptive pills because a doctor recommended that I call the emergency contraception hotline number in Mexico\* after I had an unprotected act of sexual intercourse. People at the hotline told me what pills I could use as emergency contraception. They also told me that the pills do not protect against sexually transmitted infections and that it was necessary to use a condom to avoid infections.

After calling the hotline, I went to the pharmacy, bought combined hormonal contraceptive pills, and took them immediately. The symptoms I experienced after taking them were very mild. I think the only thing that happened to me was that I was very emotionally sensitive the following days. But I did not experience any nausea or vomiting.

I have used emergency contraceptive pills three times, basically because I was not using any contraceptive method. I used them one time after another until I realized that it would be better to use a regular method.

Now I use a regular method (injections) and that way I feel safer. I used the pills because I thought this was not the right time to have children. I am very young and do not feel mature enough to raise a child yet.

### MEXICO: 25-YEAR-OLD LAW STUDENT

I have taken emergency contraceptive pills two times over the last year. On both occasions, I used them because I forgot to take the contraceptive pills that I normally use. After taking emergency contraceptive pills, I continued to use regular oral contraceptives.

The combined hormonal contraceptive pills that I used for emergency contraception did not cause any side effects like nausea and vomiting — just slight dizziness.

I took the pills because I do not want to have any children now, even though I have had a stable, monogamous relationship for over four years now. Neither of us believes that this is an opportune moment to start a family. He wants to continue studying, and I want to finish my legal studies and continue my professional development.

### SRI LANKA: 24-YEAR-OLD WOMAN

I needed to use emergency contraception after I had unexpected intercourse with my boyfriend.

I telephoned the emergency contraception hotline at the Family Planning Association of Sri Lanka† and got the name of the emergency contraceptive pill, which I obtained through a pharmacy.

So, emergency contraception was not difficult to obtain. It was also very easy to use because the instructions were clear. I used levonorgestrel-only pills, and did not experience any side effects. I did not get pregnant.

Since I am not sexually active now, I do not use a regular method of contraception, but the person I talked to at the hotline told me that emergency contraception is not a regular contraceptive method, and I should use the regular contraceptive pills if I am sexually active. I was also told that the use of emergency contraception will not protect against sexually transmitted infections.

### **SRI LANKA: 30-YEAR-OLD HUSBAND**

My wife used to use regular oral contraception, but stopped it because I was working away from home and we were not having regular sex.

When I was at home, we practiced the rhythm method of family planning, but — on one occasion — we were worried that she might become pregnant. I had read a newspaper advertisement about the emergency contraception hotline run by the Family Planning Association of Sri Lanka<sup>†</sup>. After phoning the hotline for information, I easily obtained [levonorgestrel-only] emergency contraceptive pills from a pharmacy. My wife did not experience any side effects and did not become pregnant.

### **UNITED STATES: YOUNG COLLEGE STUDENT**

Two years ago, when I was 19 years old, I was sexually assaulted. I was not sexually active, so I was not using birth control.

But I had heard on my college campus about emergency contraception and, right after the assault, I called my primary care physician to get it. I could not get in contact with my doctor, only the medical office's answering service. Meanwhile, I called multiple hospitals for help, but was told that I would have to go to a hospital emergency room three hours away to get emergency contraception.

I thought that was ridiculous. Finally, eight hours after the assault, a physician's assistant prescribed emergency contraception for me to pick up at the pharmacy. But it turned out to be the wrong dose, and no one told me I needed to take a second dose 12 hours later.

When I questioned the prescription, the pharmacist said it was correct and to take it. Well, it did not work: I got pregnant and I had an abortion. Since I am not sexually active, I do not put myself in situations where I would later need an abortion. Even after a sexual assault, I would not have had to have an abortion ... if I had been given the right thing to prevent pregnancy.

*The above accounts were based on interviews by Kim Best, Network senior science writer/editor; Angela Heimbürger of the Population Council, Mexico; and Daya Abeywickrema of the Family Planning Association of Sri Lanka. Also, Kandra Strauss of the Reproductive Health Technologies Project in the United States assisted with the gathering of these interviews.*

\* The toll-free hotline in Mexico is 1-800-EN-3-DIAS.

† The hotline in Sri Lanka is 501315.



# Is HIV Treatment Practical after Exposure?

The degree of risk from exposure is among factors in determining whether treatment should be available.

In theory, a person exposed to HIV during sexual assault or other sexual activity can reduce the risk of infection by taking antiretroviral drugs soon after exposure, a treatment known as postexposure prophylaxis.

Whether treatment should be offered routinely for sexual exposure, however, is questionable. Safety and efficacy have not been adequately studied and the treatment is expensive. Also, there are indications that many patients will not complete the regimen.

Prophylactic treatment is often used by health care workers exposed to HIV. It is also used to prevent perinatal transmission in newborn infants of HIV-infected women. Treatment typically involves such drugs as zidovudine, commonly known by its trade name, AZT.

The World Health Organization (WHO) does not provide guidance about treatment following potential HIV exposure through sex. A 2000 meeting on women and violence sponsored by WHO concluded that guidelines suitable for developing-country situations should be written.

The U.S. Centers for Disease Control and Prevention (CDC) has said U.S. physicians can consider HIV prophylactic treatment in case of unprotected sex if there is a high risk of infection, but stops short of recommending action in specific cases.<sup>1</sup> "The individual patient and physician

working together need to evaluate that person's degree of risk. If they decide together it is a high risk, then postexposure prophylaxis is reasonable," says Dr. Lynn Paxton, who supervises CDC's work on this topic.

Regarding possible exposure to other sexually transmitted infections (STIs), providers should consider presumptive treatment for bacterial STIs and vaccination against possible hepatitis B exposure. Emergency contraception should routinely be offered to victims of sexual assault to help prevent pregnancy.

## DEGREE OF RISK

Before offering HIV prophylaxis treatment after unprotected sex, providers should consider the HIV status and risk-behavior history of the reported source of contact. Unfortunately, the assailant's HIV status is rarely known in sexual assault cases. HIV status may or may not be known in other types of unprotected sexual exposure.

The type of sexual exposure contributes to the degree of risk of HIV transmission. Studies among HIV-discordant couples suggest that HIV transmission by receptive anal intercourse occurs between 0.5 percent to 3 percent of the time. This is considerably higher than transmission by unprotected penile-vaginal intercourse, estimated to be only about 0.1 percent

(women, however, are at greater risk than men).<sup>2</sup> By contrast, infection from exposure to HIV-positive blood through the skin, the typical risk among health care workers, is estimated to occur in 0.25 percent of the exposures.<sup>3</sup>

Recommendations on using HIV prophylaxis after sexual exposure are based primarily on transmission risk. Dr. Michael Katz of the San Francisco Department of Public Health and Dr. Julie Gerberding of the University of California at San Francisco recommend prophylaxis after unprotected anal or vaginal intercourse with a partner who is or is likely to be HIV infected.<sup>4</sup> Dr. Peter Lurie of the Center for AIDS Prevention Studies, University of California at San Francisco, and colleagues recommend HIV prophylaxis following unprotected anal intercourse with someone known to have HIV infection or of unknown status in a population with high HIV prevalence rates. "If the risk of infection is moderate, in the range of 0.10 percent to 0.30 percent, we do not believe the

evidence currently warrants a recommendation" for postexposure prophylaxis in all cases, say Dr. Lurie and colleagues. However, people who have been exposed should be informed of the treatment, they add.<sup>5</sup>

Drugs used for postexposure prophylaxis are often not available due to costs, overall drug shortages, or hesitance to recommend a protocol without definitive efficacy data. Even so, some international agencies working in countries with high HIV-infection rates supply prophylaxis drugs to their employees so that they can begin the treatment immediately in the event of sexual assault.

Should HIV prophylaxis be used in the case of sporadic exposure during consensual sex? Some experts are concerned that such prophylaxis may discourage primary prevention, such as using condoms or reducing the number of sex partners. Others speculate that the regimen could motivate persons who have the highest risk to seek care. Because prophylaxis should be used as soon as possible after exposure,

some experts believe HIV prevention messages should include information about HIV prophylaxis, such as where it can be obtained.

## DIFFICULT REGIMEN

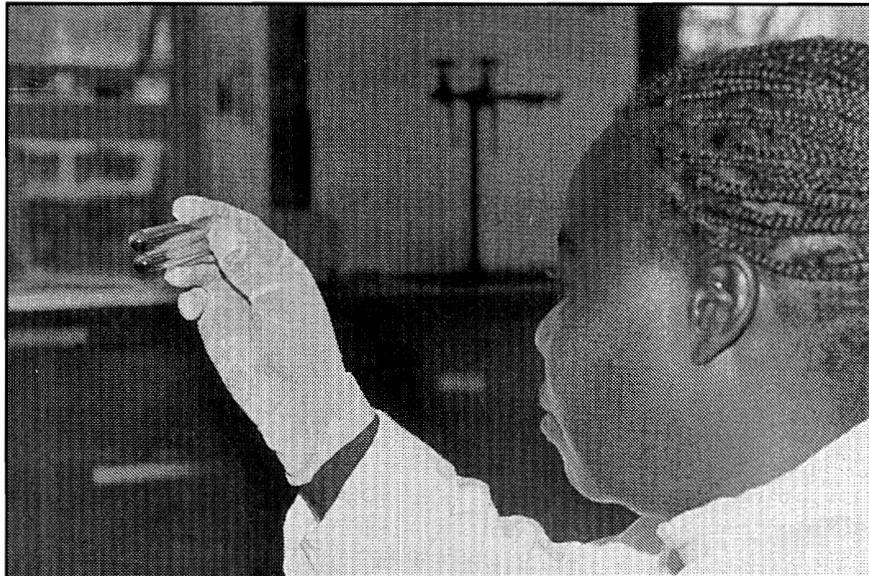
The recommended postexposure prophylaxis regimen for possible HIV infection is 28 days, which research has found to be difficult to complete. Studies among health care workers who began treatment show between one-third to about one-half of them discontinue treatment before the recommended regimen is achieved.<sup>6</sup> The reason most often cited for discontinuation is side effects.

In a CDC prospective study of 449 people exposed to HIV during health care work, 43 percent discontinued all drugs before the regimen was to be completed and another 13 percent modified their regimen. More than half of the 197 people who discontinued did so because of side effects. Most of the rest of those who discontinued did so because they learned that their exposure did not involve an HIV source. About three-fourths of the patients reported some side effects, generally nausea, fatigue, malaise, headache and vomiting.<sup>7</sup>

One of the few studies in developing countries on exposure to HIV by health care workers surveyed 265 workers in the obstetrics and gynecology department of a hospital in South Africa. Of those, 38 (13 percent) had been exposed to HIV over one year. Of those 38, 35 took postexposure prophylaxis. About half of them did not complete the regimen. Of those who discontinued, 57 percent cited side effects as the reason.<sup>8</sup>

Little research exists on how well those possibly exposed to HIV during unprotected sex will complete the regimen, although two studies suggest an even lower completion rate. A sexual assault service working with a Vancouver, Canada, hospital emergency department began offering HIV prophylaxis in 1996 to women and children who came for treatment following a sexual assault, the first such prophylaxis program in North America. Of the 258 people who were seen by the service in the first 16 months, 71 accepted the offer of HIV prophylaxis. Only eight (11 percent) completed the four-week regimen.

H. ANENDEN/WHO



RESEARCH INDICATES THAT POSTEXPOSURE PROPHYLAXIS MAY BE EFFECTIVE IN CERTAIN SITUATIONS, SUCH AS TREATING HEALTH CARE WORKERS FOLLOWING ACCIDENTAL EXPOSURE TO HIV-INFECTED BLOOD. A WORKER IN KENYA EXAMINES BLOOD SAMPLES THAT ARE BEING TESTED FOR HIV.

Victims of rape by an assailant known to be HIV infected or at high risk for HIV infection were more likely to accept prophylaxis and to complete the treatment than were other patients. Based on that finding, the Canadian program changed its policy and now offers HIV prophylaxis only to those at high risk of infection. "This change is likely to improve compliance," the authors concluded. "It will also reduce drug costs and will ease the burden on the physicians and nurses, as fewer patients will need to be counseled about HIV prophylaxis."<sup>9</sup>

In a Boston hospital, 10 pediatric and adolescent patients were offered HIV prophylaxis over a year's time after sexual exposure or an accidental needle stick. Eight started the treatment and two completed it. Financial concerns, side effects, psychiatric and substance-abuse issues, and parental involvement affected the degree of continuation.<sup>10</sup>

Generally, side effects from HIV prophylaxis are irritating but are not a serious health threat, especially with zidovudine and lamivudine. However, when nevirapine is used for HIV prophylaxis, adverse effects have also been reported. In a British study, five of 41 patients using a regimen containing nevirapine had serious adverse problems, including hepatitis.<sup>11</sup> In a report of similar cases, the CDC emphasized that no serious toxicity from nevirapine has been reported when used in regimens for mother-infant pairs or for treating HIV-infected persons.<sup>12</sup>

Another significant barrier to HIV prophylaxis is cost. In the United States, medical practitioners estimate the cost at U.S. \$1,100 to \$1,600, depending on whether a protease inhibitor is needed in the regimen.<sup>13</sup> The Canadian program that began offering HIV prophylaxis in 1996 estimated that the cost of preventing one case of HIV infection would be about U.S. \$70,000 (the cost of treating 140 patients, from which only one case of HIV infection would be prevented).<sup>14</sup>

## EFFECTIVENESS

While no study has examined the impact of treatment following potential sexual exposure to HIV, related research

suggests that it could be effective in certain situations. For example, when health care workers were exposed to HIV-infected blood through their skin, the chances of infection were reduced by 81 percent if the worker took zidovudine after exposure. The study involved more than 700 workers exposed to HIV from 1988 to 1994 and controlled for factors contributing to the risk of transmission such as the quantity of the blood transferred in the exposure.<sup>15</sup> The CDC has issued recommendations for treatment of health care workers exposed to HIV.<sup>16</sup>

Research has found that antiretroviral drugs have been effective in preventing perinatal HIV transmission — from a pregnant woman to her newborn baby. In a prospective, randomized controlled trial, zidovudine given to HIV-infected women during pregnancy and labor and to their infants for six weeks postpartum reduced perinatal transmission by 67 percent compared to the control group.<sup>17</sup> In a study in Thailand, perinatal HIV transmission was reduced by 51 percent for women treated from 36 weeks gestation until delivery.<sup>18</sup>

Treating HIV exposure with prophylactic drugs should be done promptly. Presumably, the earlier the regimen is begun, the more effective it would be. After exposure, the infection takes several days to become established. Interventions may stop viral replication and allow the host immune defenses to eliminate the virus. Research has shown that in the case of infection by blood through needle-stick exposures, cells in the skin can fight the infection with the proper chemical prophylaxis. Sexual exposure to HIV through a mucosal surface is not completely analogous to exposure through the skin, but it may involve similar responses, so antiretroviral therapy may still stop infection by minimizing viral replication.<sup>19</sup>

Preferably, therapy should be started within two hours after contact. This is often impossible after sexual contact, however. The CDC says that HIV prophylaxis is most effective when started within 24 hours after exposure, but the amount of time during which treatment is effective has not been studied in humans.

In addition to a 28-day regimen of zidovudine or lamivudine, treatment with a more complicated series of drugs involving protease inhibitors might be recommended

if the exposure was to an HIV-infected person using a particular drug treatment. Because of the regimen's length, a person potentially exposed to HIV infection several times a month would in essence be using continuous prophylaxis. Thus, treatment is recommended only for sporadic exposures.

## OTHER STIS

Bacterial STIs are treatable. Ideally, a person seeking care after unprotected sex would be tested for various bacterial infections and treated if infected. The infection needs to be treated whether it resulted from the immediate incident or from a previous exposure. However, diagnosis is not possible in many settings that lack adequate laboratory equipment and other resources.

Due to the obstacles of diagnosing and treating bacterial STIs following unprotected sexual contact, many experts recommend postexposure prophylaxis for bacterial STIs, especially in the case of sexual assault. The CDC has developed guidelines for emergency STI treatment following sexual assault. They include a combination of antibiotics designed to function as presumptive treatment for gonorrhea, chlamydial infection, bacterial vaginosis and trichomoniasis, commonly transmitted STIs.

The antibiotic regimen for these infections includes 125 mg of ceftriaxone in a single intramuscular shot; 2 g of metronidazole in a single oral dose; and either 1 g of azithromycin in a single oral dose or 100 mg of doxycycline orally twice a day for seven days.<sup>20</sup>

The CDC recommends using a vaccine against the viral STI hepatitis B after sexual assault as a prophylaxis against possible infection. No postexposure treatment exists for herpes simplex virus (HSV) or human papilloma virus (HPV).

Where sexual violence frequently occurs, emergency STI treatment and contraception have become part of some standard medical protocols. For example, the United Nations Human Commission on Refugees recommends that victims of sexual assault in refugee camps be provided emergency contraception and treatment for bacterial STIs.

In Mexico, the Population Council, local nongovernmental agencies and women's advocacy groups have been working with hospitals, police, psychological services and others who work with victims of rape to make them and other women aware of emergency contraception. "We considered adding a component to address postexposure prophylaxis for potential STI/HIV exposure for victims of sexual assault," says the Population Council's Ricardo Vernon, who directed the project. "The simple intervention of adding emergency contraception to the services provided was already too controversial and complex to consider making the project even more complex and expensive" by adding postexposure HIV prophylaxis.

— William R. Finger

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## IN MEMORIAM

It is with sadness that we note the untimely passing of Lynda Painter Cole, who most recently directed FHI's field operations for reproductive health programs. In recognition of her 24 years of leadership at FHI, the Lynda Cole Award of Excellence will be given annually to an outstanding FHI field staff member. She died December 15, 2000 at the age of 58.



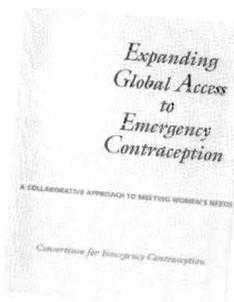
LYNDA COLE

# Resources

## EMERGENCY CONTRACEPTION MANUAL

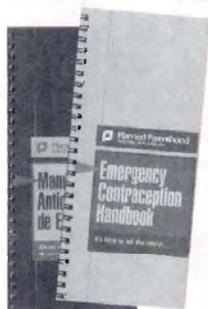
**E**xpanding Global Access to Emergency Contraception is a comprehensive manual produced through the Consortium for Emergency Contraception, a worldwide collaboration of reproductive health care experts.

Building community support and disseminating emergency contraception are among the topics. The manual also presents an overview of emergency contraception in seven developing world countries. *Expanding Global Access to Emergency Contraception* is available in English and at no cost. To order, please contact: Kimberly Evans, Program for Appropriate Technology in Health, 4 Nickerson Street, Suite 300, Seattle, WA 98109, USA. Telephone: (206) 285-3500. Fax: (206) 285-6619. E-mail: [kevans@path.org](mailto:kevans@path.org).



## EMERGENCY CONTRACEPTION OVERVIEW

**P**lanned Parenthood Federation of America has produced *Emergency Contraception Handbook*, available in English and Spanish. This compact but comprehensive handbook is intended for family planning providers but is also useful for pharmacists, health educators and others. *Emergency Contraception Handbook* includes such basic information as how emergency contraception works, and how and when to use it. Also included is information about regular methods of contraception. Cost: U.S. \$6.50 per copy, or U.S. \$5 each for orders of 12 or more copies. For information, please contact: [store@ppfa.org](mailto:store@ppfa.org). Copies may be ordered at <http://www.plannedparenthood.org/store/>.



## FHI EMERGENCY CONTRACEPTION MODULE

**E**ffective counseling, programmatic issues and procedures regarding the use of emergency contraceptive pills are discussed in a slide lecture module produced by FHI, part of FHI's *Contraceptive Technology Update Series*. Presentations are designed to inform physicians, nurses, medical students, program managers and policy-makers about specific contraceptive methods. The training module, available in English, Spanish or French, includes 35mm slides, a narrative, audience handouts and reprints of key scientific studies and other sources. A copy is free to developing-country providers and trainers upon written explanation of need, and may be purchased by others. For pricing details or to obtain a copy, please contact: Publications Coordinator, Family Health International, P.O. Box 13950, Research Triangle Park, NC 27709, USA. Telephone: (919) 544-7040. Fax: (919) 544-7261.

## FHI'S EMERGENCY CONTRACEPTION POSTER

**E**mergency Contraceptive Pills, an FHI wall poster (86 by 58 cm) intended for providers, offers basic information about the pills. This includes when the pills should be used, what clients should know about use and the recommended regimens for progestin-only pills and combined oral contraceptives. The poster is available at no cost in English, Spanish or French to developing country health workers. To obtain a copy, please contact: Publications Coordinator, Family Health International, P.O. Box 13950, Research Triangle Park, NC 27709, USA. Telephone: (919) 544-7040. Fax: (919) 544-7261.

