

Photo: Spanish Family Planning Association/Claudia Ferreira/Brazil



12 **SAFE** **ABORTION**

1 Introduction

Induced abortion is a common procedure throughout the world. It is estimated that 46 million procedures are performed each year, and out of those nearly 20 million are unsafe. About 67,000 of the pregnancy-related deaths that occur annually are attributed to unsafe abortion. Restrictive abortion legislation does not substantially reduce the overall number of abortions, but greatly increases the proportion performed unsafely.

Since the decision to seek an abortion usually results from an unwanted pregnancy, expanded and improved family planning services should be the highest priority to prevent such pregnancies and decrease recourse to abortion.

In circumstances where abortion is not against the law, health service providers should be trained and equipped to offer a safe and accessible service. Provision of, or referral for, abortion services is an essential part of women's sexual and reproductive healthcare: fulfilment of a woman's right to choice should be a high priority for such programmes. As with all sexual and reproductive health services, the client's right to confidentiality and privacy must be sustained.

1.1 Definition

An "abortion" is the termination of a pregnancy. It can be spontaneous (also called miscarriage) or induced. Abortion can be induced surgically (e.g., by vacuum aspiration, or dilation and curettage) or medically (e.g., using an antiprogestogen and/or prostaglandins), safely or unsafely. The World Health Organization (WHO) defines "unsafe abortion" as "a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimum medical standards, or both".

When trained health care providers with proper equipment, and correct technique and sanitary standards, perform induced abortion in early pregnancy, it is one of the safest medical procedures. Beyond 10 weeks since the last menstrual period (LMP) the health risks, while rare, rise slightly with each week of pregnancy. These risks include: incomplete or failed abortion, haemorrhage, infection, uterine perforation, anaesthesia-related complications, and long-term sequellae which sometimes follow the early complications.

Thus, efforts should be made to inform the public that abortion is safest when performed early, and women who seek abortion should be encouraged to attend as early in the pregnancy as possible, preferably before 12 weeks, and even 7 or 9 weeks (according to local guidelines) if medical abortion is used. Services should ensure there is minimum delay in the provision of abortion. Since the skill of the provider is fundamental to safe abortion, health personnel who offer abortion services must be properly trained. Those who work in services providing only early abortions must know about the facilities to which they can safely refer clients whose pregnancies are of longer duration. The techniques used after 12 weeks need specially trained providers, who can use dilation and evacuation, or mifepristone with repeated doses of prostaglandins such as misoprostol or gemeprost, or intra-amniotic injections of hypertonic solutions, or intra/extra-amniotic prostaglandins.

1.2 General indications

In almost all countries, abortion is legally permitted to save a woman's life. Other reasons, which permit abortions in a large number of countries, are:

- To preserve the physical or mental health of the woman.
- Pregnancy after rape or incest.
- Foetal impairment.
- Economic and social grounds.
- On request.

Where law permits, countries should provide safe and accessible services to women who request an abortion. Health care providers should make every effort to make full use of the law and translate it into practice, by providing services to the full extent the law permits.

1.3 Counselling and information

Many women will have decided firmly, before coming to the health service, that their pregnancy should be terminated. Some, however, will be uncertain whether or not to have an abortion, and be troubled by anxiety or guilt; adolescents, in particular, may lack support from partners or family. Although counselling must never be imposed, every woman contemplating abortion should have access to supportive empathetic

counselling responsive to her personal circumstances and cultural background. Providers, when counselling, should keep in mind:

- The reason for abortion. If coercion is suspected, this possibility should be discussed in private with the woman.
- The different options open to her, and the opportunities for assistance that exist in society. Victims of sexual abuse may need referral for additional care.

Even with counselling some women require extra time to come to a decision. After the woman has made up her mind she should be informed about the details of the procedure and the contraceptive choices:

- What will be done during and after the procedure, and the duration of the procedure.
- If medical, the drug regimen to be used, and the amount of bleeding and pain to be expected.
- If surgical, the procedure to be performed, including the medication for pain management, and the type of anaesthesia.
- The safety of the procedures.
- The immediate and late side-effects, and the possible complications.
- When she will be able to resume her normal activities, including sexual intercourse.
- The follow-up care.
- Contraceptive counselling, before abortion as well as at any follow-up visits. She should be informed that ovulation can return as early as two weeks after the abortion, and unless she uses an effective method of contraception she is at risk of becoming pregnant again. If she is seeking abortion because she thinks that it was a contraceptive failure, the provider should discuss and find out whether the pregnancy was due to incorrect use or method failure and advise her accordingly.
- The possibility of getting sterilized. However, the time of an abortion is not usually an ideal moment for a woman to make a major decision such as whether to be sterilized. Nevertheless, where a woman will have difficulty returning later for the procedure, sterilization by minilaparotomy or laparoscopy can be safely combined with the abortion.
- Encourage clients to ask all their questions and to express any fears.

2 Informed consent, confidentiality and privacy

Women who come for abortion should be treated with respect and understanding. Providers should be supportive to the clients and give them full information in a way that they can understand, so that they can make a choice about having or not having an abortion, free of inducement, coercion or discrimination.

Providers have a duty to protect clients' information against unauthorized disclosures, and to ensure that clients who do authorize release of their confidential information to others do so freely and on the basis of clear information. In some countries the provider cannot release medical information, even at the request of the patient.

Health providers should ensure that facilities provide privacy for conversation between clients and providers, as well as for the actual service.

3 Pre-abortion care

An appropriate clinical record form should be completed for each client to ensure that the essential elements of history and physical and laboratory examinations are collected and recorded.

3.1 History

In addition to the client's personal data, including number of children, the following information should be collected:

- Last normal menstrual period (LMP), to establish the duration of pregnancy (the number of completed days or weeks since the first day of the LMP). The risk associated with induced abortion increases with the duration of pregnancy, and the selection of the method will depend on it.
- Symptoms of early pregnancy (e.g., breast tenderness and engorgement, nausea, fatigue, changes in appetite, and increased frequency of urination) in clients where the LMP cannot be established accurately and the diagnosis of pregnancy has not been established.
- Past and present illnesses and other conditions that may affect provision of abortion (e.g., bleeding disorders).

- Allergies.
- Current medications that could interact with drugs used during the procedure or make the procedure risky (e.g., anticoagulation).

3.2 Physical examination

- General health of the client. It is important to ensure that there are no existing medical conditions that may increase the risk related to an abortion. If there is a serious medical condition, the client should be referred to a specialized facility where the risk can be reduced and complications can be treated properly.
- Bimanual pelvic examination to:
 - Confirm pregnancy. The signs of early (6-8 weeks) pregnancy include softening of the cervical isthmus, and softening and enlargement of the uterus.
 - Confirm that the size of the uterus corresponds to the duration of pregnancy. A smaller than expected uterus could be due to a pregnancy that is less advanced than estimated from date of LMP, an ectopic pregnancy, or a missed abortion. A larger than expected uterus may indicate pregnancy that is more advanced than calculated from the date of LMP, a multiple pregnancy, the presence of fibroids or a molar pregnancy.
 - Determine the position of the uterus; anteverted or retroverted or positioned in a way to affect assessment of the length of pregnancy or complicate a surgical abortion procedure.
 - Detect any signs of reproductive tract infections (RTIs) and sexually transmitted infections (STIs). The presence of any RTI or STI will increase the risk of post-abortion pelvic infection. When infection is clinically present or identified by screening, antibiotics should be started before the abortion is performed.

3.3 Laboratory testing

- Pregnancy test is not required unless the typical signs of pregnancy are not clearly present and the provider is unsure of the woman's pregnancy.
- Haemoglobin/haematocrit if physical examination suggests anaemia, or in areas where this condition is prevalent, to prepare the provider for prompt action should haemorrhage occur.

- Tests for ABO and Rhesus (Rh) blood groups typing when available, in case of complications that might require blood transfusion.
- Ultrasound for detection of ectopic pregnancy beyond 6 weeks. If ectopic pregnancy is suspected, it is essential to confirm diagnosis immediately and initiate treatment or transfer the woman to a facility where the diagnosis can be confirmed and treatment initiated.
- In facilities where Rh-immunoglobulin is routinely provided to Rh-negative women, it should be administered at the time of the abortion procedure. When medical methods are used it should be provided at the time of prostaglandin administration.
- Cervical cytology may be offered to women, especially in settings where there is a high prevalence of cervical cancer and STIs. However, accepting this service must never be a pre-condition for providing the abortion.
- HIV testing can be proposed, as well as other tests related to STIs or specific diseases.

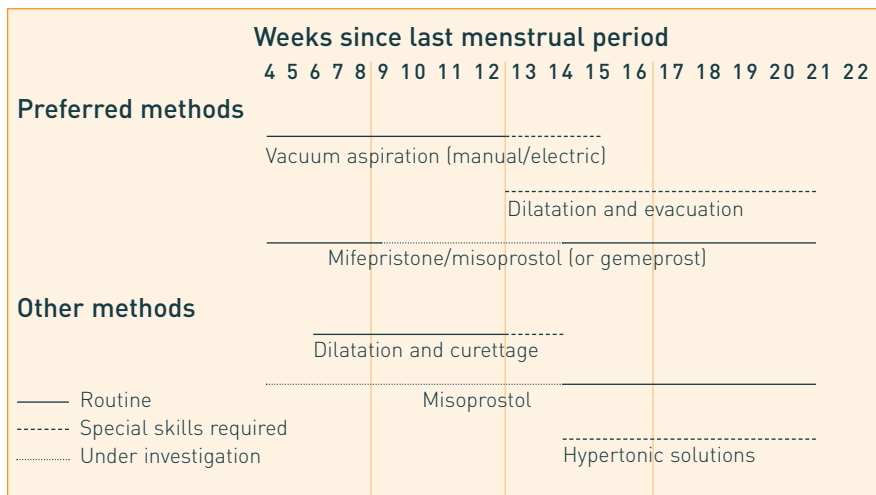
4 Methods of abortion

The method for inducing abortion will depend upon the duration of the pregnancy, the training and skills of the provider, the facilities available and the preference of the woman. In most cases, the gestation can be determined reliably from the date of the LMP and the findings on pelvic examination. Ultrasound investigation is necessary only when there is clinical doubt about the period of gestation or suspicion of ectopic pregnancy. Unless the woman has a serious pre-existing medical condition, or the chosen method requires an inpatient stay, both surgical and medical abortion should be done as outpatient procedures. Figure 12.1 illustrates the appropriate methods in relation to gestation duration.

4.1 Medical methods

The most widely used medical regimens to terminate pregnancy combine treatment with the antiprogestogen mifepristone and with a prostaglandin, such as misoprostol. Medical methods of abortion up to 9 weeks are safe and effective. From 9 to 14 weeks, surgical abortion is at present recommended since the efficacy of medical abortion with current dosage regimens is lower, blood loss is greater, and products of conception are more likely to be retained. Beyond 14 weeks, when the placenta tends to

Figure 12.1 Methods of abortion by weeks of pregnancy



be completely expelled, medical methods of inducing abortion offer a safe and effective alternative to surgical procedures. Fewer than 5% of women undergoing medical abortion will require surgical intervention for continuing pregnancy or incomplete abortion. Services that offer medical abortion must have access to facilities for surgical intervention.

Both early and late medical abortions involve the administration of mifepristone followed, after a variable interval (up to 48 hours), by a prostaglandin. After 14 weeks the prostaglandin usually needs to be given more than once.

An alternative to the prostaglandin/antiprogesterone combination after 14 weeks is the prostaglandin analogue misoprostol alone, although this seems less effective, slower to act, more painful, and more prone to gastrointestinal side-effects. Treatment regimens with misoprostol up to 14 weeks are under investigation because of the wide availability and low cost of this agent. In view of concerns about teratogenicity, women who choose misoprostol to induce abortion should be warned that, if it fails, abortion should be completed surgically.

The combination of methotrexate with a prostaglandin is not recommended since it is less effective than mifepristone/prostaglandin, the procedure is slow, and, again, there is concern about teratogenicity.

Some of the commonly used mifepristone plus prostaglandin regimens recommended by the WHO are shown in Box 12.1.

Side effects of medical methods include:

- Cramping and prolonged menstrual-like bleeding. Bleeding usually lasts for 9 days but can be prolonged for up to 45 days in rare cases.
- Nausea.
- Vomiting.
- Diarrhoea.

Box 12.1—Commonly used mifepristone plus prostaglandin regimens	
Up to 9 completed weeks since LMP	After 12 completed weeks since LMP
<p>200 mg mifepristone followed 36-48 hours by:</p> <p>1 mg vaginal gemeprost; <i>or</i></p> <p>800 µg vaginal misoprostol; <i>or</i></p> <p>400 µg oral misoprostol up to 7 completed weeks</p>	<p>200mg mifepristone followed after 36-48 hours by:</p> <p>1 mg vaginal gemeprost (repeated every 6 hours up to a maximum of 4 doses, and if necessary every 3 hours up to 4 additional doses); <i>or</i></p> <p>400 µg misoprostol orally every 3 hours up to 5 doses; <i>or</i></p> <p>800 µg vaginal misoprostol <i>followed by</i> 400 µg oral misoprostol every 3 hours up to a maximum of 4 doses</p>

4.2 Surgical methods

Who can perform surgical procedures?

These can be performed by a:

- Gynaecologist.
- Trained physician.
- Trained mid-level provider (only for vacuum aspiration), where legislation allows. Mid-level providers are non-physician clinicians (e.g., midwives, nurse practitioners, physician assistants).

Cervical preparation

Cervical preparation, or priming, is sometimes done before first-trimester surgical abortions to make the procedure easier and to reduce immediate complications. It is done by using osmotic dilators or pharmacological agents. It is recommended for women:

- Nulliparous with pregnancy over 9 completed weeks.
- Younger than 18 years.
- With pregnancy over 12 completed weeks.

Cervical preparation is also beneficial in women:

- With cervical anomalies.
- Who have had previous cervical surgery.
- Who have high risk of cervical injury or uterine perforation which may cause excessive bleeding.

Medication for pain

The pain threshold is variable and depends on age, length of pregnancy, previous vaginal delivery and fearfulness of the woman. Counselling and sympathetic treatment is likely to reduce women's fears and perceptions of pain. Presence of a family member also helps in alleviating her fears. However, medication for pain management should always be offered.

The following drugs can be used either singly or in combination:

- Analgesics to alleviate sensation of pain.
- Tranquillizers to reduce anxiety.
- Anaesthetics to numb physical sensation.

Anaesthesia

A paracervical block with a local anaesthetic such as lidocaine (lignocaine) should be used when mechanical cervical dilation is required to perform a surgical abortion procedure.

- Ensure that there are no known allergies to lidocaine or related drugs.
- Prepare 20 ml of 0.5% lidocaine solution without epinephrine.
- Inject beneath the cervical mucosa at the “four quadrant” positions around the cervix, taking care not to inject into a blood vessel.

The use of general anaesthesia is not recommended for abortion procedures, as it increases the clinical risks. However, some women may want general anaesthesia, and its use may be preferable in difficult procedures. Any facility that offers general anaesthesia must have skilled staff to administer it and to manage complications.

Surgical principles to ensure safety

Staff must be well trained in the techniques they are using, as well as in the early recognition and prompt management of complications.

- Facilities must be approved according to countries' licensing criteria.
- Infection prevention measures must be strictly followed (see chapter 15: Infection prevention and control).
- All instruments and equipment must be in good working order before the start of the surgical procedure.
- The facility must be well equipped with drugs and equipment to handle life-threatening situations and other emergencies.
- Approved medical and surgical guidelines and procedures must be strictly maintained.

Types of surgical techniques

- Vacuum aspiration.
- Dilatation and curettage.
- Dilatation and evacuation.
- Other methods.

Vacuum aspiration

Vacuum aspiration is a very safe procedure, which involves evacuating the contents of the uterus through a plastic or metal cannula attached to a vacuum source. The vacuum can be generated either by an electric pump or with a hand-held plastic 60-ml syringe. Available aspirators can accommodate different sizes of plastic cannulae, ranging from 4 to at least 12 mm in diameter.

It is the preferred surgical method up to 12 weeks since the LMP, and some skilled practitioners can do it safely at up to 15 weeks. A paracervical block or light sedation, or both, are required.

The cannula may be inserted

- Without cervical dilatation, if performed in early pregnancy (before 6 weeks).
- Cervical dilatation is usually required from 6 to < 9 weeks.

Cervical dilatation can be done with mechanical dilators or with osmotic hydrophilic dilators such as laminaria tents. A prostaglandin (such as misoprostol) and/or mifepristone can also be used to prepare the cervix.

Vacuum aspiration can be performed as an outpatient procedure. Women who have first trimester abortions with local anaesthesia can leave the health facility after observation for about 30 minutes in the recovery room. However, longer periods of observation may be necessary when abortion is performed in later pregnancy or when sedation or general anaesthesia has been used.

Dilatation and curettage (D&C)

Dilatation and curettage (D&C) involves dilating the cervix with mechanical dilators or pharmacological agents and using sharp metal curettes to scrape the walls of the uterus. It is less safe than vacuum aspiration and more painful. It is applicable for abortion up to 12 weeks, although specially skilled providers can do it up to 14 weeks. D&C should be used only where vacuum aspiration or a medical method is not available, since sharp curettage carries higher risks. Health service managers should make every effort to replace sharp curettage with vacuum aspiration.

Dilatation and evacuation

Dilatation and evacuation (D&E) is used from about 12 completed weeks of pregnancy. It requires preparing the cervix with mifepristone, or a prostaglandin such as misoprostol, or laminaria tents or a similar hydrophilic dilator, dilating the cervix and evacuating the uterus using electric vacuum aspiration with 14–16 mm diameter cannulae and forceps. Depending on the duration of pregnancy, adequate dilatation can require from 2 hours to a full day. D&E does require special skills and should be performed only in facilities where providers have skills and experience.

Other methods

The intra-amniotic or extra-amniotic instillation of various solutions is less safe and less effective than D&E and should be discouraged. Abdominal or vaginal hysterotomy is very seldom indicated for late abortion. Hysterectomy should be used only for women with a condition that would warrant the operation independently.

Tissue examination following surgical abortion

After the abortion procedure it is important to examine the products of conception. Examine the products for:

- Ensuring complete evacuation of the intrauterine pregnancy.
- Visual identification of products of conception, especially chorionic villi; their absence will signal an ectopic pregnancy.
- Ensuring that the contents of the aspirate confirm to the estimated length of the pregnancy to rule out incomplete abortion.
- Appearances suggestive of molar pregnancy.

Routine laboratory examination is not essential.

Instruments and supplies for manual vacuum aspiration*Basic supplies*

- Intravenous infusion set and fluids (sodium lactate, glucose, saline).
- Syringes (5, 10, 20 ml).

- Needles (22 gauge spinal for paracervical block; 21 gauge for drug administration).
- Sterile gloves (small, medium, large).
- Cotton swabs or gauge sponges.
- Water-based antiseptic solution (not alcohol-based).
- Detergent or soap.
- Clean water.
- Chlorine or glutaraldehyde for disinfection/decontamination.
- High-level disinfection or sterilization agent.

Instruments and equipment

- Vaginal speculum.
- Tenaculum.
- Sponge (ring) forceps or uterine packing forceps.
- Pratt or Dennison dilators: sizes 13 to 27 French.
- Container for antiseptic solution.
- Strainer (metal, glass, or gauze).
- Clear glass dish for tissue inspection.

Medications

- Analgesia medication (e.g., paracetamol [acetaminophen], ibuprofen, or pethidine).
- Anxiolytic medication (e.g., diazepam).
- Anaesthetic – chlorprocaine (1-2%) or lidocaine (0.5-2%) without epinephrine.
- Oxytocin 10 units or ergometrine 0.2 mg.

Vacuum aspirator instruments

- Vacuum aspirator.
- Flexible cannulae of different sizes.
- Adapters, if needed.
- Silicone for lubricating syringes, if needed.

5 Follow-up

5.1 Monitoring during recovery period

- Take vital signs while the patient is still on the treatment table.
- Allow the patient to rest comfortably where her recovery can be monitored.

After a surgical procedure

- Record pain as it may be due to uterine perforation or acute haematometry (blood filling the uterus).
- Size of uterus, particularly with late abortions: confirm the size through the abdominal wall, bimanually.

Most women can leave the facility as soon as they feel able to and their vital signs are normal. The drugs used for pain and anxiety management can cause dizziness: the woman should be accompanied or be very careful (falls in stairs and traffic accidents have been described).

After a medical procedure

- Keep the woman under clinical observation for 4-6 hours after taking a prostaglandin.
- Inspect all sanitary pads and bedpans used during the period of observation to confirm an abortion during this period.
- When abortion is done after 12 completed weeks of pregnancy, keep the woman under observation until both fetus and placenta have been expelled.

5.2 Instructions for care after abortion

Before the patient is discharged give her simple and clear oral and written instructions. Inform her:

- That a normal menstrual period should begin within 4-8 weeks.
- That she should not have intercourse or put anything into the vagina until a few days after bleeding stops (no sex, no douching, no tampons).
- That some uterine cramping over next few days may occur, which can be relieved by analgesics.

- That light menstrual bleeding or spotting may continue for several weeks if surgical abortion is done.
- Nausea, sometimes accompanied by vomiting, usually subsides within 24 hours after surgical methods.
- How to use any prescribed medications.
- What problems to look for and what to do about each of them (e.g., pain, bleeding).
- Where to go and whom to contact in case of emergency or for any other problem.
- When and where to return for follow-up.
- Her fertility will return soon after the procedure. Provide contraceptive counselling, and help her choose a method, if desired.

5.3 Signs and symptoms requiring urgent attention

- Prolonged bleeding (more than two weeks).
- Bleeding more than normal menstrual bleeding.
- Severe or increased pain; pelvic pain.
- Fever lasting more than one day; chills.

5.4 Management of abortion complications

All health delivery sites where abortion is performed should be adequately equipped and have trained personnel to recognize complications of abortion and to provide prompt treatment. If facilities are not available an efficient referral system should be in place.

Incomplete abortion

Incomplete abortion is more common with medical methods. It should be suspected if visual examination of the tissue aspirated during surgical procedure does not confirm to estimated duration of the pregnancy. Signs and symptoms include:

- Vaginal bleeding.
- Abdominal pain.
- Signs of infection.

Staff must be trained to re-evacuation of the uterus.

Failed abortion

Continuation of pregnancy as a result of failed abortion can occur with both surgical and medical methods. This will require a vacuum aspiration or D&E for second trimester pregnancies.

Haemorrhage

Haemorrhage can result from:

- Retained products of conception.
- Trauma to the cervix.
- Uterine perforation.

Provide appropriate treatment after the cause has been assessed.

Infection

Post-abortion infection is rare if abortion is performed properly under asepsis.

Symptoms include:

- Fever or chills.
- Foul-smelling vaginal or cervical discharge.
- Abdominal or pelvic pain.
- Prolonged vaginal bleeding or spotting.
- Uterine tenderness.
- Raised white blood cell count.

Provide antibiotics. If there is a likelihood of retained products of conception the uterus should be re-evacuated. Women with severe infection may need hospitalization.

Uterine perforation

Uterine perforation usually goes undetected and resolves without any need for intervention. However, when suspected the patient should be given antibiotics and observed.

Anaesthesia-related complications

Staff should be skilled in management of complications where general anaesthesia is used. Narcotic reversal agents should always be available.

Long-term sequelae

There is no evidence that having an uncomplicated abortion has any bearing on future fertility or causes adverse outcomes in subsequent pregnancies. The preponderance of evidence does not suggest an increased risk of breast cancer after induced abortion. Adverse psychological sequelae may occur in a small number of women and may be the continuation of pre-existing conditions. They seem to be more frequent when the woman cannot or does not want to discuss her experience with another person.

6 Contraceptive and STI counselling

Women should be given information and counselling on post-abortion contraception before they leave the health facility, and a method started, if desired.

- All methods of contraception including intrauterine device (IUD) and hormonal methods can be used as long as the woman fulfils eligibility criteria for the method.
- After second trimester abortion, diaphragm and cervical cap should not be used until about 6 weeks. IUDs should not be inserted immediately after second trimester abortion, due to high risk of expulsion.
- Fertility awareness-based methods should only be started three cycles after an abortion. Meanwhile, another method should be used, if desired.
- When sterilization is requested it should be ensured that the choice is not influenced by the crisis nature of the moment, to avoid later regret.

Providers should discuss with all women prevention of STIs, including HIV, and the importance of condom use regardless of the contraceptive method chosen. Voluntary testing for HIV and counselling for prevention of HIV/AIDS should be discussed, especially in women who are at a high risk or living in areas of known high risk.

Contraceptive methods should be available at the health site. If the method chosen by the woman is not available, she should be told where she can get it. In the meantime she should be given an interim method. All women should be informed about emergency contraception and consideration should be given to providing it in particular to women who choose not to start using a regular contraceptive method immediately.