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Post Abortion Care and Prevention of Maternal Mortality

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Abstract:

The reproductive health of women is a vital contributory factor to the overall health of any nation. Reproductive health is a state of complete physical, mental, and social well-being, and not merely the absence of illnesses or infirmity, reproductive health addresses the reproductive processes, functions, and systems at all stages of life. Maternal health refers to the health of women during pregnancy, childbirth, and the postpartum period. Around 26 to 53 million induced abortions occur worldwide annually, of this, about 20 million are unsafe abortions, resulting to about 70,000 maternal deaths worldwide annually, with 69,000 of them happening in developing countries. In Nigeria, it was discovered that as much 1.4million abortions are performed yearly, resulting in some 35,000 deaths yearly. Post abortion care is one of the most effective health interventions for preventing maternal morbidity and mortality. Therefore, this study examined how post abortion care could prevent maternal mortality.

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Introduction

Improving the health of women and children around the globe is a top priority for the international development community. Over the past two decades, child and maternal death rates have reduced by more than half; however, every year, 6.6 million children and nearly 300,000 mothers die from causes that are preventable (Akanbi, & Olawole-Isaac, 2020; Iacoella & Tirivayi 2019). Although innovative reproductive, maternal, newborn, child, and adolescent health (RMNCAH) interventions are helping to reduce preventable maternal and child deaths, sustained improvements to RMNCAH cannot be accomplished via individual intervention alone.

While maternal deaths globally declined by 44% between 1990 and 2015, approximately 800 women still die daily from preventable causes linked to pregnancy and childbirth. Maternal health is closely connected to newborn survival, as vulnerabilities to illness can pass from mother to child. More than one-fourth of girls and women in Sub-Saharan Africa cannot access family planning (FP) services, leading to unplanned pregnancies and maternal mortality and morbidity. Globally, 287,000 mothers die every year as a result of pregnancy, abortion and delivery related causes, mostly from developing countries (Bustreo, et al, 2020).

Yearly, Africa has the highest challenge of maternal mortality in the world, while Nigeria has high rate of maternal death figure in sub-Saharan Africa not only because Nigeria is densely populated but also because of her high maternal mortality ratio. Morbidity and mortality that are related to pregnancy and abortion are still unimaginably high; an estimated 303, 000 women died from pregnancy-related causes, Though, global maternal mortality and morbidity is on the lower trajectory, Sub-Sahara Africa and Asia are still at the receiving end with the duo of Nigeria and Indian contributing about 35% of total global figures. Nigeria alone contributes about 20% of worldwide maternal mortality and morbidity (WHO, 2020).

Abortions (especially induced unsafe abortions) contribute expressively to maternal morbidity and mortality. Around 26 to 53 million induced abortions happen yearly globally, of this, about 20 million are unsafe abortions, leading to about 70,000 maternal deaths worldwide annually, with 69,000 of them occurring in emerging countries (Emechebe et al., 2016). In Nigeria, it was estimated that as much 1.4million abortions are performed yearly, resulting in some 35,000 deaths yearly (Sultan, 2018).

Abortion implies the end of pregnancy before it finishes its term. It is the death or expulsion of the foetus either spontaneously or by induction before the 28th week of the pregnancy. According to Gemson, (2014) abortion entails the detachment, forcing out or expulsion of the incompletely developed foetus or embryo from the mother's womb before viability. Abortion always comes along with complications making post-abortion care very necessary.

Post-abortion Care means after-abortion care. This means care rendered to a woman following abortion. Addisse (2016), described post-abortion as offering contraception to a woman who has experienced an abortion complication as a way of preventing subsequent abortion. The above report recommended the requirement for administration of broad spectrum antibiotics intravenous fluids, and blood transfusion to prevent, infection, de-hydration and anaemia that may lead to maternal morbidity or mortality. In addition to the foregoing, mothers require obstetric and other maternal cares.

Concept of Abortion

Abortion is the surgical removal or evacuation of an undesirable pregnant embryo or fetus from the uterus, usually during the 20th week of pregnancy (World Health Organization, 2020). As a result, abortion is the termination of a pregnancy before the fetus is capable of surviving. Abortion continues to be one of the leading causes of maternal mortality and morbidity worldwide, particularly in Nigeria (Adinma, 2015). As a result, unintended pregnancies among teenagers and complications from induced abortions are a major public health concern around the world. Abortion is defined by Yakubu and Salisu (2018) as the termination of a pregnancy by removing an embryo or fetus from the uterus before it can survive outside the womb. Abortion is the deliberate and spontaneous removal of pregnancy tissue and products of conception from the uterus. Abortion is the removal or evacuation of an embryo or fetus from a pregnant woman. A miscarriage, also known as a "spontaneous abortion," is a spontaneous abortion that happens in about 30 percent to 40 percent of pregnancies. An induced abortion, or less commonly "induced miscarriage," is when intentional efforts are taken to terminate a pregnancy.

According to the World Health Organization (WHO), abortion is the termination of pregnancy prior to 20 weeks gestation or a fetus weighing less than 500g (WHO, 2017). It may arise from whatever cause before the fetus is capable of extra uterine life. Abortion can either be spontaneous or induced, and is one of the most important direct causes of maternal death, accounting for 12-40 % of overall global maternal deaths (Fatusi & Ijadunola, 2013). World Health Organization estimates that 56 million induced abortions occur annually the world over (WHO, 2019) 97 percent were performed in developing countries in Africa, Asia and Latin America and 3 percent in developed countries. Where abortion is legally allowed, safe and available, complications are uncommon. In countries where provision of abortion is restricted, however, or services are of low quality or inaccessible, women often resort to unsafe methods that result in complications, long-term health problems or even death (WHO, 2019).

Spontaneous abortion refers to those terminated pregnancies that happen without deliberate measures, before 20 weeks of gestation. In the first trimester, spontaneous abortions are common, often because of chromosomal or developmental anomalies where normal development of an embryo or fetus does not occur (WHO, 2018).

The types of spontaneous abortion may include:

i. **Threatened abortion**: Bleeding occurs in early pregnancy without the opening of the cervix and/or evacuation of the Products of Conception (POC). It resolves by itself with no medical treatment.
ii. **Inevitable abortion**: The cervix is open and POC are visible. The pregnancy will not continue and will proceed to incomplete or complete abortion.
iii. **Incomplete abortion**: POC are partially expelled.
iv. **Complete abortion**: POC are completely expelled.

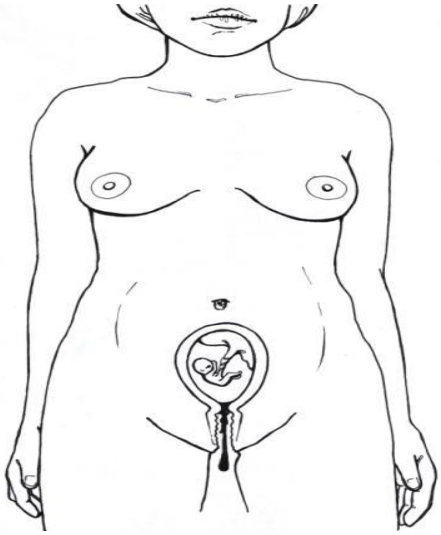

Figure 1- Threatened Abortion

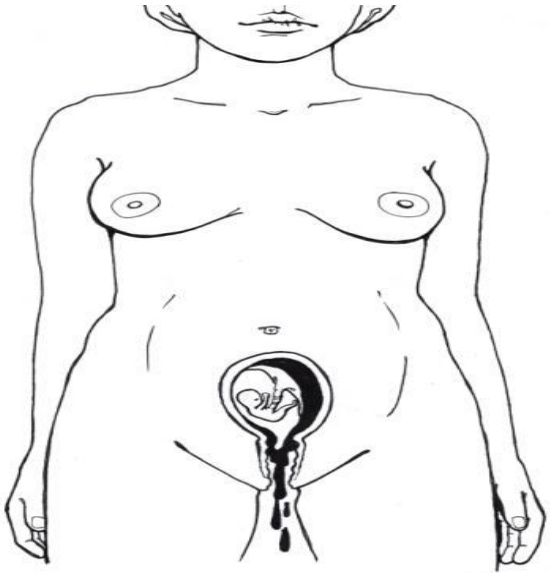

Figure 2- Inevitable abortion

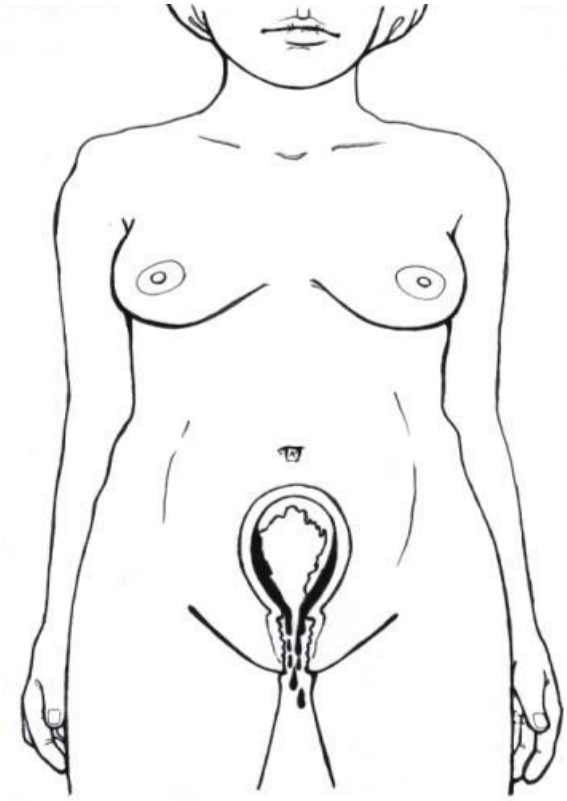

Figure 3- Incomplete Abortion

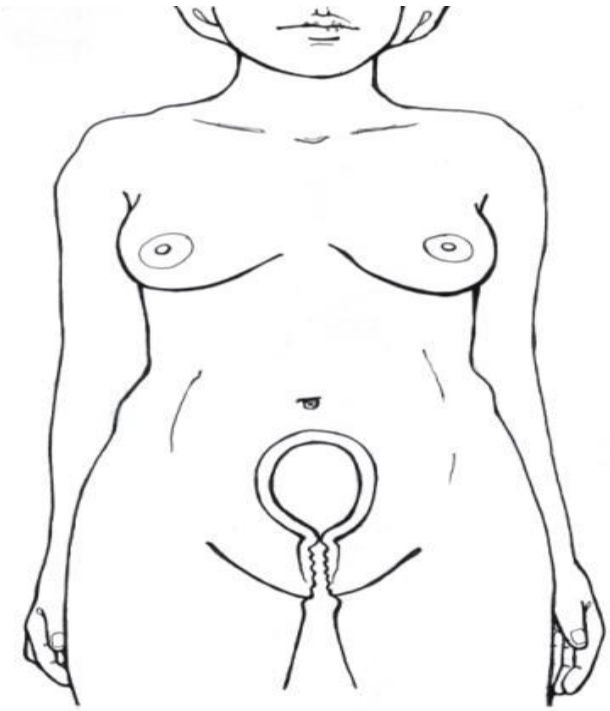

Figure 4 Complete Abortion

(Images grafted from Sedgh, et al 2016).

Other types of Abortion include:

1. Missed Abortion: This happen when there is retaining of a failed intrauterine pregnancy for a prolonged period of time, Closed cervical os, normal appearing early pregnancy symptoms, Nausea /vomiting, breast tenderness, amenorrhea and Uterus remains stationary in smaller size. The treatment is expectant management, medical or surgical treatment and risks of retained fetus like disseminated intravascular coagulation (DIC), septic abortion among others.
2. Recurrent Abortion refers to a situation when there are three or more consecutive spontaneous abortions. It can be linked with risk factors like genetic factors, autoimmune abnormalities (antiphospholipid syndrome), anatomic abnormalities (septate uteri, Asherman syndrome). Uterine anomalies e.g. bicornuate and septate uterus, operative hysteroscope and autoimmune abnormalities, antiphospholipid antibodies (heparin and low dose aspirin)
3. Induced Abortion: Induced abortion refers to as end of pregnancy via a deliberate intervention aimed at ending the pregnancy. Induced abortion can be done in either a safe or an unsafe setting according to legal and health policy guidelines, or even outside the health care system. Complications includes bleeding, uterine perforation, cervical laceration, hemorrhage, incomplete removal of products of conception, Infection, consequences for future pregnancies, increased 2nd trimester spontaneous abortion, or subsequent ectopic pregnancies are affected and multiple sharp curettage abortion – increased risk of placenta previa (WHO, 2017).
4. Septic abortion: Septic abortion is a spontaneous or induced abortion complicated by fever, endometritis, and parametritis leading to generalized infection or sepsis. It is often the result of an unsafe abortion.

Table 1: Clinical Features for Diagnosis of Abortion

Symptoms and Signs Typically Present	**Symptoms and Signs Sometimes Present**	**Probable Diagnosis**
Light bleeding* Closed cervix Uterus corresponds to date	Cramping Lower abdominal pain Uterus softer than normal	Threatened abortion
Heavy bleeding† Dilated cervix Uterus corresponds to dates	Cramping Lower pain in the abdomen Tender uterus No expulsion of POC	Inevitable abortion
Light bleeding Closed cervix Uterus smaller than dates Uterus softer than normal	Light cramping Lower pain in the abdomen History of expulsion of POC	Complete abortion
Heavy bleeding Dilated cervix Uterus smaller than dates	Cramping Lower abdominal pain Partial expulsion of POC	Incomplete abortion
Bleeding Dilated or closed cervix	Cramping Lower abdominal pain	Septic abortion

Uterus may or may not correspond to dates	Tender uterus POC may or may not be retained Fetus may be alive or dead High temperature	

Key: ***Light bleeding** takes longer than 5 minutes for a clean pad or cloth to be soaked.
† **Heavy bleeding** takes less than 5 minutes for a clean pad or cloth to be soaked.
Adapted from: Integrated Management of Pregnancy and Childbirth: Managing Complications in Pregnancy and Childbirth (WHO, 2017).

Concept of Post Abortion Care

Post abortion care (PAC) is a worldwide approach to solving the challenge of maternal death and morbidity arising from complications of abortion from both spontaneous and induced abortion. It consists of a series of medical and related interventions designed to manage the complications of abortion. The overall objective is to reduce maternal morbidity and mortality from abortion and its complications, and to improve women's sexual and reproductive health and lives (Adinma, 2010b).

PAC is considered a vital component of emergency obstetrical care services because it is one of the main causes of maternal mortality and morbidity and it is more than just an abortion procedure. Its comprehensive approach comprises of:

i. Counseling and services for safe abortion
ii. Contraceptive counseling and method provision
iii. Other reproductive health services, or links to such services, such as diagnosis and treatment of sexually transmitted infections (STIs) or addressing the needs of women subjected to violence.

Post abortion contraception can assist women break the cycle of unprotected sex, unintended or unwanted pregnancy, abortion, and deal with many issues related to contraception and sexual health. For many women, seeking health care for an unwanted pregnancy may be one of the rare occasions they have contact with the health care system. Connecting abortion services with other reproductive health services aids women to improve their overall health by providing an opportunity for them to receive other needed care. Providing high-quality abortion care requires attention to several aspects of services in addition to the clinical or technical competence of health care providers. Also a significant are the use of appropriate abortion technology and the availability of equipment, supplies and medications necessary to use the technology safely (Vibeke, 2011).

It is defined as an approach for reducing mortality and morbidity from incomplete and unsafe abortion and resulting complications, and for improving women's sexual and reproductive health and lives (Sedgh, et al., 2016). Post-abortal care is the package of care needed to provide quality services following spontaneous abortion and unsafe abortion. Post-abortal care services should include both medical and preventive care (Maranhao, et al 2019).The role of safe abortion services is the improvement of women's health, in all cases women should have access to quality services for the treatment of complications arising from abortion.

PAC is women-focused and it is an all-encompassing approach to meeting each woman's medical and psychosocial needs at the time of treatment for abortion complications. In course of providing women centered post abortion care by health care workers, factors influencing women's need for and access to care such as personal circumstances and living conditions are taken into cognizance to ensure quality service delivery.

PAC has been widely acceptable in developing countries as a vital tool in the tackle of maternal mortality from abortion. In countries like Nigeria and Ghana, and many other developing countries of Asia, middle level providers especially Nurse-Midwives have been trained on PAC and have been employed widely in the provision of abortion treatment services especially in rural areas. In Nigeria, Medical Practitioners and Nurse-Midwives in the private and public health facilities are being trained on the practice of PAC with tremendous success. PAC has also been incorporated by the Nursing and Midwifery Council of Nigeria into the training curriculum of midwifery in Nigeria. PAC training programmes however still need to be better streamlined and more intensified. In a survey of 437 health practitioners in southeastern Nigeria, comprising mostly of Doctors and Nurse-Midwives, as high as 75.5% of the respondents were aware of PAC, although only 35.5% used manual vacuum aspirator (MVA) (Adinma et al., 2010). In a related survey of 431 health care professionals in the same area, only 41% had been trained on PAC counseling (Adinma et al., 2010a, 2010b). These attest to the need for the intensification of PAC training programmes to expand the provision of PAC services to all parts of the country.

The original PAC model consisted of three elements drawn specifically from health care delivery providers perspective without taking due cognizance of the need to accommodate the psychological and physical feelings of the client as well as the community who are the beneficiaries of the services. The three elements of the original PAC model include the following:

1. Emergency treatment services for complications of spontaneous or unsafe induced abortions.
2. Post abortion family planning counseling and services.
3. Connections between emergency abortion treatment services and comprehensive reproductive health care provider perspective.

However, in 2001, the PAC Community Task Force expanded the model to five elements, targeted at providing the necessary tools for sustainable PAC services by ensuring they are more client-oriented. The five elements are:

1. Community and service providers' partnership for prevention of unwanted pregnancy and unsafe abortion in addition to the mobilization of resources and making sure that the services show and meet community expectations and needs.
2. Counseling to recognize and attend to women's emotional and physical health demands and other concerns.
3. Treatment of incomplete and unsafe abortion and its complications including the use of manual vacuum aspirator (MVA).
4. Contraceptive and family planning services to assist women prevent an unwanted pregnancy or practice birth spacing.

5. Connection to reproductive and other health services that are preferably provided on-site or via referrals to other accessible facilities in the providers' networks.

WHO Guidelines for Post Abortion Care

1. Every woman seeking PAC care should obtain supportive and compassionate care responsive to her circumstances. Care should entail counseling about contraception. In every circumstance, the woman must understand the nature of the proposed procedure, including pain relief, possible immediate effects, and future side effects, as well as potential complications. It is essential to get informed consent from the woman and maintain confidentiality. Counseling for adolescents requires special skills, care, and attention.
2. All women have the right to access quality care from health care providers who are qualified to perform PAC procedures, as well as to identify and manage their complications.
3. A diagnosis of abortion complications must be considered in any woman of reproductive age who has missed her period and has one or more of the following: bleeding, cramping, partial expulsion of Product of conception (POC), dilated cervix, or smaller uterus than expected.
4. The possibility of complications because of unsafe abortion must be assessed:
   a. Injury to internal organs from pressure applied to the abdomen.
   b. Permanent damage to organs of reproduction and the vagina which hinders further sexual relations.
   c. Permanent damage to bladder or bowel which causes chronic problems with elimination.
   d. Permanent infertility
   e. Death from complications including infection and hemorrhage
5. Differential diagnosis must be considered. The most common differential diagnosis for ectopic pregnancy is threatened abortion. Others are acute or chronic pelvic inflammatory disease, ovarian cysts, and acute appendicitis.
6. Health care workers have to expedite appropriate means for managing unsafe abortion. These entail providing treatment for or referring women who present with signs of inevitable, incomplete, and septic abortions. Women with incomplete abortion, either spontaneous or induced, can be treated safely and effectively with procedures like manual vacuum aspiration (MVA).
7. In all cases, health care providers must rapidly evaluate the women's general condition including vital signs (pulse, blood pressure, respiration, and temperature). The woman may go in to shock because her status may worsen rapidly. If unsafe abortion is suspected, check for signs of infection or uterine, vaginal, or bowel injury. Thoroughly irrigate the vagina, without pressure, to remove any herbs, local medications, or caustic substances.

Ask for help as required, proceed to MVA, and/or refer woman without delay. Ensure the confidentiality of the entire procedure, especially in countries where abortion is illegal. All interventions performed should remain confidential at all times. Do NOT chart the information that could potentially be used against the woman (WHO, 2017).

Post Abortion Care Processes

Settings and Providers

Safe abortion care can and should be provided in a wide range of settings. Abortion services should be accessible to women via the public health system, which may include hospitals, community health centers or mobile health services, private maternity homes and private clinics dedicated to abortion and contraceptive services. The setting(s) in which abortion care is provided and the range of services that are offered are interrelated; for instance, second-trimester dilation and evacuation (D&E) procedures are typically limited to hospitals or specialized clinics where staff, facilities and equipment are available to address the particular demands of this procedure (Vibeke, 2011).

Abortion is provided by different kinds of health care providers, depending on laws and policies, facility regulations and local practice. In different places, doctors, midwives, nurses, physician assistants, community health officers, medical residents and others all may provide abortions. Just as the type of facility may determine what type of abortion services can be made available, different cadres of health care providers may be authorized or trained to provide different types of abortion services. To expand the availability of safe and comprehensive abortion care services, it is important to define what constitutes a full range of such services, as well as to recognize the steps involved in planning for, establishing and sustaining high-quality abortion services (Adinma, 2015).

Key elements of planning for implementation of abortion services include:

i. improving the availability and quality of abortion care
ii. increasing access to a range of abortion technologies and services
iii. increasing key stakeholders' commitment to sustaining such services

Additionally, it is vital to connect abortion services with client-centered counseling and information and education programs focused on clients' needs and perspectives.

Providing Services

Different settings provide different abortion methods and different configurations of other reproductive health services, hinged on the availability of resources and the local population's demands. However, all settings should attempt to provide the highest quality, most comprehensive services possible. Attention to quality is critical not only in the area of technical competence, but also for other aspects of service delivery, including counseling, client/provider interaction and accessibility.

Some women seeking abortion care do not want to become pregnant again immediately. Providers' responsibility is not only to provide high-quality abortion services, but also to help clients break the cycle of unintended pregnancy and abortion by providing or referring women to high-quality services for contraceptive counseling and method provision. Providers and other health care workers should also provide or help link women to any other reproductive health care that they require or desire, such as general gynecological care; information on prevention and identification of STIs; testing and treatment of STIs including HIV; other services for HIV-positive clients; domestic violence prevention and counseling; breast cancer information and screening; and information on infant care for women with young children. If not offered at the abortion site, such services should be conveniently located and accessible through referral networks.

Post Abortion Care Practices

The following present general protocol for ensuring the provision of high quality abortion services:

Pre-abortion counseling and physical assessment

Maintain physical and acoustic privacy during all counseling. Encourage the client to ask questions, ventilate fears or express concerns, and respond patiently and in language that she can understand. All counseling and subsequent care should be done in respect to the woman's needs and without expressing verbal or non-verbal judgment on the woman. Everything the client says should be treated confidentially.

1. Information and counseling: Give her information on all available methods for which she is entitled and help her pick the one that best suits her needs, wishes and circumstances. Explain possible complications, as well as what will happen if an ectopic pregnancy is detected. Describe what will happen during the procedure, including what she can encounter. Follow all informed-consent protocols to make sure that she understands what is going to happen and still wants to have the abortion.
2. Physical assessment: This step needs to be integrated with provision of information and counseling — for example, the healthcare provider needs to determine the duration of the pregnancy before offering a choice of abortion methods. Assessment should include taking a health history, screening for contraindications and, in some settings, testing for Rhesus factor (Rh) and hemoglobin (Hgb).

Things to consider during counseling and assessment

i. Remember that many women are accustomed to relying on health workers' expert advice when making health decisions. The client may, therefore, give undue weight to any opinion that you offer about her choices. Help her clarify and express her own preferences by asking questions.
ii. Ask the client if she has someone with her and would like that person to be present during the counseling and/or procedure, if clinical protocols allow it.
iii. Do as much of the counseling and take as much of the client's medical history as possible before she undresses for the clinical assessment – she will probably be more comfortable dressed and sitting.

Contraceptive Counseling and Referral Services

Counselors may start discussing contraception at any point during a woman's visit to the clinic; the most feasible or appropriate time will depend in part on clinic flow. It is best to discuss and offer contraceptive methods both before and after the abortion procedure. Commence by informing the woman that she can become pregnant again almost immediately after an abortion, and that most modern contraceptive methods can be started immediately after a safe, uncomplicated abortion. It is best to provide this information before the procedure and to reinforce it afterward to help her choose the method that best suits her needs. It is vital to tell the woman about emergency contraception, including how to use it and where to get it. Enquire from the woman about her future reproductive plans in a manner appropriate for her age. If she wants to delay further pregnancies for a period of time or possibly permanently, make sure she is familiar with the methods available. Ask if she has used contraceptive methods previously and how those methods worked for her.

Ensure she knows how to use any contraceptive method she consents or has an appointment to obtain her selected method before she leaves your care. If she cannot receive her chosen method immediately, make sure she leaves with a temporary one (for example, male or female condoms and spermicide). In helping the woman decide which method may be most appropriate for her, be sure to discuss the risk of STIs.

If contraceptive services are provided separately from abortion services, try to coordinate the two services so both are available on the same day and in close physical proximity – preferably in the same clinic or part of the hospital.

Encourage the woman to include her partner or a trusted family member in reproductive and contraceptive decision-making. Having support from a partner or family member increases the likelihood that she will use the method consistently.

Provide the client with information about risk factors for STIs and HIV, and help determine if her sexual history may put her at risk. Discuss how to prevent infection, and provide condoms if she wants them. If the client has not been tested recently and would like to be, explain what that will involve and arrange testing; if it is not available at your site, provide a referral. Also, try to determine the date of the woman's last screening for cervical cancer; if screening is required, explain the procedure to her and perform it or make an appointment or a referral.

Things to consider during contraceptive and other counseling

i. If a woman is HIV-positive, she will need information on how to avoid transmitting the virus to others, as well as referrals to medical care and support groups, where available. Similar information should be available for women with genital herpes. Women whose cervical cancer screenings indicate cancerous cells must receive follow-up care and a referral to a specialist.
ii. Many women have inaccurate information about contraception and other aspects of reproductive health. It is significant to identify and dispel any misconceptions before the client makes a decision about contraception or other reproductive health services.

Recovery and follow-up

Recovery time and follow-up care vary depending on the method of abortion, the duration of pregnancy and the individual woman. After surgical abortion, most women will need to remain under observation at the health care facility for only a short time, returning for a follow-up examination in 2-4 weeks. In many cases, abortion induced by medical methods may not be completed before women leave the health facility. In such cases, providers need to ensure that the woman knows how to contact them for reassurance or needed care in the days or weeks after initiation of medical abortion.

i. Recovery time: Let the client rest in a quiet place set aside for recovery. For uncomplicated early surgical abortions, an hour of recovery time is usually sufficient. Average recovery time is longer for surgical abortions performed later in pregnancy and with heavy sedation or general anesthesia. Protocols that demand women to stay at the facility longer than is medically necessary increase costs to clients and to the facility and should be revised.
ii. Before departure: Before releasing a client who has had either a surgical or medical abortion, ensure that her vital functions (pulse, blood pressure, etc.) are stable, that

vaginal bleeding is not excessive, and that she can walk comfortably and drink fluids without vomiting.

Contraceptive counseling and emergency contraception

In addition to ensuring that the client obtains the contraceptive method of her choice or schedules an appointment to do so before she leaves the facility, give her a supply of emergency contraception and explain what it is, how it works and when to use it. If distribution of the method is not possible on-site, tell her where she can get it.

Referrals

Assess the client's needs for other reproductive health care or social services, including testing and treatment for STIs and cervical cancer and support services for women subject to sexual or domestic violence.

Follow-up

Depending on clinic protocols and on the method of abortion, women may be encouraged or required to return for a follow-up visit 2-4 weeks later to confirm completion of the abortion. As discussed previously, this step is especially important for women who have had a medical abortion, since exposure to the pharmaceutical agents used may pose a risk to ongoing pregnancy. A follow-up appointment may also be important if the client needs more contraceptive counseling or methods, or if she requires referrals for any other reproductive health needs that she may have realized in the interim.

Give women verbal and written instructions on ways to care for themselves after they leave the facility, including how to recognize signs and symptoms of complications requiring emergency attention, and when they may resume normal activities, including sexual intercourse. Offer clear guidance about when and how to contact health care personnel for emergency attention. If possible, arrange for someone on the clinic staff to be available on a 24-hour basis; otherwise make alternative arrangements to make sure that a health care professional is always available to respond to women's concerns.

Conclusion

The contribution of abortion to high maternal mortality in developing countries has made PAC services progressively relevant particularly in these areas. PAC, for its individualized approach and simplicity of application have been found to be attractive even to middle level health care providers who are readily available in rural areas without the benefit of the services of doctors. The impact of PAC towards maternal mortality reduction is likely to become evident when a wide coverage of the services is achieved in countries where they are needed. This can be possible when such countries put in place a well packaged PAC training programme made available to all health care practitioners treating abortion to ensure quality services.

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