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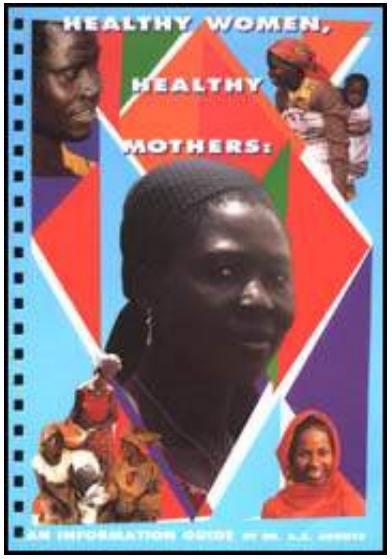

Healthy Women, Healthy Mothers - An Information Guide - Second Edition (FCI, 1995, 241 p.)

GLOSSARY

Abdomen: The part of the body below the chest that contains the stomach, liver, bladder, and reproductive organs.

Abnormal lie or presentation: When the baby is not lying in the womb with the head pointed downwards at the time of delivery. The most common abnormal presentation is *breech.*

Abortion: The ending of a pregnancy before the *foetus* is able to live outside the mother's body. It can happen anytime up to the 26th week of pregnancy, but usually happens before the 12th week. It can happen on its own (spontaneous abortion or "miscarriage"), or it can be caused by an operation or procedure (induced abortion).

Adolescence: The period between childhood and adulthood, usually considered ages 10-12 to 18-19.

Afterbirth: see *placenta.*

AIDS (Acquired Immune Deficiency Syndrome): An incurable disease caused by a virus called HIV *(human immunodeficiency virus).* It affects the blood, making the body unable to fight against other diseases. It can be transmitted during *sexual intercourse,* from mother to infant during pregnancy, or by getting infected blood in the body (for example, during a *blood transfusion*).

Albinism: A condition in which a person lacks pigmentation, so the skin is white, the hair is white or light yellow, and the eyes are blue. It is inherited by a child from the parents.

Amniocentesis: Removal of *amniotic fluid* by inserting a needle through a woman's *abdomen* into the *bag of water* that surrounds the baby. The fluid is tested to detect abnormalities in the baby.

Amniotic fluid: The fluid that surrounds and protects the baby inside the womb before it is born.

Anaemia: A condition in which the blood gets thin and does not have enough red blood cells to carry oxygen to the parts of the body. It is often caused by lack of iron in the diet. Signs include tiredness; pale gums, tongue, eyelids, palms and soles of the feet; and lack of energy.

Anaesthesia: Drugs used to put people to sleep or to make part of the body numb so that they will not feel any pain or discomfort during an operation.

Anovulation: Failure to *ovulate* or release an *egg.* Anovulation is a cause of *infertility,* since pregnancy cannot take place if no egg is released.

Antibody: A substance produced in the body to fight against organisms (germs) that cause diseases.

Areola: The dark-coloured skin around the nipple.

Bacterial vaginosis (BV): An infection caused by germs in the *vagina,* characterised by bad-smelling, grayish discharge from the vagina.

Bag of water: The sac inside the womb that holds the *amniotic fluid* and the *foetus.*

Barrier method: A method of family planning that involves using a device, such as a *condom* or *diaphragm,* to prevent the *sperm* and *egg* from uniting.

Birth canal: See *vagina.*

Bladder: The organ in which *urine is* stored before leaving the body.

Blood transfusion: The replacement of blood in a body by injecting blood from another person into the veins. It is often needed after *haemorrhage,* or in severe cases of *anaemia.*

Breech presentation: When the baby is lying with the buttocks or feet lowest in the womb, so that the buttocks or feet come out first rather than the head.

Caesarean section: An operation in which a baby is delivered by cutting open the *abdomen* and womb and removing the baby and the *placenta.* The womb and abdomen are then sewn closed.

Candidiasis: An infection that occurs when bacteria or germs in the *vagina* grow out of control. Signs are increased fluid from the vagina and itching.

Carbohydrates: Substances in food that provide energy for the body; they include sugars and starches.

Cervical cancer: A disease that causes the cells of the *cervix* to grow abnormally. If not treated, it can cause death. Signs include irregular bleeding from the *vagina,* such as bleeding after *menopause* or after *sexual intercourse.*

Cervical cap: A small rubber cup placed by a woman over her *cervix* before *sexual intercourse* to prevent pregnancy. It is smaller than a *diaphragm.*

Cervical dilatation: The process through which labour *contractions* cause the *cervix* to open to ten centimetres so that the baby can pass out of the womb and be born. Dilatation occurs during the first stage of *labour.*

Cervical effacement: The process through which labour *contractions* cause the *cervix* to get very thin. It accompanies *dilatation.*

Cervix: The opening or neck of the womb.

Chancroid: A *sexually transmitted disease* that causes painful sores in the *genital* area.

Chlamydia: A *sexually transmitted disease* that may cause painful urination and discharge from the *penis* (in men) or from the *vagina* (in women).

Chromosomes: Structures found in each cell in the human body that determine what the body looks like. Each cell contains 46 chromosomes, except for the reproductive cells, the *sperm* and the *egg,* which contain 23 chromosomes each.

Circumcision: The removal of the foreskin of a man's *penis.* For female circumcision, see *female genital mutilation.*

Clitoris: The small, oval organ in a woman's *vulva* that gives a woman the sensation of sexual excitement and pleasure.

Colostrum: A thick yellowish liquid produced by the breast the first 2-3 days after birth, before breast milk starts coming out. It contains *protein* and *antibodies,* and is very good for babies.

Coma: Complete loss of consciousness, like a deep sleep from which a person cannot be woken up. It can be the result of a wide variety of serious medical complications.

Condom: A rubber sheath that covers the *penis* during *sexual intercourse* to prevent the *semen* from entering the *vagina.* It is used to prevent pregnancy and the spread of *sexually transmitted diseases.*

Contraception: Any method a man or woman uses to prevent pregnancy.

Contraceptive sponge: A small sponge containing *spermicide* that is placed inside the *vagina* before *sexual intercourse* to prevent pregnancy.

Contractions: Squeezing or tightening of the muscles of the womb. Contractions push the baby out of the womb during delivery. Regular, strong contractions are the most reliable sign that *labour* is beginning.

Depo-Provera: See *injectable contraceptives.*

Diabetes: A disease in which the body is unable to use sugar properly. Signs of the disease are sugar in the *urine,* urinating a lot, feeling very thirsty, and eating too much. If untreated, it can cause weakness, headache, vomiting, coma, and finally death.

Diaphragm: A flexible rubber cup that a woman puts over her *cervix* before *sexual intercourse* to prevent pregnancy.

Dilatation: See *cervical dilatation.*

Douche: Washing out the inside of the *vagina* with a liquid.

Down's syndrome: A serious condition that a baby may be born with, characterised by mental retardation, slanted eyes, and a broad, short forehead.

Eclampsia: Sudden fits or convulsions which may lead to *coma,* especially during late pregnancy or after childbirth. One out of 200 patients with *pre-eclampsia* will develop eclampsia. Signs that fits may develop include severe headaches, dizziness, and seeing spots or flashing lights.

Ectopic pregnancy: Implantation and development of a fertilised *egg* outside the womb, usually in the *fallopian tubes.* Often results in spontaneous *abortion,* and can cause severe bleeding or death.

Egg: A cell which, when released from a woman's *ovary,* may be fertilised by a man's *sperm.* A fertilised egg grows to become a human baby.

Ejaculation: The expulsion *of semen* from the *penis* at the climax of *sexual intercourse.*

Embryo: The name for a baby in the very early stages of development, usually between the second and eighth weeks of pregnancy.

Endometrium: The inside lining of the womb. After *fertilisation,* the *egg* attaches itself to the endometrium and develops. The endometrial lining is what is shed during *menstruation.*

Episiotomy: A small cut sometimes made by the doctor or midwife in the outside

entrance to the *vagina* at the very end of *labour.* The cut allows the baby to come out more quickly or more easily.

Erection: When blood is pumped into the *penis* during sexual excitement, making it stiff and erect.

Expected date of delivery (EDD): The date when a baby is expected to be born. This date falls on the fortieth week of pregnancy, starting from the first day of the last *menstrual period.*

Fallopian tubes: The tubes that connect the two *ovaries* to the womb. *Eggs* must pass through the tubes to reach the womb, and the *sperm* must enter the tubes in order to fertilise the eggs.

False labour: *Contractions* of the womb that may feel like *labour* pains. However, they do not last and do not become increasingly painful and regular.

Female condom: A rubber sheath with two flexible rings that is placed inside the *vagina* before *sexual intercourse* and protects against pregnancy and *sexually transmitted diseases.*

Female genital mutilation: A traditional practice in which all or part of the external reproductive organs of the female are removed.

Fertile period: The 3-4 days during a woman's *menstrual cycle* when she can become pregnant.

Fertilisation: The joining of a woman's *egg* with a man's *sperm* inside a *fallopian*

tube.

Fibroids: Unusual growths inside the womb. If they grow too rapidly or if there are many of them, they can cause problems such as too much bleeding during *menstruation,* or premature *labour.*

Fistula: A hole that develops between the *vagina* and the rectum or *bladder,* often as a result of *obstructed labour.*

Foetoscope: A special stethoscope that is used to listen to a baby's heartbeat during pregnancy.

Foetus: The term for a baby in the womb from the third month of pregnancy until birth.

Forceps: Instruments sometimes used during delivery to grasp the baby's head and help pull it out of the birth canal.

Genital warts: fleshy growths in the *genital* area caused by a *sexually transmitted disease.*

Genitals: The external sexual organs of a man *(penis, testes)* and woman *(vulva).*

Gestation: The process of carrying a developing *foetus* in the womb; pregnancy.

Gonorrhoea: A *sexually transmitted disease* that can cause discharge from the *vagina* or *penis.*

Haemoglobin test: A test that indicates whether or not a woman is *anaemic* by measuring the amount of iron in her blood.

Haemorrhage: Heavy bleeding.

Haemorrhoids: *Varicose veins* of the rectum. They are common during the later stages of pregnancy. Avoiding constipation by eating lots of fruits and vegetables and drinking lots of water can help prevent haemorrhoids.

Hepatitis A (infectious): A disease of the liver that can be easily transmitted from one person to another through contact with faeces (stool). The symptoms include pain and swelling in the liver, fever, general aches, vomiting, and *jaundice.*

Hepatitis B (viral): A disease that is transmitted through blood or body fluids which has no known cure. A person infected with this disease may experience severe liver damage and die, or may remain a relatively healthy carrier of the disease.

Herpes: An infection that causes small painful blisters, usually on or around the *genitals* or around the mouth. There is no cure for the infection. It can only be transmitted during or immediately before an outbreak of blisters, which come and go.

Hormones: Chemicals produced by the body to do a special job. For example, *oestrogen* and *progesterone* are hormones that regulate a woman's *menstrual cycle* and the changes in her reproductive organs during pregnancy.

Human Immunodeficiency Virus (HIV): The virus that causes the incurable disease

AIDS. The virus is transmitted through contact with the blood, *semen,* or vaginal fluids of an infected person. The virus destroys the body's ability to fight infections.

Hypertension: High blood pressure. It can be caused by various diseases, including heart disease, kidney disease, and *pre-eclampsia.*

Implantation: The process by which a fertilised *egg* attaches itself to the inside of the womb.

Induction of labour: Using medication or rupturing the *bag of water* which surrounds the baby in order to start *labour* artificially. This procedure is done only if the mother or baby would be endangered by continuing the pregnancy.

Infertility: The inability to become pregnant.

Injectable contraceptives: *Hormones* that are injected into a woman's arm or buttocks every two or three months to prevent pregnancy.

Intrauterine device (IUD): A small device placed inside a woman's womb to prevent pregnancy.

Involution: The return of the womb to normal size after childbirth.

Jaundice: A yellow colour of the eyes. It is a sign of disease in the liver, blood, or other organs.

Labia: The inner ("labia minora") and outer ("labia majora") lips of the *vagina.*

Labour: The process by which a baby is born, especially the *contractions* of the womb that push out the baby and the *placenta.*

Laparoscopy: A surgical operation in which a small cut is made in a woman's *abdomen,* and a special instrument is used to look at her reproductive organs.

Last menstrual period (LMP): The last normal period before a pregnancy. Often used to calculate the *expected date of delivery (EDD).*

Lie of the foetus: The direction of the *foetus's* body inside the womb; see *transverse lie.*

Lochia: The discharge (fluid) that comes from the womb after delivery. It consists of blood, mucus, and tissue.

Malaria: A disease that is transmitted by the bites of mosquitoes. Signs of the disease are high fever, headaches, and sometimes vomiting. Malaria can cause *anaemia* and other complications during pregnancy.

Mastitis: An infection of the breast, usually in the first weeks or months of nursing a baby. It causes part of the breast to become hot, red, and swollen.

Meconium: A baby's first bowel movement.

Menarche: The first *menstrual period.* It usually occurs between the ages of 12 and 15, although it can happen as early as nine years or as late as 17 years.

Menopause: The time when a woman stops having monthly periods, usually

between the ages of 45 and 55.

Menstrual cycle: From the start of one *menstrual period* to the start of the next, usually about 28 days. Various changes occur in the *ovaries* and the womb during the menstrual cycle, caused by *hormones.*

Menstruation or menstrual period: The flow of blood and tissue from the womb, usually occurring once a month. The flow usually lasts 3-7 days. Menstruation starts at *menarche* around age 12-15, and ends with *menopause* at around age 45-55.

Minerals: Substances such as iron that are found in the body and are essential for body functions and the growth of the baby. As they are used by the body, they must be replaced by eating foods that provide minerals.

Miscarriage: see *abortion (spontaneous).*

Morning sickness: The feeling of nausea that women often feel during the first 12 weeks or so of pregnancy; it can last all day.

Obstructed labour: *Labour* is obstructed when the baby cannot be delivered through the birth canal without serious damage to the mother or the baby. It can happen if the mother's birth canal is too small to permit the passage of a normal-sized baby, or if the baby is too big.

Oestrogen: The female sex *hormone* produced by the *ovaries.* They are responsible for the monthly changes in the womb, and also for the development of the breasts and the growth of hair on the *vulva.*

Oral contraceptives: Pills or tablets containing female *hormones.* A woman swallows one pill each day in order to avoid pregnancy.

Ovaries: Two small organs in a woman's *abdomen* that are connected to the womb by the *fallopian tubes.* The ovaries produce the *eggs* that join with a man's *sperm* to make a baby.

Ovulation: The release of an *egg* from one of the *ovaries.* It usually occurs 14 days before the next *menstrual period.*

Oxytocin: A drug that causes the womb to contract. This drug is used if *labour* needs to be started artificially (see *induction of labour).* It is also used after the baby has been delivered to stop bleeding.

Pap smear: A test in which some cells are taken from the *cervix* and examined. It is used to detect the early signs of *cervical cancer.*

Partograph: A form that is used to measure the progress of *labour* by recording the timing of *contractions, cervical dilatation,* blood pressure, and pulse. Use of the partograph provides an early warning when labour is not progressing as expected, and indicates that an operation or other intervention might be necessary.

Pelvic inflammatory disease (PID): An infection of the reproductive organs that can result in *infertility.* It is often caused by a *sexually transmitted disease.* Signs of the disease include pain in the lower abdomen, pain during *menstruation,* fever, and bad-smelling discharge from the *vagina.*

Penis: The male sexual organ.

Placenta or afterbirth: The lining inside the womb where the *foetus* is attached. Food, oxygen, and *antibodies* pass through the placenta to the foetus from the mother's body.

Placenta praevia: A condition where the *placenta* lies low in the womb, blocking the passage of the baby during delivery.

Postpartum: The period after the delivery of the baby; usually defined as the six weeks after birth.

Post-term pregnancy: A pregnancy that lasts longer than 42 weeks (more than two weeks past the due date).

Pre-eclampsia: A condition during pregnancy characterised by increasing *hypertension* (high blood pressure), headaches, protein in the urine, and swelling of the ankles, feet, hands, and face. If this condition is not treated, *eclampsia* can develop.

Premature baby: A baby born before term, or before 37 weeks of *gestation.*

Presentation of the foetus: The position of the *foetus* in the womb, specifically which part of the foetus is lowest in the birth canal. Normally babies lie in various positions as they grow, but as the time of delivery approaches most infants turn head down.

Pre-term labour: *Labour* which begins before the end of the 37th week of

pregnancy.

Progesterone: A female *hormone* (chemical produced by the body) that causes changes in the womb, helps in the development of the *placenta,* and affects the development of the breasts.

Prolapse of the uterus: A condition in which the muscles that hold the womb in place are weak; sometimes the womb starts to come out through the *cervix.* It can happen after a woman has had too many children.

Prolapsed cord: A condition in which the baby's *umbilical cord* comes down into the *vagina* before the baby's head during delivery. This is a life-threatening problem which can lead to the death of the baby unless immediate action is taken.

Prolonged labour: *Labour* lasting more than 12 hours.

Protein: A substance found in various types of foods, especially meat, eggs, milk, beans, and some vegetables. It is essential for growth and development of the body.

Puerperium: The 42 days (six weeks) following the birth of the child. The womb returns to normal during this time.

Quickening: The first movements of the baby felt by a pregnant woman; usually occurs between 18 and 22 weeks.

Retained placenta: A *placenta* that remains inside the womb after the birth of the baby. If not removed as soon as possible by a trained health worker, a retained

placenta can cause heavy bleeding.

Scrotum: The pouch of skin that contains the man's *testes.*

Semen: The thick, whitish liquid that comes out of the man's *penis* during *ejaculation,* and carries the *sperm.*

Sexual intercourse: The act by which the man's *erect penis* is placed inside the *vagina* of the woman; also called sexual relations.

Sexually transmitted diseases (STDs): Diseases that can be transmitted by having sexual relations with an infected person; they include *chlamydia, gonorrhoea, syphilis,* and *AIDS,* among others.

Show: A pinkish mucus or light spotting of blood that often signals the start of *labour.*

Sickle-cell disease: A disease that affects the blood cells, causing *anaemia.* It can also cause fever and pain in the joints and in the *abdomen.* It is passed from parent to child.

Speculum: A medical instrument used to examine the *vagina* and *cervix.*

Sperm: The male sex cells formed inside the male *testes.* They fertilise the female *egg* to start a new life.

Spermicides: A variety of creams, jellies, foams, or suppositories that are inserted into the *vagina* to destroy *sperm* and thereby prevent pregnancy.

Sterilisation: Male sterilisation *(vasectomy)* is an operation in which the *vas deferens* is cut and sealed, leaving the man unable to make a woman pregnant. Female sterilisation *(tubal ligation)* is an operation in which the woman's *fallopian tubes* are cut and sealed, making her unable to become pregnant.

Stillbirth: The birth of a dead *foetus.*

Symphysiotomy: An operation that is sometimes done during delivery when *labour* is obstructed. A cut is made at the top of the pubic bone to enlarge the birth canal and allow the baby to pass through.

Syphilis: A *sexually transmitted disease* that in its first stage causes small, painful sores in the *genital* area. Later stages are marked by fever, headaches, and pain in the bones and muscles.

Tampon: A tight pack of cotton or other material placed inside the *vagina* during *menstruation* to absorb blood. A string is attached to the bottom so the tampon can be pulled out.

Testes/Testicles: The male reproductive organs that produce *sperm* and male *hormones.*

Tetanus: A disease that may affect a newborn baby, and is often fatal. It causes stiffness in the neck, arching of the back, and spasms, so that the baby cannot breastfeed. It can be prevented if the mother receives tetanus toxoid immunisation during pregnancy.

Transverse lie: A condition in which the baby lies diagonally in the womb with the

shoulder ready to come out first; it often results in *obstructed labour.*

Trichomonas: An infection in the *vagina* caused by germs or bacteria. It causes increased frothy fluid to come from the vagina.

Tubal ligation: The removal of a portion of a woman's *fallopian tubes* to prevent *eggs* from reaching the womb and thereby prevent pregnancy. It is a permanent method of *contraception,* also called female *sterilisation.*

Twins: The growth, development, and birth of two babies in the womb at the same time.

Ultrasound: A machine that uses sound waves to create a "picture" of the baby. It is used to evaluate certain problems during pregnancy.

Umbilical cord: The cord that connects the baby to the *placenta* on the inside of the mother's womb. When the stump of the cord has dried up and fallen off, the navel (belly button) remains on the infant's stomach.

Urethra: The tube that connects the *bladder* to the outside of the body in both men and women. The urethra is used to pass *urine* outside the body. In the male, *sperm* also pass through the urethra.

Urinary tract infection: An infection of the *urethra* or *bladder.* Symptoms include pain when urinating and having to urinate frequently.

Urine: The yellow fluid produced by the body that carries away substances the body no longer needs.

Uterus/Womb: The muscular organ inside a woman's belly in which a baby develops.

Vacuum extraction: The use of a small suction cup placed on the top of a baby's head during delivery to help pull the baby out of the birth canal.

Vagina: The passage that goes from a woman's womb to the outside. It is also called the birth canal.

Varicose veins: Abnormal swelling of the veins, especially in the legs. It is common during pregnancy.

Vas deferens: The tube that moves the *sperm* from the *testes* to the *urethra.*

Vasectomy: An operation to prevent pregnancy in which a portion of a man's *vas deferens* is cut in order to prevent *sperm* from leaving through the *penis.* Also called male *sterilisation.*

Virus: A tiny organism, invisible to the eye, that causes certain diseases.

Vitamins: Substances that are necessary for the growth and development of the body. They do not provide energy for the body, but small amounts are needed for good health. A woman who is pregnant or breastfeeding needs more vitamins than usual.

Vulva: The external female reproductive organs.

Womb: see *uterus.*

Zygote: An *egg* that has been fertilised by a *sperm.*

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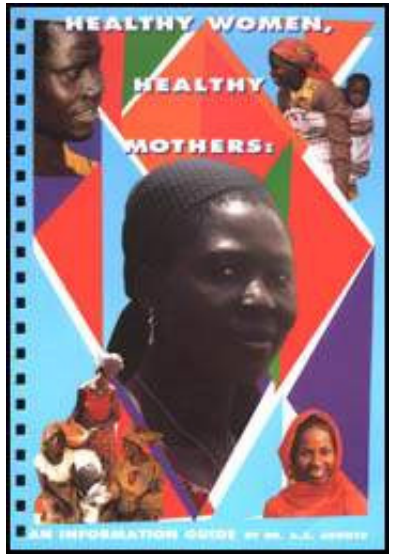

LIST OF RESOURCES ON WOMEN'S REPRODUCTIVE HEALTH

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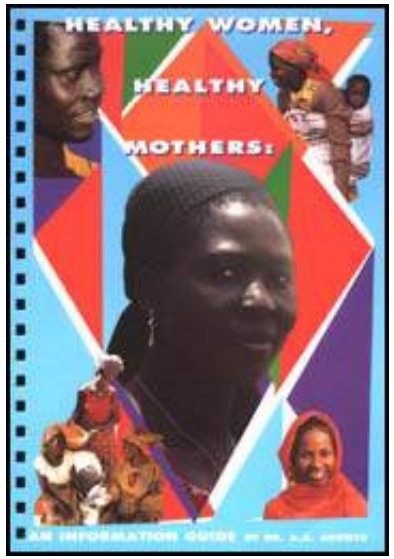
Healthy Women, Healthy Mothers - An Information Guide - Second Edition (FCI, 1995, 241 p.)

(introduction...)



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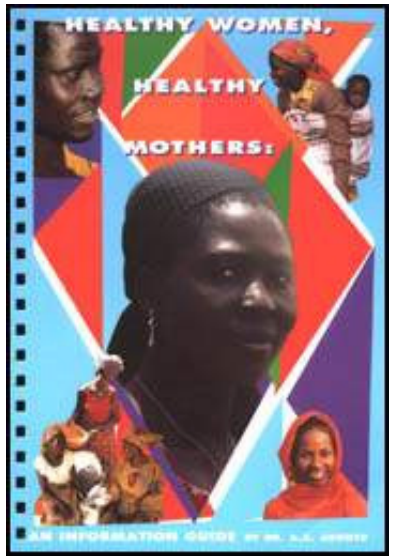

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Recipients of *Healthy Women, Healthy Mothers: An Information Guide* are requested to complete the following evaluation form and return it to Family Care International (FCI). Your comments and suggestions are crucial for enabling us to assess the value of our materials and plan for future publications to be distributed in Africa and elsewhere.

Please fill in your name and address in the space below, then answer the following questions, using a scale of one to five as shown. Additional comments are welcome, and can be written in at the end of each section, or in response to the questions at the end of the form. A mailing label with FCI's address is provided. If you would like to receive additional copies of *Healthy Women, Healthy Mothers* or its companion publications for free (1 -4 copies of each publication), please

complete the order form on the last page.

Name_____

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1. How would you rate the book overall?.....	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
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4. How comprehensive are the contents?.....	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
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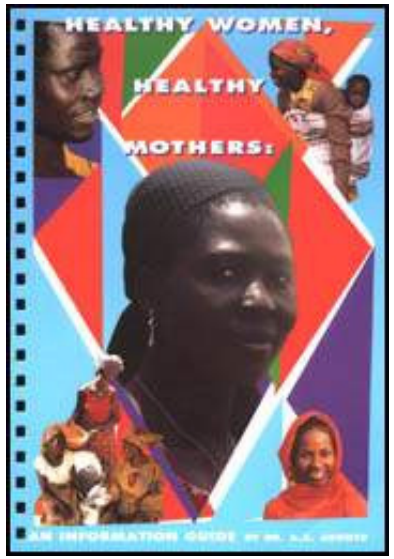

Healthy Women, Healthy Mothers - An Information Guide - Second Edition (FCI,

1995, 241 p.)

Chapter One - THE SCOPE AND CONSEQUENCES OF WOMEN'S HEALTH PROBLEMS

Giving Birth, Facing Death

Most African cultures value children highly. But few people - including women themselves - understand the risks involved in bearing children. Women in Africa die much more frequently from the complications of pregnancy and childbirth than women in Europe and North America. In sub-Saharan Africa, these complications are sometimes the most common cause of death for women of childbearing age. In fact, the World Health Organization estimates that one out of every 22 women in Africa dies from pregnancy-related complications (see Table 1.1). For every woman who dies, between 50 and 100 other women suffer from an illness or disability caused by childbearing. This means that every year, more than 150,000 African women die, and millions of women suffer a serious illness, because of pregnancy and childbirth.

Most of these deaths and illnesses could be prevented if three basic goals could be met:

1. **If women were in good health before their pregnancies began;**
2. **If they had good medical care during and after pregnancy; and**
3. **If they sought help promptly when the problem started.**

In addition, family planning can help save thousands of lives by preventing unsafe or unwanted pregnancies. Many women who die during childbirth may not have wanted to be pregnant in the first place because their health was poor, or they had

many children already, or they did not have the income to support another child.

Other Women's Health Problems

While complications of childbirth are perhaps the most common health problems women face, they are not the only ones. Other health problems can also cause pain, discomfort, or even death. For example, sexually transmitted diseases are becoming more and more common in Africa today; they affect thousands of women, and if they are not treated they can lead to infertility or even death. AIDS is also spreading quickly throughout Africa. In some countries this disease, which cannot be cured, is killing more adult women than any other illness.

Table 1.1: *Lifetime Risk of Maternal Death*

REGION/SUB-REGION	LIFETIME RISK OF MATERNAL DEATH
World	1 in 67
Industrial countries	1 in 1,687
Developing countries	1 in 51
Africa:	1 in 22
North	1 in 47
East	1 in 18
Middle	1 in 20
West	1 in 18
South	1 in 68
Asia	1 in 57

South America	1 in 115
North America	1 in 2,671
Europe	1 in 2,1 32

Many women suffer greatly even while they continue to carry out their day-to-day tasks. Their backs may ache from bending over a hoe or chopping firewood; they may develop a cough from breathing too much smoke from cooking fires; sometimes they are beaten by husbands, fathers, or brothers. Women may also have a pain in their private parts that they do not understand, or are embarrassed to talk about. Older women can develop cancers or other diseases in the womb, but few women know the signs of these diseases or what can be done to prevent or treat them. Most often women do not visit a health facility for their aches and pains, and rarely talk about them even with friends and family. But all these problems affect how women feel, and all of them deserve attention and treatment.

Implications of Women's Poor Health

As everyone knows, being sick or suffering from aches and pain affects every aspect of daily life. A woman who is unwell and exhausted finds it difficult, if not impossible, to carry out her everyday responsibilities. It is also hard for her to participate in programmes that could help her and her family, such as literacy or training classes, savings schemes, or community meetings. Being healthy is a requirement for women to have a positive attitude and participate fully in their communities.

The social and economic consequences of women's health problems are serious,

although often they are not recognised or talked about. Women do many things for their families; they care for the children and elderly, and do the majority of household tasks. Often they grow most of the food the family eats, and earn the money that pays for essential needs like clothing, medical care, and even school fees. When a woman dies or is unwell, all these tasks are neglected. Often the death of a woman means the break-up of the family. If not, her daughters will probably have to stop school and stay home to take care of the younger children.

Conclusion: The Need for Action to Improve Women's Health

Women are tired and ill often, and far too many of them die. This is a problem not only for them, but also for the communities and nations where they live. Much of this illness and suffering could be prevented. In the past, however, women's health needs were often neglected. Since the global Safe Motherhood Initiative was launched in 1987, governments and international agencies around the world have begun focusing more attention on the health of mothers. In particular, more efforts are now being made to train health and family planning workers, provide supplies and equipment, and help women reach medical facilities. Equally important, governments and non-governmental organisations, including women's groups, are working hard to provide women with the information that will enable them to take better care of themselves. These efforts are paying off, but much remains to be done.

This book is one tool in the campaign to improve women's health. The chapters that follow describe the causes of women's health problems, especially those related to pregnancy and childbirth, and explain what can be done to prevent or treat those problems. Maternal and child health workers are often the only source

of medical care and information women have. It is therefore critically important that they take responsibility for ensuring that women are educated and informed about the full range of health issues that they face. Governments, women's groups, religious organisations, and local communities can also work together to make sure that the services and information are available to save women's lives. This way, countless tragedies can be prevented, and countless children will be given a better chance in life.

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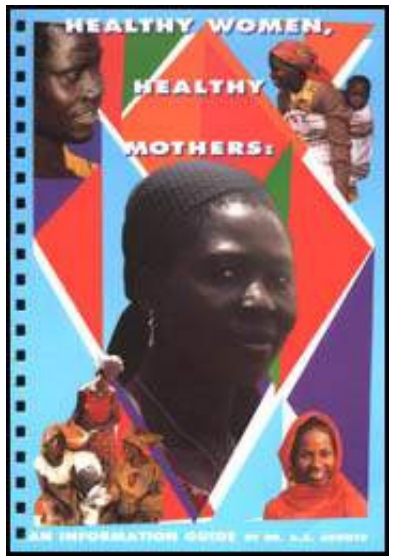

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Chapter Two - ROOT CAUSES OF POOR HEALTH

The most common medical problems that cause death and illness among women, and ways to prevent or treat them, are discussed in the chapters that follow. These medical complications, however, are only the most visible signs of deeper problems that put women at risk of death and injury. This chapter discusses some of these deeply-rooted problems, which are related to women's low social and economic status. Recognising that women's health is affected by their education, their income, and their role in the family is an important step in improving the services women receive. It can help health workers be more understanding of the obstacles and constraints that women face. It can also motivate leaders in the community to take action to address some of these deeply-rooted problems. The solutions are rarely clear or simple. But in the long run, doing something about them can save the lives of many women, and improve the quality of life for even more.

Poor Nutrition and General Health

POOR NUTRITION

It is a tradition in many families that men and boys eat first (and have the best part of the meal), followed by the girls and finally the mother. In practice, when the family is poor, this often means that girls and women do not get enough to eat, especially of the foods that help them grow and gain strength. As a result, some girls do not grow as big as they could be. When women are small, and especially if their hips are narrow, labour can be difficult and they may not be able to deliver a baby safely.

Poor nutrition can cause other problems as well. Being undernourished makes people weak and more vulnerable to disease. Since poor nutrition is more common among females than males in many places, they are more likely to suffer from this problem. In addition, women have different nutritional needs. Once they begin menstruating, and especially when they are pregnant, they need much more iron in their diets than men do. Without sufficient iron, women become anaemic, especially if they are pregnant. In fact, 50-80% of pregnant women are anaemic in many African countries.

If a woman becomes pregnant when she is already poorly nourished, she is much more likely than a well-fed woman to suffer from complications like infection, severe bleeding, and premature labour (see Figure 2.1). She is also more likely to have a baby that is small and underweight. One out of six infants born in Africa is dangerously underweight (less than 2,500 grams or a little over five pounds). These infants are more than ten times more likely to die than babies of normal weight.

Figure 2.1: Poor Nutrition During Pregnancy:

Women who are poorly nourished are more likely to suffer complications during pregnancy than well-fed women. They are also more likely to have underweight babies. Women need to eat enough food, and food of the right kind, during pregnancy.

It is important, therefore, to ensure that girls and women get adequate food not only while they are pregnant or breastfeeding, but also during childhood, adolescence, and before and after pregnancy. Chapter 6 provides more information on proper nutrition, especially during pregnancy.

POOR GENERAL HEALTH

There are many diseases and injuries that affect women as well as men. Sometimes women are more likely to get a certain disease because of the type of work they do, or because their bodies are different from men's. For example, women may be more likely to get malaria and schistosomiasis because much of their work (washing clothes, fetching water) requires them to be near water sources where these diseases are most often transmitted. Women are also more vulnerable than men to certain infections, such as sexually transmitted diseases. They can develop illnesses in their reproductive organs that can cause discomfort and even death. Chapter 18 describes the most common sexually transmitted diseases, and how to prevent or treat them. Chapter 20 explains some of the other problems and diseases that can affect women's reproductive systems.

Many women do not know the signs of serious illness, or they just accept that pain and discomfort are their normal lot in life. Even if they do know the symptoms, they may not have time to pay attention to themselves, or they may not want to spend money on their own needs. But women -and their families - need to understand that thinking about themselves is good for the whole family. Because of the many responsibilities they have, it is important for everyone that they be strong and healthy. Health workers, as well as others in the community who talk with women and their families, can help provide information on how to stay in good health, and how to recognise a serious illness. They can also encourage women to get proper medical treatment when a problem develops, and encourage husbands and other family members to be supportive as well.

VIOLENCE AGAINST WOMEN

Violence against women is common throughout the world, although people are very reluctant to talk about it openly. Studies have found that between 25 and 60% of women say that they have been beaten, raped, or abused by their husband or sexual partner. Rape and abuse of young girls and adolescents is also common, although rarely reported. Some studies even indicate that violence is more common when a woman is pregnant.

This violence has many consequences: some women die, others suffer from broken bones, miscarriages, or other injuries. Many women who are beaten become depressed or anxious, and some even try to commit suicide. Health workers, as well as family members and others in the community, can help by looking for signs of abuse, such as bruises and cuts. They can ask questions about what they see, in a way that is gentle and non-critical, rather than closing their eyes. And they can, of course, provide medical care, counselling, and support to women who are abused.

FEMALE GENITAL MUTILATION

In many areas of Africa, girls are subjected to the sometimes fatal practice often referred to as female circumcision, but which is more accurately called female genital mutilation (FGM). FGM is a traditional practice in which part or all of the external reproductive organs of the female are removed (see Chapter 3).

There are three main forms of genital mutilation. In the mildest form, the tip of the clitoris is cut off. In the second type, the entire clitoris and part of the outer lips of the vagina are removed. In the most extreme form, after the clitoris and the lips of the vagina are cut off, the opening of the vagina is sewn together, leaving only a

small hole through which menstrual blood can escape.

This painful practice may be performed on baby girls, girls nearing puberty, adolescents, and sometimes on grown women right before or after they deliver a baby. It is usually performed without anaesthesia, using unclean instruments. If the victim does not die immediately from shock or severe bleeding, she may well die from the infection that often follows. If she survives, she is likely to suffer permanently from painful sexual intercourse because of heavy scarring around the vaginal opening. These scars can also cause serious difficulties during birth.

Different people give various reasons for performing FGM. Some say it is to enhance the sexual pleasure of the man, or to reduce the sexual desire of the woman and ensure that she is faithful to her husband. In some cultures a woman who has not had this operation is considered "unmarriageable". FGM is, however, an extremely dangerous and harmful practice that kills or injures thousands of young girls each year. There is a strong and active movement to abolish it, and many governments have condemned the practice. In areas where it is practised, health workers and local leaders have a responsibility to educate community members about the dangers of FGM, and to find ways to discourage it.

Lack of Education

Educating girls and women improves their health and that of their children. Some studies have shown, for example, that high literacy rates among women are more important for reducing the number of infant deaths than having a large number of doctors. Why? Because the more education a woman has, the more likely she is to make the right decisions concerning the health of her children. For example, an

educated woman is more likely to:

- **Use health services when she herself is sick, seek medical care for her children, and act on information about how to stay in good health;**
- **Take measures to prevent disease (such as following proper hygiene and using mosquito nets) and avoid harmful traditional practices;**
- **Delay marriage and childbearing until she is prepared for it physically, emotionally, and financially;**
- **Use family planning to space her pregnancies and limit the total number of children;**
- **Take advantage of training and credit programmes, participate in income-generating projects, or use other opportunities that can help her earn more income and be more productive;**
- **Participate in decision-making in the family, such as whether to take someone to a health clinic when he or she is sick.**

Despite the clear benefits of female education, many girls do not go to school at all, or leave school early. In Africa, only an estimated 26% of adult women know how to read. Families have many reasons for not sending girls to school; girls are often needed to help with child care, cooking, or other chores. When school fees are high, many families are reluctant to spend money on educating girls. Sometimes parents believe that the topics taught in school are not useful or appropriate for girls, or they may be afraid that the girls will be exposed to

"wrong ways" if they attend school.

But if families and local leaders understood the benefits of education, these concerns could be overcome. They might be convinced to allow girls to attend school, and stay in school longer. It is an important investment in their future health and well-being, and that of their children and families. As an African educator said many years ago, "Educate a man, and you educate an individual; educate a woman, and you educate a nation".

Early Age at Marriage

Women in Africa tend to marry at a very young age. Often they are married by age 16 or 17, and in some areas even by age 12 or 13. There are many reasons for this practice. For example, if a girl's family is poor her parents may be eager to receive the bride price or to be relieved of the burden of paying for her food, clothing, and general care. In other cases a girl may marry early because her family wants to avoid the risk of an illegitimate birth.

But there are good reasons to delay marriage. As discussed in Chapter 7, it is better for a girl to wait at least until the age of 18 before becoming pregnant, because her body is better able to survive the demands of pregnancy and childbirth. Also, an early start to childbearing almost always means many children; too many pregnancies, too close together, can pose a serious threat to a woman's health and survival.

In addition, getting married and becoming pregnant often means a girl has to stop going to school. This limits her future opportunities and deprives her of the

benefits of education. Finally, marriage at a young age for girls means their husbands are usually older, often by many years. Young wives are likely to be shy and dependent; for example, they may be reluctant to ask a husband for money to go to a health facility, and they may be less likely to talk about what they want or need. Since early marriage usually deprives girls of the opportunity to gain knowledge and skills for themselves, this dependence on others can be life-long.

In general, therefore, early marriage carries various risks to the health and future of a girl, and parents should protect their daughters from these consequences. Health workers can help prevent these problems by talking to parents about this issue, and explaining to them the dangers of childbearing at too young an age.

Heavy Workload

Almost all women in Africa work very hard. Some studies have shown that the average work day for a woman in a rural area is twice as long as a man's. Whether a woman works as a farmer in the village or a professor in the capital city, she is likely to spend from dawn until night taking care of the house and children, as well as growing crops or earning money. Often this work is very demanding physically. In most cases, work begins at a young age; girls are usually working hard by the age of seven or eight, helping to care for younger children, cleaning, cooking, gathering firewood, and collecting water.

Figure 2.2: Heavy Workload

Working too hard can make a woman tired and strain her body. This can lead to complications during pregnancy and childbirth. Women should be encouraged to avoid work that is too demanding physically. Family members can help by taking on such tasks.

The burden of these duties creates a number of problems for girls and women. First, it means that they are tired and worn out much of the time. Overwork, especially in combination with poor nutrition, makes women more likely to get sick. Chapter 6 provides guidelines on diet, rest, and workload for women during pregnancy; many of these guidelines can be used when women are not pregnant as well.

Second, too much work means women and girls have less time to attend school or adult education classes, less time to go to a health facility if they are ill, and less time to join a cooperative or a women's group. Staying in good health requires time, attention, and information, as well as money; many women do not have enough of any of these things, especially if they are working too hard on daily chores.

Women's workloads can be reduced by having family members help women more, or by using machines or technologies that save women time and ease their work. These include water pumps, milling machines, and stoves that use less fuel. Within both the family and the community, much could be done to help reduce the amount of time and energy women must spend on their daily tasks, and to help them earn more money as well.

Low Social, Legal, and Economic Status

"Women's status" means the way women are treated, how they are viewed in their community, what they are able to do, and what their legal rights are. The most important aspects of women's status are whether women have access to money, training, credit, and other resources, and how much freedom they have to make decisions for themselves and their families. Status also depends on how the members of a woman's family and community view her; in many parts of Africa, for example, how much respect a woman receives depends largely on how many children she has. The desire for status can lead women to continue having children even when pregnancy and childbirth carry serious health risks. In addition, it is a sad truth that most tasks that are viewed as "women's work", such as housework, child care, farming, gathering fuel and water, and in some cases teaching and

nursing, are seen as less important to the family and community than "men's work".

LACK OF CONTROL OVER RESOURCES

In many families, women have very little say over how money is spent, even if they helped earn it. Studies have shown, however, that women are more likely than men to spend money for the good of the family. Both women and their families would benefit if women played a larger role in deciding how money is spent in the family and the community. If a woman has no money, she may not be able to go for antenatal care, get medicines, or buy more food when she needs it (for example, while she is pregnant or breastfeeding).

Women also have little access to other types of resources, such as training or credit programmes, machines or equipment that could make their tasks easier (plows, water pumps, fuel-efficient stoves), or technical advice and supplies (seeds, fertiliser, pesticides). Even general information, which is also an important resource, may not be available to them. For example, surveys have shown that women tend to know less than men about how to protect themselves against diseases such as AIDS.

This lack of access to resources makes women's work harder and less productive, and contributes to their lower income and their poor health. A woman is especially likely to lack access to resources when she is alone (because she is widowed or divorced, or because her husband has other wives or is working somewhere else). In many countries a woman is not allowed to have custody of her children, own or inherit property, earn income, or participate in public affairs without the

permission of her husband or father. Since 25-45% of households in sub-Saharan Africa are run by a woman who is not married or whose husband is away, these restrictions on women's activities limit their ability to take care of themselves and raise their children properly.

ROLE IN DECISION-MAKING

Often, women are not consulted when decisions are being made about the family or the community. Men usually make the major decisions about where to live, what to buy, whether the children go to school, and whether money can be spent on things like health care. Often it is the man alone who decides whether or not family planning should be used to limit the number of children or space births. In many countries a woman may not be able to get services from a family planning clinic or even a health centre without permission from her husband. In some communities, committees made up only of men decide about things like whether a water pump is installed, or a maternity clinic is built. Often, therefore, women's needs and preferences are neglected, and their knowledge and experience are not used to help guide decisions in the community.

Conclusion

In many countries the status of women is gradually changing. More women and girls are being educated, which helps them gain respect and makes it more likely that they will be able to participate in decision-making in the family and community. Attitudes toward women are also changing as women join local organisations and are elected as leaders in their communities. Laws affecting women and families are being modified to give women more freedom and

recognise their rights.

But there is much more that could be done. Health workers and others in the community can help by talking to people about the issues involved, and explaining the benefits of raising women's status and improving their health. More specifically, they can give advice and encouragement to husbands and families so that women will be able to go for medical care when necessary, participate in educational programmes, and have fewer children if they want to. Women themselves can help by raising their children to appreciate women's abilities and recognise the value of their contributions in the home and the community. These changes come slowly, and they must respect and conform to local cultures; but the changes must come, for the sake of women and their children.

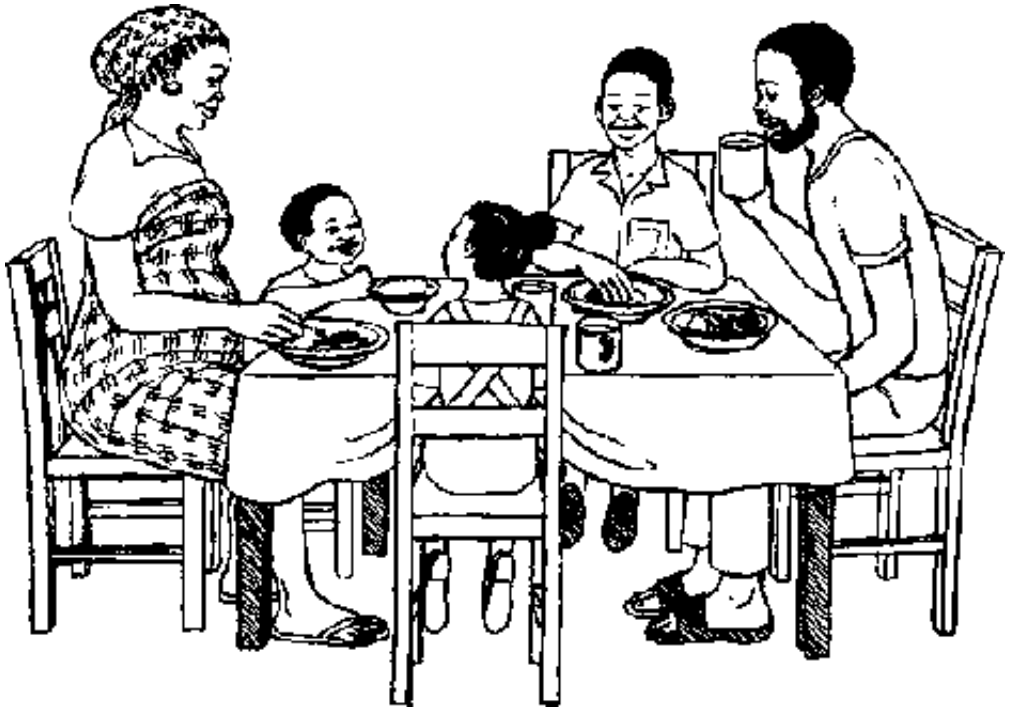

Figure 2.3: A Happy, Healthy Family

Having the number of children that the family can afford helps ensure that the mother, father, and children are happy and healthy.

Summary: Root Causes of Poor Health

Social and economic conditions can contribute to the health problems of girls and women, especially during and after pregnancy. These conditions include:

POOR NUTRITION:

Girls and women often get less food than they need. Once they have reached adolescence, they have special nutritional needs that are different from those of males. This is especially true during and just after pregnancy. Poor diet and inadequate nutrition can make girls and women weak, and more vulnerable to illness.

POOR GENERAL HEALTH:

Women are exposed to many diseases; they are especially vulnerable to diseases in their reproductive organs. In addition, in some parts of Africa they are subjected to female genital mutilation, which can cause severe health problems or even death. Violence against women, including beatings by husbands, can be a major cause of injury and death.

LACK OF EDUCATION:

Girls are less likely to go to school than boys. This means that they do not have the chance to gain the basic knowledge and skills which would help them earn

money, take care of themselves, and participate in decisions in the family and community.

EARLY AGE AT MARRIAGE:

In many countries girls get married very young. This means that they become pregnant at too young an age, which can increase the risk of complications. Also, early marriage usually means that they have to leave school, and often leaves them dependent on their husbands.

HEAVY WORKLOAD:

Women and girls spend long hours working at home, in the fields, or in offices. These long hours leave them with little time to take care of themselves. The demands of work may also make them tired and more likely to become ill, especially if they are pregnant.

LOW SOCIAL, LEGAL, AND ECONOMIC STATUS:

Women are rarely allowed to influence decisions in the family or community. They often have few rights under traditional laws, and have little control over money or other resources. These problems contribute to women's poor health by preventing them from getting medical care and limiting the amount of money they can spend on food or other necessities for themselves.

It is important for health workers to understand the obstacles women face in their daily lives, and how these can affect women's health and well-being. Recognising the problems is also important for others in the community, so that they can try

and address these problems. Governments, non-governmental groups, and individuals can and should work together to improve the conditions of women's lives, so that women and their families benefit.

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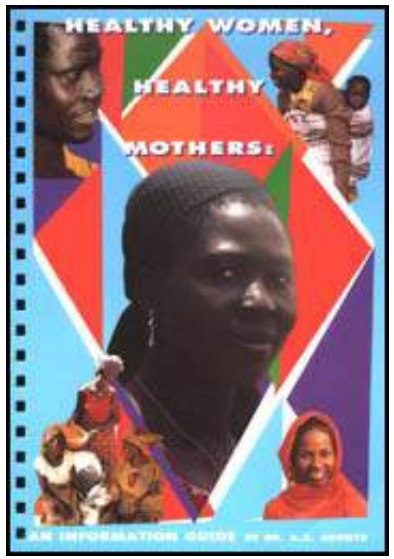

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Chapter Three - THE REPRODUCTIVE PARTS OF THE FEMALE AND MALE BODIES

The Female Body

The parts of the female body that are involved in pregnancy and childbearing are called the reproductive organs. They include the two ovaries, the two fallopian tubes, the uterus (womb), and the vagina. These organs lie inside the lower part of the abdomen, called the pelvis, and are protected by bones and muscles (see Figure 3.1). The breasts are also affected by pregnancy and, of course, are essential for breastfeeding the baby.

Many people, even adults, do not know about the organs inside the body, and do not understand how pregnancy happens. This chapter provides a basic description and illustrations of the organs involved, and is helpful for understanding later chapters on "How Pregnancy Happens" (Chapter 4), "Family Planning and Child Spacing" (Chapter 17), and "Infertility" (Chapter 19). The parts of the body are referred to here using technical terms. Terms from local languages can be used for group discussions or counselling instead of, or in addition to, the terms used here.

THE OVARIES

A woman has two ovaries, one on either side of the womb; each one is the size of a small nut. The ovaries produce the eggs which, if fertilised by sperm from the man, will develop into a baby during the following nine months. This process is described in Chapter 4. The ovaries also produce two important female hormones called oestrogen and progesterone. These hormones greatly influence the growth, development, and function of the entire female body, and especially the reproductive organs, throughout a woman's life. For example, hormones cause the breasts to grow, and cause menstruation every month.

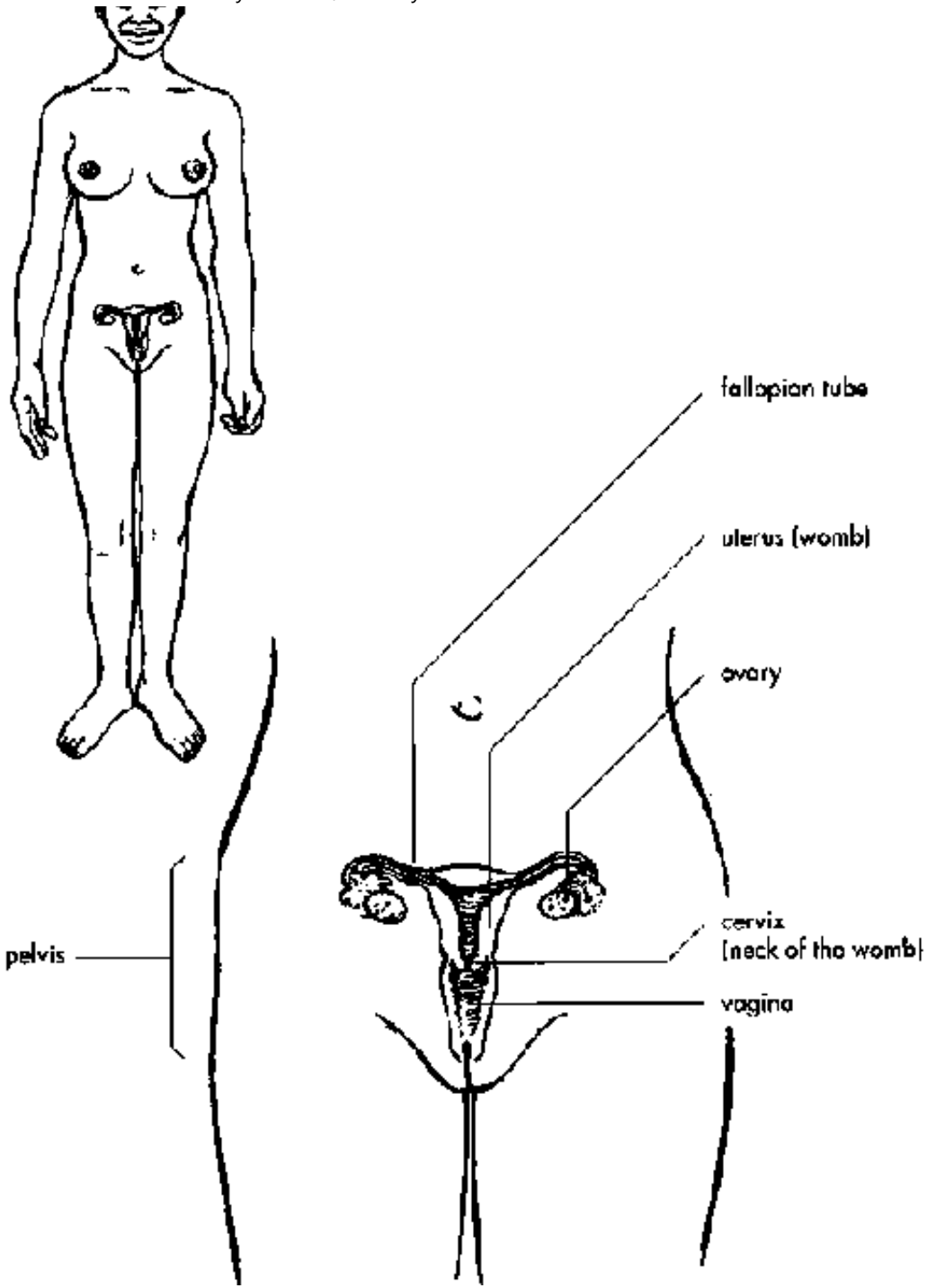
fallopian tube
uterus (womb)
ovary
pelvis
cervix
(neck of the womb)
vagina

Figure 3.1: Internal Reproductive Organs of the Female

The two fallopian tubes connect the ovaries to the womb on either side (see Figure 3.1). The tubes are 4-5 inches (10-12 centimetres) long. When the egg is released from one of the ovaries every month, it is pulled into the fallopian tube and is very gently moved along the tube towards the womb. The man's sperm meets and fertilises the egg inside the fallopian tube. The fertilised egg then begins a slow journey to the womb, which it reaches about five days after being released from the ovary.

THE UTERUS (WOMB)

Before pregnancy, the womb is about the size of a small mango or pear. It is about 3-4 inches (nine centimetres) long, and weighs only two ounces (60 grams). The lower end of the womb is called the cervix, and connects with the upper part of the vagina. The fertilised egg attaches itself to the lining on the inside of the womb, and the womb then protects and nourishes the new life until a fully developed baby is born. During pregnancy, the womb gradually grows to hold the growing baby, the bag of fluid which surrounds it, and the placenta (the afterbirth). By the time the baby is born, the womb alone weighs about two pounds (nearly a kilo) and holds an average of ten pounds or about five kilos (the baby, placenta, and the fluid around the baby).

THE CERVIX

The cervix is sometimes called the neck of the womb. It connects the womb to the vagina, and normally has a very small opening. During pregnancy this opening

stays small, so that the baby stays inside the womb. During labour the cervix opens up (dilates) so that the baby can be born.

THE VAGINA

The vagina is the channel between the womb and the outside. Menstrual blood flows out of the womb through the vagina. The vagina also produces fluids; the amount of fluids, and their colour and texture, varies at different times of the month. During sexual intercourse, the man puts his penis inside the vagina. When he "comes" or ejaculates, sperm from the penis enters the vagina. It then passes through the womb and into the fallopian tube, where it may fertilise the egg. During childbirth the baby leaves the womb and enters the world through the vagina. This is why it is sometimes called the "birth canal". The walls of the vagina are elastic and can stretch to allow the passage of the baby's head and body.

THE VULVA

The vulva is the area around the opening of the vagina which can be seen from the outside (see Figure 3.2). The outer folds of skin, called the labia majora, are thick and covered with hair. The two inner folds of skin, called the labia minora, are much thinner. These inner folds form a hood around the clitoris, a small, sensitive organ above the vagina that responds to stimulation and makes sexual intercourse pleasurable. Inside the vaginal opening is a pair of glands that produce a thin fluid which moistens the vagina, especially during sexual excitement. In countries where female genital mutilation is practised, some women may have either the clitoris, or the clitoris and labia, removed. In some cases the labia may be sewn

together (see Chapter 2 for a discussion on the effects of female genital mutilation).

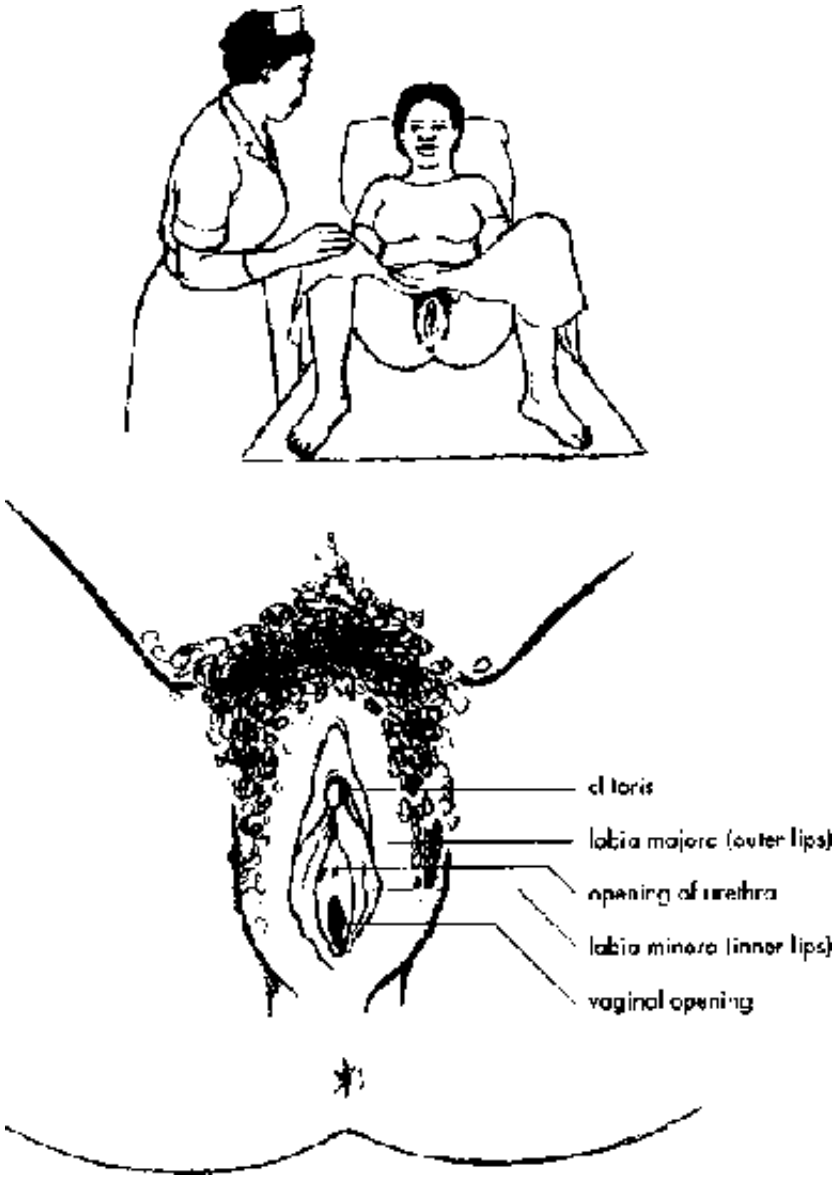

Figure 3.2: External Reproductive Organs of the Female (Vulva)

THE BREASTS

The main external feature of the breast is the nipple and the dark skin around it, called the areola. Inside, the breasts consist of fat and sacs called "glands" that produce milk. In many women, one breast is larger than the other. Often, both breasts swell slightly during the menstrual period. During pregnancy, the glands grow in size as they produce milk (see Figure 3.3); often some liquid comes out of the nipple even before the baby is born.

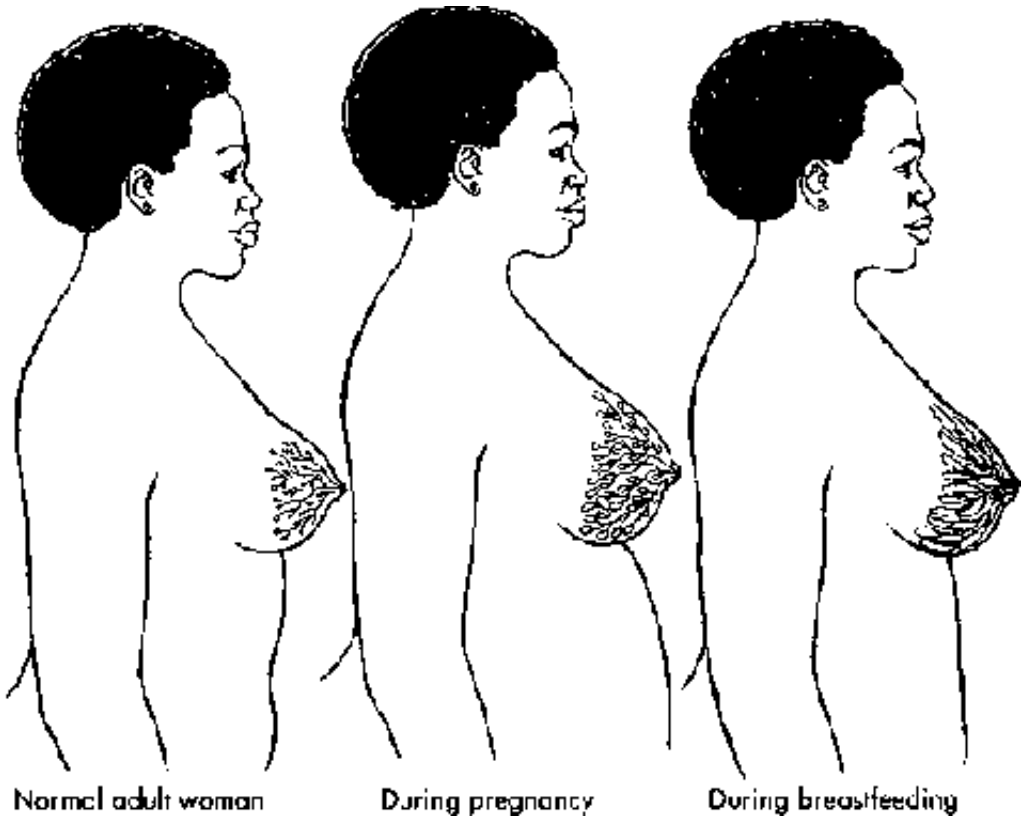

Figure 3.3: Breasts of the Adult Female

The Male Body

The man plays a brief but vitally important role in reproduction. He produces the sperm which fertilises the egg to begin a new life. After fertilisation, the man's biological role in pregnancy is over, although his responsibility toward the woman and child continue. As described below, a man's major reproductive organs lie outside his body.

THE TESTES (TESTICLES)

The two testes produce the sperm which fertilise the woman's egg to start the process of reproduction. They are two egg-shaped organs, in front of and between the thighs, within a sac of skin known as the scrotum (see Figure 3.4). From puberty until old age, men's testes produce sperm all the time. While a woman releases one egg every month, a man releases 100-300 million sperm every time he ejaculates, or reaches climax, during sexual intercourse. During ejaculation, the sperm are carried in a liquid called semen that is produced by the man's reproductive organs. The semen passes through a tube called the vas deferens and out of the penis. One of the millions of sperm may reach an egg and fertilise it; the rest simply die in a few days and disappear.

THE PENIS

The penis is the organ that carries the semen with the sperm into the vagina. During sexual excitement, blood is pumped into the muscles of the penis. This makes the penis stiffen or become erect so it can enter the vagina. Although both semen and urine pass through the tube called the urethra in the penis, at the time of ejaculation the opening from the bladder is closed so that only semen comes out of the penis. After ejaculation, the blood quickly drains away into the body and

the penis returns to its normal state.

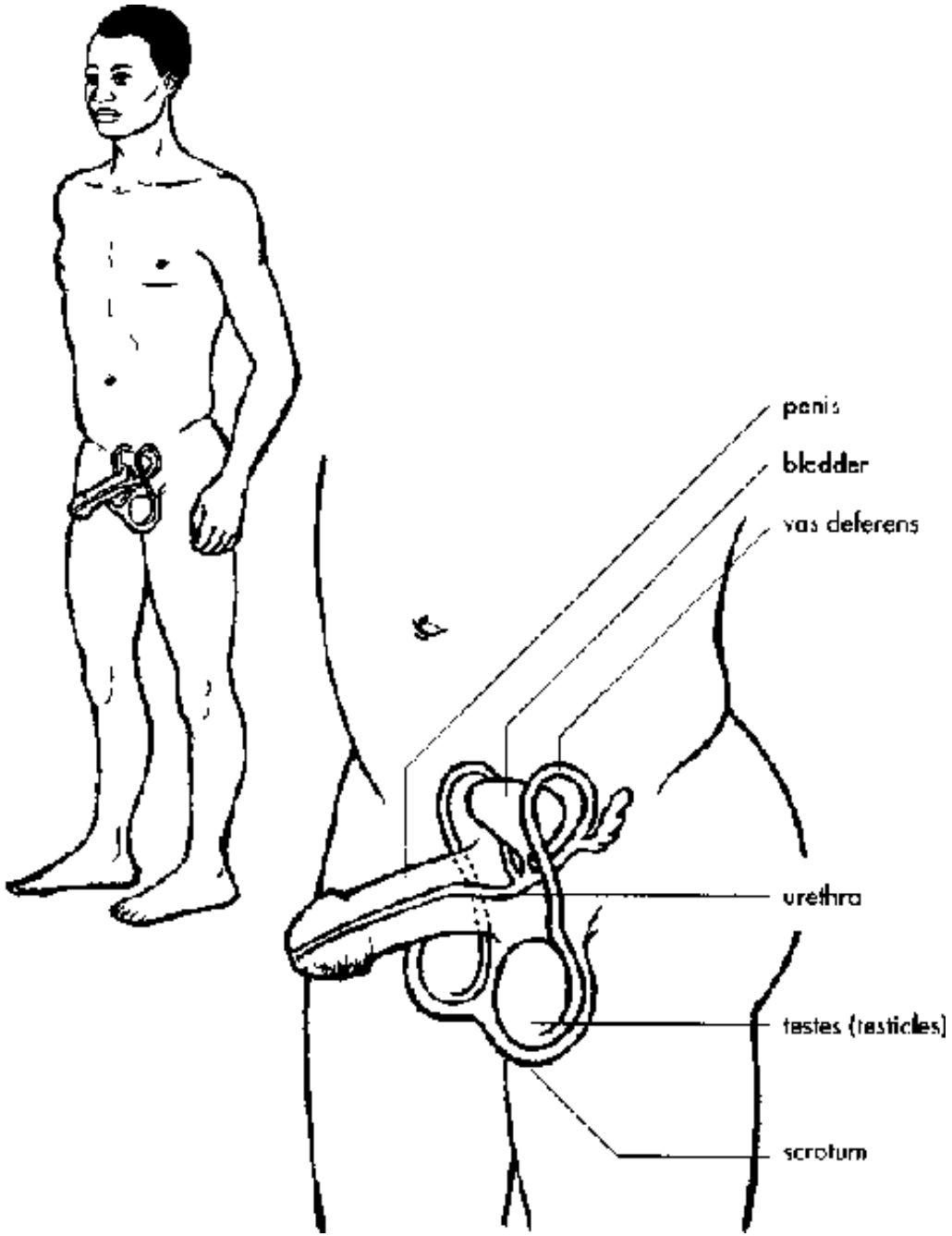

Figure 3.4: Reproductive Organs of the Male

Summary: The Reproductive Parts of the Female and Male Bodies

The female and male bodies play different but complementary roles in creating a baby.

THE FEMALE BODY:

THE OVARIES produce the eggs which are fertilised by the man; fertilised eggs grow to become babies. The ovaries also produce hormones that influence the development of the female body.

THE FALLOPIAN TUBES connect the ovaries to the womb. When the egg is released from the ovary, it moves through the fallopian tube, where it can be fertilised.

THE UTERUS (WOMB) is a small organ in which the fertilised egg attaches itself after passing through the fallopian tubes. The womb protects and nourishes the egg until it develops into a baby.

THE CERVIX is also called the neck of the womb; it connects the womb to the vagina.

THE VAGINA is the channel between the womb and the outside of the body. During sexual intercourse, the man's sperm enter the womb through the vagina. When the baby is born, it passes through the vagina.

THE VULVA is the area around the opening of the vagina. The vulva consists of folds of skin called labia, and a small organ called the clitoris.

THE BREASTS produce milk for feeding the baby; they can swell during the menstrual cycle, and also change during pregnancy.

THE MALE BODY:

THE TESTES are two egg-shaped organs in front of and between the thighs, inside a sac of skin called the scrotum. The testes produce the sperm which fertilise the woman's egg to begin reproduction.

THE PENIS is the organ that places the sperm in the woman's vagina. The sperm are carried in a liquid called semen produced in the man's body.


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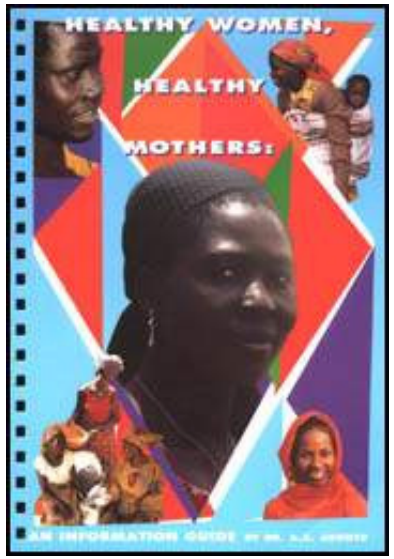
Chapter Four - HOW PREGNANCY HAPPENS

Menstruation or ''The Period''

Ovulation or the Release of the Egg

Fertilisation and Implantation



Growth and Development of the Baby

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Chapter Four - HOW PREGNANCY HAPPENS

Menstruation or ''The Period''

Once every month or so the tissues lining the inside of the womb come away and are passed out through the vagina with some blood. This is called menstruation and is often referred to as "having a period". Each period can last from 2-8 days; 4-6 days is the average. Periods continue throughout a woman's reproductive life. Periods usually start between the ages of 12 and 15 years; this is known as the menarche. Periods usually stop altogether between the ages of 40 and 50 years; this is known as menopause. However, the age at which menstrual periods begin or end can vary.

The length of the menstrual cycle is the interval from the beginning of one period to the beginning of the next period (see Figure 4.1). It is usually about 28 days but can vary between 21 and 35 days, or even more. The length of each period, as well as the amount of bleeding, varies from woman to woman. It may also vary in the same woman from time to time. For the first couple of years that a girl has her periods, they may not occur regularly. The same is true for women who are going through menopause, when the periods gradually stop coming altogether. In addition, other factors such as illness, anxiety, or depression can speed up, delay, or prevent menstruation (see Chapter 20). A woman who is very thin or who exercises a great deal may also not menstruate regularly.

What causes menstruation? Menstruation only occurs when a woman is not pregnant. After a menstrual period, the lining of the womb starts to build up and prepare itself to receive a fertilised egg. If no fertilised egg reaches the womb within 2-3 weeks, the lining of the womb breaks down, and the bits of tissue leave the womb during the menstrual period about a week later.

When a baby is conceived and a fertilised egg reaches the inside lining of the womb, the breakdown of the womb's lining stops. Women do not have their periods during pregnancy, and usually the menstrual period does not start again until several months after the baby is born. Breastfeeding delays the return of the period even longer, depending on how often and how long the woman breast-feeds (see Chapter 15).

During a menstrual period, most women use clean cloths, sanitary napkins, or fresh tampons to absorb the blood. It is important to keep the outside genital area clean in order to avoid infections. It is not necessary to wash the inside of the

vagina, since it cleanses itself naturally after each period. Washing the inside of the vagina, especially if harsh chemicals or soaps are used, can irritate the inside.

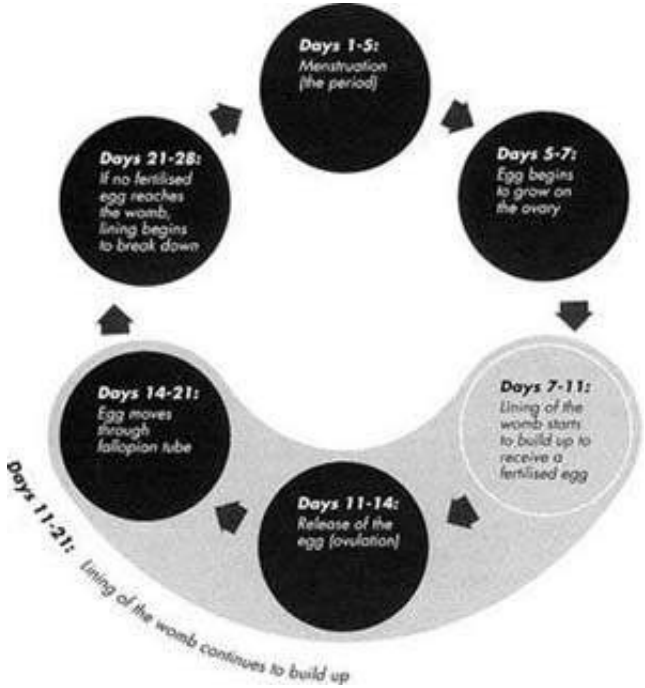


Figure 4.1: The Menstrual Cycle

The average menstrual cycle lasts 28 days from the start of one period to the start of the next. The first day of the menstrual period is counted as "Day 1" of the cycle. A woman can get pregnant only if she has sexual intercourse just before ovulation, or the day she ovulates. In an average 28-day cycle, a woman can get pregnant if she has intercourse on days 11-14.

Ovulation or the Release of the Egg

Each month, a mature egg is released from one of the ovaries; this is called ovulation. Once released by the ovary, the egg moves into the fallopian tube (see Figure 4.2). The egg can survive for only about one day (24 hours) in the fallopian tube. If it is not fertilised by a sperm within that time, it dissolves or flows out of the body.

Ovulation occurs in the middle of the menstrual cycle, or about halfway between periods (13-15 days *before* a woman's next period). Some women can tell when they ovulate because they feel a sharp pain on the left or right side of the abdomen (in the ovary), because they bleed a little bit from the vagina, or because the fluid that comes out of the vagina is clear and slippery. Since a woman can only become pregnant right around the time she ovulates, learning these signs of ovulation can help women identify their fertile time (see explanation of natural family planning in Chapter 17). However, it is often difficult to know when ovulation is taking place. For many women the only way to tell is when the period begins about 14 days after ovulation - or when they become pregnant!

Fertilisation and Implantation

For fertilisation to occur, the sperm must find the egg within one day (24 hours) of the time the egg leaves the ovary (see Figure 4.3). The sperm itself survives for 2-3 days (48-72 hours) within the woman's body. So fertilisation can occur if a woman has sexual intercourse during a five-day period - one, two, or three days before ovulation, the day of ovulation, or one day after.

While still in the tube, the fertilised egg begins to divide and grow. At the same time, it continues to move through the tube towards the womb. It takes an

average of five days to reach the inside of the womb. Within two days of reaching the womb, the fertilised egg attaches itself to the lining of the womb. This process is known as implantation (see Figure 4.3).

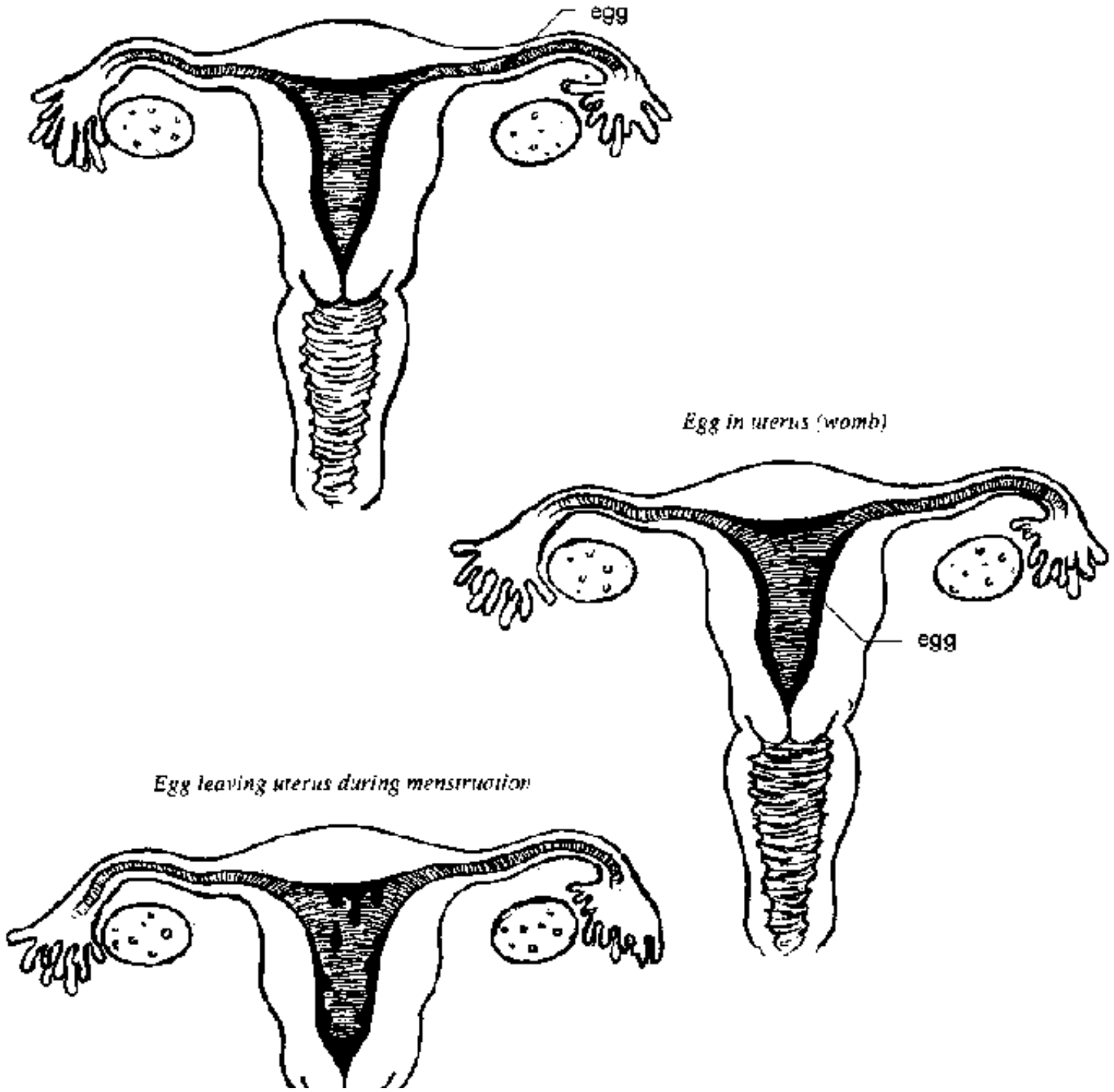
THE PLACENTA (AFTERBIRTH) AND UMBILICAL CORD

After the fertilised egg is implanted, the lining of the womb where it is attached develops into thick, spongy tissue called the placenta. One side of the placenta is attached to the inside wall of the womb. The other side is attached to a structure called the umbilical cord, which connects the placenta to the baby (see Figure 4.4).

During pregnancy the placenta acts like a filter; it allows food and oxygen in the mother's blood to go through the umbilical cord to the baby. It also allows body waste from the baby to pass back through to the mother's blood. Chemicals called antibodies, which are produced by the mother to fight against certain infections, also pass through the placenta to the baby. These antibodies continue to protect the baby from infections for several months after birth. Some harmful substances such as germs which cause diseases like syphilis and rubella (German measles), as well as drugs, may also be passed to the baby through the placenta.

The fully developed placenta weighs around one pound (450 grams) at the time of delivery. After the baby is born, the placenta has done its job and is pushed out through the vagina; it is often called the afterbirth. The umbilical cord is no longer needed to nourish the baby, and can now be tied and cut. The stump is left to dry up and fall off (see Chapter 14).

Egg passing through faliopian tube


egg
Egg in uterus (womb)
egg
Egg leaving uterus during menstruation

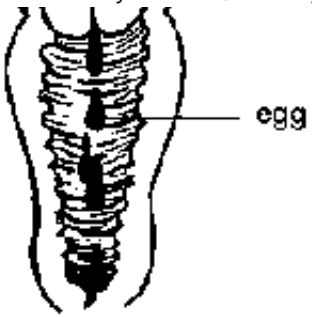
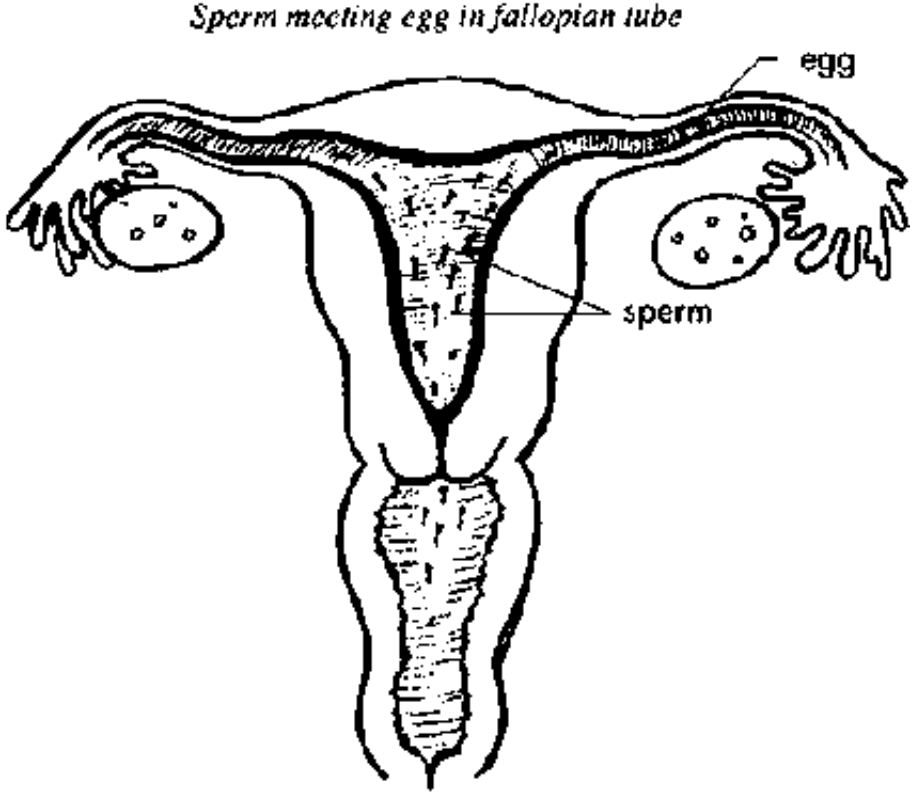


Figure 4.2: The Process of Menstruation

An unfertilised egg leaves the womb through the process of menstruation.



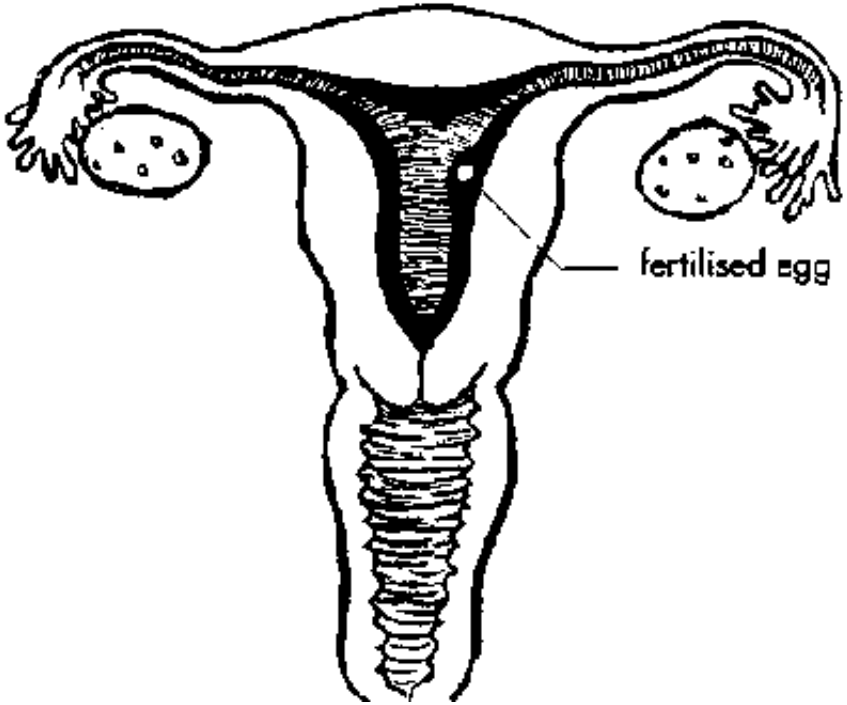


Figure 4.3: Fertilisation and Implantation of the Egg

Growth and Development of the Baby

Fertilisation marks the beginning of a nine-month process of growth and development in which a fertilised egg becomes a human baby. Before fertilisation, the egg is no bigger than the tip of a very fine needle. The sperm that unites with the egg is even smaller. Yet through a process of division, growth, and development, the baby at birth weighs around 6-7 pounds (about 3 kilos), many million times the weight of the egg and sperm from which it started.

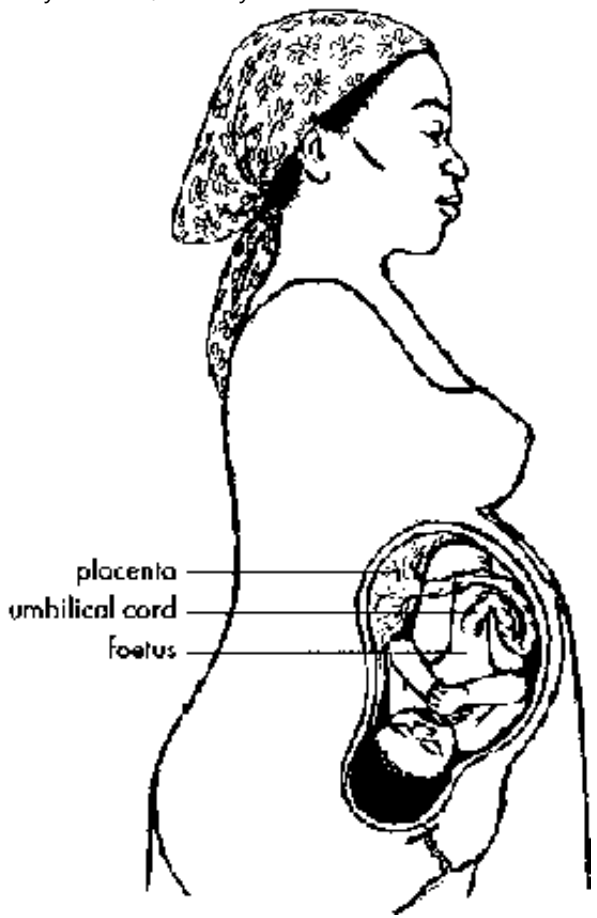


Figure 4.4: Contents of the Womb

During pregnancy the womb holds the foetus, the umbilical cord, and the placenta, which is attached to the inside lining of the womb.

Immediately after fertilisation the egg begins dividing in half. First it splits into two cells, then each cell splits into two again, until finally there are billions of different cells which make up the human body. As the cells multiply, they become specialised. Some cells grow into muscle, others become the brain, stomach, and other organs, while still others will become nerves, bone, or blood.

Human beings grow faster during the time in the womb than at any other time in life (see Figure 4.5). By the time the first period is missed, about two weeks after fertilisation, the new baby, called an embryo, already measures one-quarter of an inch (more than one-half centimetre). A bag of water has formed around the embryo and will protect it from bumping and external injury until birth. By the second missed period, the embryo is only about one inch (2½ centimetres) long, but the bones, muscles, nerves, eyes, ears, and major blood vessels can be identified. The heart is already beating and the liver, kidneys, and stomach have been formed, although they are not yet working.

After the third month, the embryo is called a foetus. By the fifth month, the mother can usually feel the foetus move. In general, during pregnancy the foetus moves, turns, swallows, urinates, sleeps, and responds to loud noises. Between the fifth and sixth months (approximately 24 weeks), the heartbeat is strong enough to be heard with a special instrument called a foetoscope.

By the eighth month or 32 weeks, the foetus weighs about 3½ pounds (1,500 grams) and is about 17 inches (40 centimetres) long. During the next two months, the baby grows and gains weight so that at birth the average baby weighs around 6-7 pounds (about 3 kilos) and is about 20 inches (50 centimetres) long.

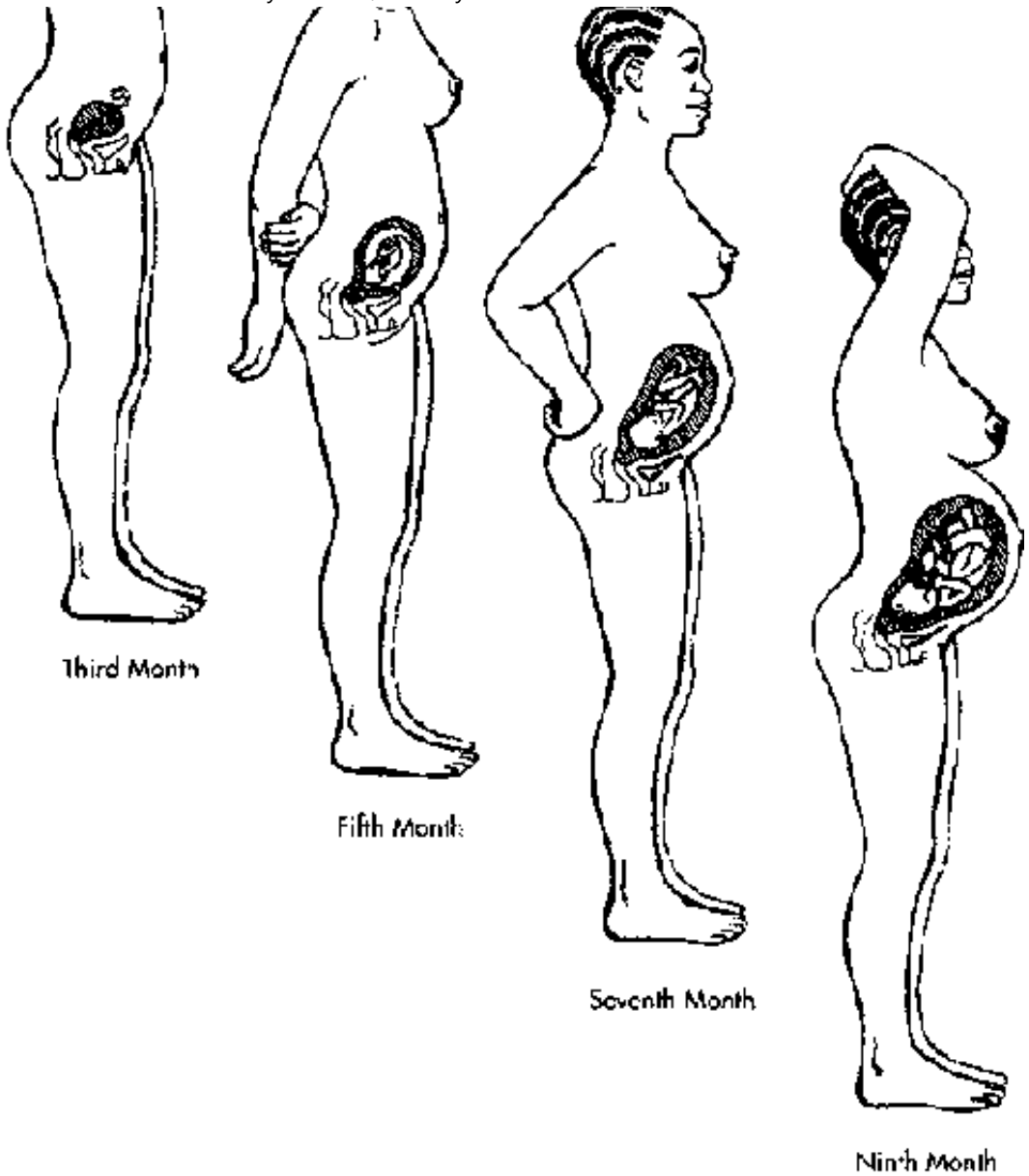


Figure 4.5: Growth and Development of the Baby Inside the Womb

The foetus grows rapidly inside the womb during pregnancy; by the time it is born it weighs 6-7 pounds (3 kilos) and is about 20 inches (50

centimetres) long.

Summary: How Pregnancy Happens

Pregnancy occurs when an egg from the woman is united with a sperm from the man, and the fertilised egg then attaches itself to the inside of the woman's womb. The steps involved in the development of pregnancy include:

MENSTRUATION:

Menstruation, or "the period", happens when the lining on the inside of the womb comes away and is passed out through the vagina with some blood. It occurs approximately once per month as long as a woman is not pregnant. Menstrual periods usually begin between the ages of 12 and 15 years, and last until the age of 40-50 years or so. A woman can get pregnant if she has sexual intercourse with a man about halfway between her periods, although this varies.

OVULATION:

Ovulation is the release of an egg from one of the woman's ovaries each month.

FERTILISATION AND IMPLANTATION:

Fertilisation occurs when the man's sperm unites with the woman's egg. The sperm must reach the egg within 24 hours of the time the egg is released from the ovary. Once fertilised, the egg begins to divide and grow. At the same time, it begins to move through the fallopian tube to the womb. When it reaches the womb it attaches itself to the inside.

GROWTH AND DEVELOPMENT OF THE BABY:

As the baby grows, the organs, nerves, muscles, and bones that make up the human body are formed. The growth of the baby inside the womb takes approximately nine months. At the beginning of this period the egg is the size of the tip of a needle; at the end, the average baby weighs 6-7 pounds.

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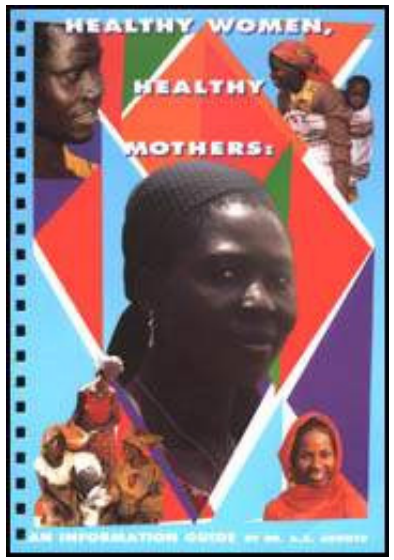

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Chapter Five - WHAT WILL THE BABY BE LIKE?

A baby develops from the union between the mother's egg and the father's sperm. This union determines what the child will be like, such as how tall he or she will be, what colour the eyes will be, and what the shape of the nose and mouth will be. How the parents pass these characteristics to their child is called genetics.

Each cell in the human body contains 46 structures called chromosomes. The reproductive cells, that is, the male sperm and the female egg, each contain only 23 chromosomes - half as many as all other cells in the human body. Each chromosome is made up of many genes, and it is these genes, half of which come from the father and half from the mother, that combine to determine what a person will be like.

Boy or Girl?

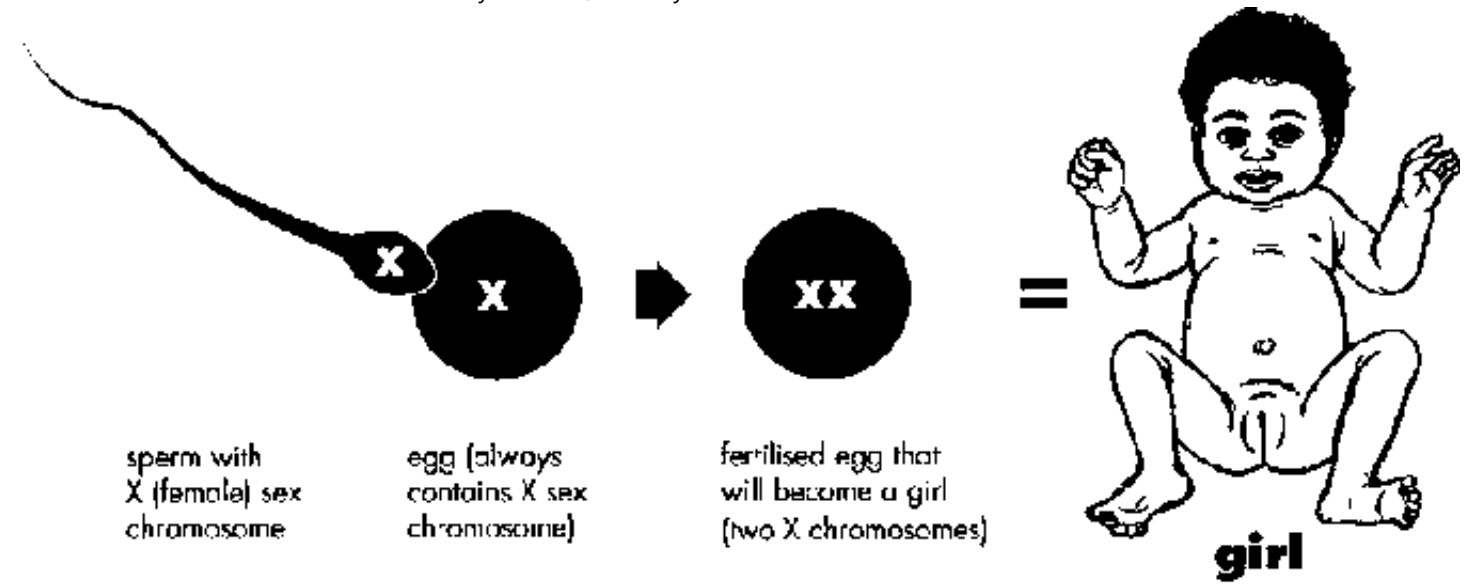
Some families would rather have sons than daughters, and in parts of Africa women are blamed if they do not bear sons. Some wives have been divorced for not producing a son. In actual fact, however, it is the father, not the mother, who determines whether the baby is a boy or a girl.

How? A sperm contains 22 regular chromosomes and one sex chromosome, either X (female) or Y (male). All eggs contain 22 regular chromosomes and one sex chromosome, which is always X (female). If a sperm with a Y chromosome fertilises the egg, the baby will be a boy, and if a sperm with an X chromosome fertilises the egg, the baby will be a girl (see Figure 5.1).

Inherited Characteristics

Children inherit other characteristics from their parents besides height and the

colour of their eyes. Certain physical or mental disorders can also be passed from one generation to the next. Among Africans, or people of African descent, two well-known conditions that can be passed from parents to their children are sickle cell disease and albinism.



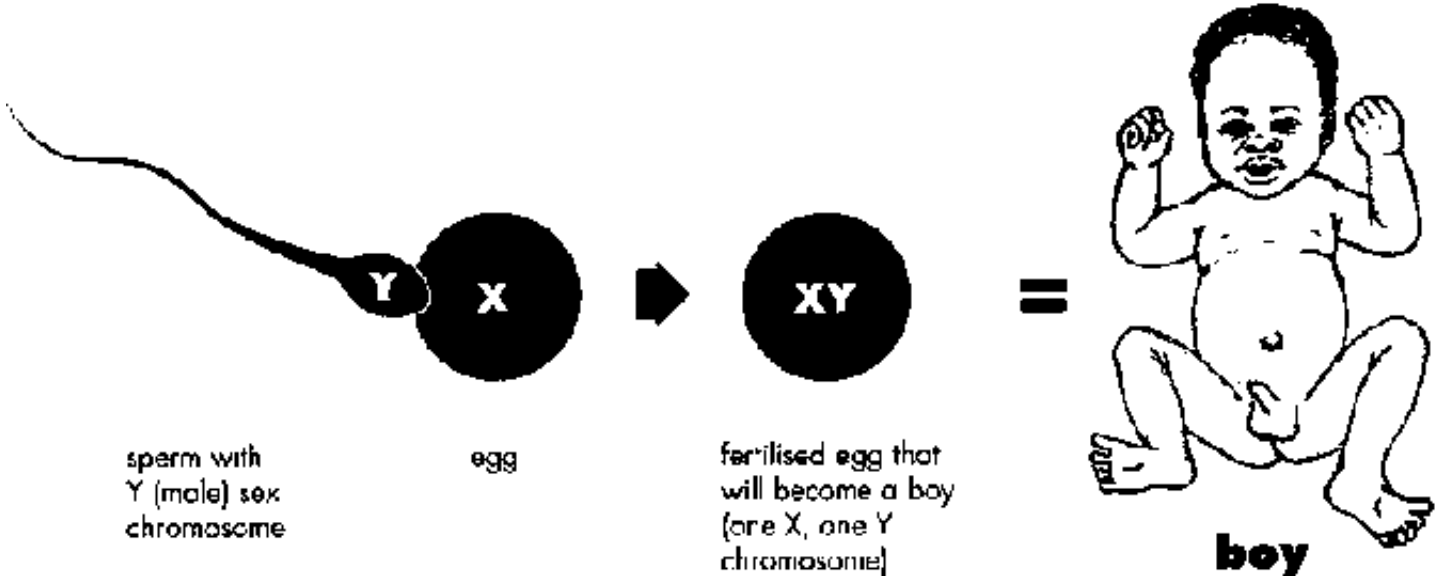


Figure 5.1: How the Sex of the Baby is Determined

SICKLE CELL DISEASE

Sickle cell disease affects the blood cells and, in particular, the ability of the blood to carry oxygen to the tissues of the body. The disorder is quite common in Africa. In its severe forms, it causes a great deal of illness, pain, and even early death. It can also cause serious complications during pregnancy.

The abnormality which causes sickle cell disease is contained in the genes a person inherits from his or her parents. If both parents suffer from the disease - that is, they each have a pair of sickle cell genes - all their children will have the disease. On the other hand, if both parents are carriers - that is, they each have one sickle cell gene - each child has a 25% chance of being completely normal, a 50% chance of being a carrier, and a 25% chance of having the severe form of the disease. It is possible for a couple to produce a number of children with sickle cell disease even if both parents are only carriers; it is equally possible for such a couple to produce a number of children who do not have the disease. If one parent is normal and the other parent is a carrier, each child has a 50% chance of being born completely normal, and a 50% chance of being a carrier.

All couples, therefore, should have a blood test to determine whether they have the sickle cell disorder before they try to have a baby. Couples who are likely to have a baby with sickle cell disease should be informed about their chances, so that they can decide whether to run the risk or, perhaps, adopt a baby instead.

ALBINISM

Albinos lack skin pigmentation - that is, their skin is white instead of dark, their

hair is light yellow instead of black, and their eyes are blue instead of brown or black. Albinism is another condition common in Africa that children inherit from their parents. It cannot be caught or "transmitted" from person to person; it can only be passed from parent to child. Both parents of an albino must either be albinos or carriers. Because albinos lack skin pigmentation which protects people from the sun, they are more likely to get skin cancer from being in the sun too much. Albinos should always cover their skin as much as possible and avoid being in the sun.

Twins or Multiple Births

On average, about one out of every 85 pregnancies results in the birth of twins. Triplets, quadruplets, and higher numbers are less common. A woman who is a twin herself, or who has a close relative such as a mother or sister who is a twin, has a higher chance of having twins. Older women and women who are very fertile (more likely to release two eggs at once) are also more likely to have twins.

There are two types of twins, identical and fraternal. About one-fourth of all twins are identical. This means they develop from the same fertilised egg which, for reasons not properly understood, divides into two separate groups of cells, each of which then develops into a separate individual. But because they develop from a single fertilised egg, identical twins have exactly the same genes. They are always the same sex, and not surprisingly, look almost exactly alike.

Fraternal twins develop when, at ovulation, a woman's ovaries release two eggs instead of just one. Both eggs are then fertilised by different sperm, and grow in the womb at the same time. Apart from growing inside the same womb at the

same time, fraternal twins have no more in common than any two children of the same parents. They may be of different sex.

Is the Baby Healthy and Normal?

When a mother hears her newborn baby cry for the first time, many thoughts and feelings may come to her: Is it a boy or girl? Is it healthy? Does it have any deformities?

Unfortunately, a small percentage of babies are born with some form of abnormality. These can be minor, such as a cleft palate (a problem with the upper lip and top of the mouth), or more serious, such as mental retardation or heart problems. Considering the millions of changes that take place between fertilisation and birth, it is a miracle that the overwhelming majority of children are born healthy and normal. As discussed in Chapter 9, most foetuses that have severe abnormalities miscarry by themselves. Some abnormalities, such as a cleft palate, can be corrected by an operation, especially if it is done while the child is still very young. Others cannot, so the child and his or her family must learn how to manage, and try to help that child develop as fully as possible. While this can be difficult, it can also help make a family closer and more caring.

WHAT CAUSES ABNORMALITIES IN A BABY?

In the past, and still in some countries today, a deformity in the baby was thought to be the result of witchcraft, adultery, sin, or a curse. Today, the causes of some abnormalities are still not known, although many are. For example. Down's Syndrome (mental retardation) is due to problems in the baby's genes that can

come from either the father's sperm or the mother's egg. Other abnormalities can be caused by illness during pregnancy, such as German measles or syphilis. Some medicines, if taken during pregnancy, can also cause abnormalities. For example, tetracycline (an antibiotic) can cause damage to the baby's teeth and bones. It is also considered unsafe for a pregnant woman to be exposed to too many X-rays, especially during early pregnancy. Some common chemicals used for farming or in factories can find their way into water, food, or air; if the concentrations are high enough, these chemicals can cause birth defects.

It is almost impossible to identify exactly what causes an abnormality in a baby. In most cases, only common-sense precautions can be taken, such as getting tested (and, if necessary, treated) for syphilis. Mothers should also avoid alcohol, drugs, X-rays, and harsh chemicals during pregnancy. Proper nutrition can help ensure that the baby is as healthy as possible. When all precautions are taken, the chances are overwhelmingly in favour of the child being completely healthy and normal.

Summary: What Will the Baby Be Like?

The way a child looks, as well as other characteristics, is passed on from the parents. These characteristics include:

BOY OR GIRL:

It is sperm from the father, not the mother's egg, that determines the sex of the baby.

TWINS:

Identical twins look alike because they come from the same egg in the mother's womb. Fraternal twins do not necessarily look alike, because they come from two different eggs even though they grow in the womb at the same time.

ABNORMALITIES:

Some disorders or conditions, such as albinism and sickle cell disease, are passed on from the parents to the children. Others can be caused by drugs the mother takes or illnesses she has during pregnancy. Many of these can be avoided if the mother takes proper precautions during pregnancy.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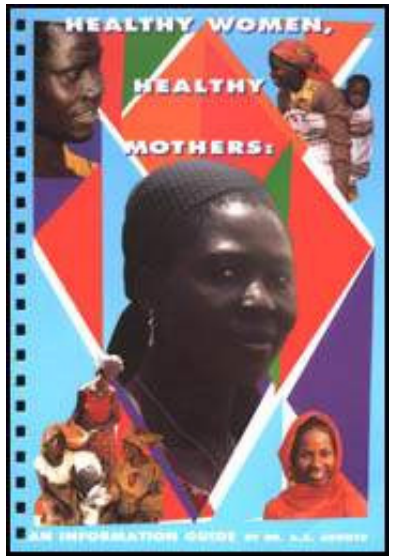


Healthy Women, Healthy Mothers - An Information Guide - Second Edition (FCI, 1995, 241 p.)

Chapter Six - EARLY PREGNANCY AND SELF-CARE

Signs of Pregnancy

There is usually no one sure sign that tells a woman she is pregnant. Rather, there may be a number of signs, especially during the first few weeks. A missed period is probably the first reason to suspect pregnancy. If a woman has regular periods, had sexual intercourse recently without using contraception, and has not had her period on time, she is probably pregnant.

Other signs include swelling or a feeling of tenderness in the breasts, or a tingling feeling in the nipples. One-third to one-half of all pregnant women feel sick to their stomachs and may vomit. This is often called "morning sickness", although it

can happen any time of day. Many women need to pass urine more frequently. A few women tire more easily or feel dizzy, particularly during the first three months of pregnancy. Sometimes women have strong desires or cravings for particular foods.

There can be other explanations besides pregnancy for any of the signs mentioned above; for example, a woman with anaemia may feel tired and dizzy. Generally, however, women know when they are pregnant, especially if they have had babies before. Some hospitals or clinics can confirm the pregnancy; they may be able to test for certain chemicals that are found in the urine of pregnant women. Sometimes a midwife, nurse, or doctor can determine if a woman is pregnant by performing a vaginal examination.

Once a woman knows that she is pregnant, especially if this is the first time, many questions come to mind. When is the baby due? Will it be a normal pregnancy and will the labour be normal or difficult? When should she go for medical care? What should she do to make sure her pregnancy is as healthy as possible? What are the danger signs? The next few chapters of this book will answer these and other questions on how to help women go through the experience of pregnancy, labour, and birth safely, and end up with a healthy baby in their arms. Pregnancy is a very special period in a woman's life, and she has special needs. She and her family are responsible for making sure that she receives the care and attention she needs.

Box 6.1: ***Early Signs of Pregnancy***

THINGS A WOMAN MAY NOTICE HERSELF:

- A missed period
- Swelling, tenderness, or tingling in the breasts
- Nausea, vomiting, or loss of appetite
- Frequent urination

THINGS THE DOCTOR, NURSE, MIDWIFE, OR TRAINED BIRTH ATTENDANT CAN DO:

- Examine the vagina to look for changes in the neck of the womb
- Feel the size of the womb

- Test the urine or blood to look for chemicals that indicate pregnancy (only in a properly-equipped health facility)

Changes During Pregnancy

A woman undergoes many physical and emotional changes during pregnancy. Many of the changes occur because her body has to be prepared to meet the needs of the baby during pregnancy, and also for the actual birth and breastfeeding.

CHANGES IN THE WOMB

By the sixth week of pregnancy, the womb is already enlarged. It will continue to grow to accommodate the baby, its bag of water, and the placenta. At 13 weeks, the womb and the baby have grown large enough to be felt by a health worker. From this time until the 36th week, the womb grows at the rate of about one finger width every week. By the 36th week the top of the womb has nearly

reached the level of the rib cage. Sometimes it will drop a little around the 38th week when the baby's head begins to descend into the birth canal.

CHANGES IN THE BLOOD

During pregnancy the amount of blood in a woman's body increases by about 30% in order to meet the rapidly in- creasing needs of the baby. To move all this blood around inside the body, the woman's heart grows a little bigger and works harder. This is a normal condition, and is not a sign that complications are developing.

CHANGES IN THE BREASTS

Some of the earliest changes caused by pregnancy are in the breasts, which must be prepared to feed the newborn. More blood flows to the breasts, making them tender. A tingling sensation can also be felt, and the breasts actually grow bigger and feel heavier. The dark skin around the nipples becomes darker, and the nipples themselves stick out more. Very early in pregnancy milk is already being produced. Many women may see a yellowish liquid come from their breasts during pregnancy. This is the first milk, called colostrum, and is quite normal.

EMOTIONAL CHANGES

Feelings and moods may change during pregnancy, partly because of changes in a woman's body chemicals (hormones) and partly in response to the prospect of having and raising a child. A woman may be happy one minute and tearful the next. Many women are anxious and fearful about whether their children will be normal, whether they will be able to cope with labour, and whether they will be able to look after the new baby. It may help the woman to talk about her feelings,

either with a health worker, her husband, or with another woman - a sister, mother, or friend - who has been pregnant. Some women may feel sad for a brief period after delivery, but most women feel better and happier.

In some areas, people believe that the baby will be harmed if the mother feels strong emotions, especially anger, during the pregnancy. For example, they believe anger might cause a miscarriage or put a knot in the umbilical cord. While it is better for a woman's own health and happiness if she is not under stress during pregnancy, there is no evidence that anger or sadness can cause problems for the baby's health.

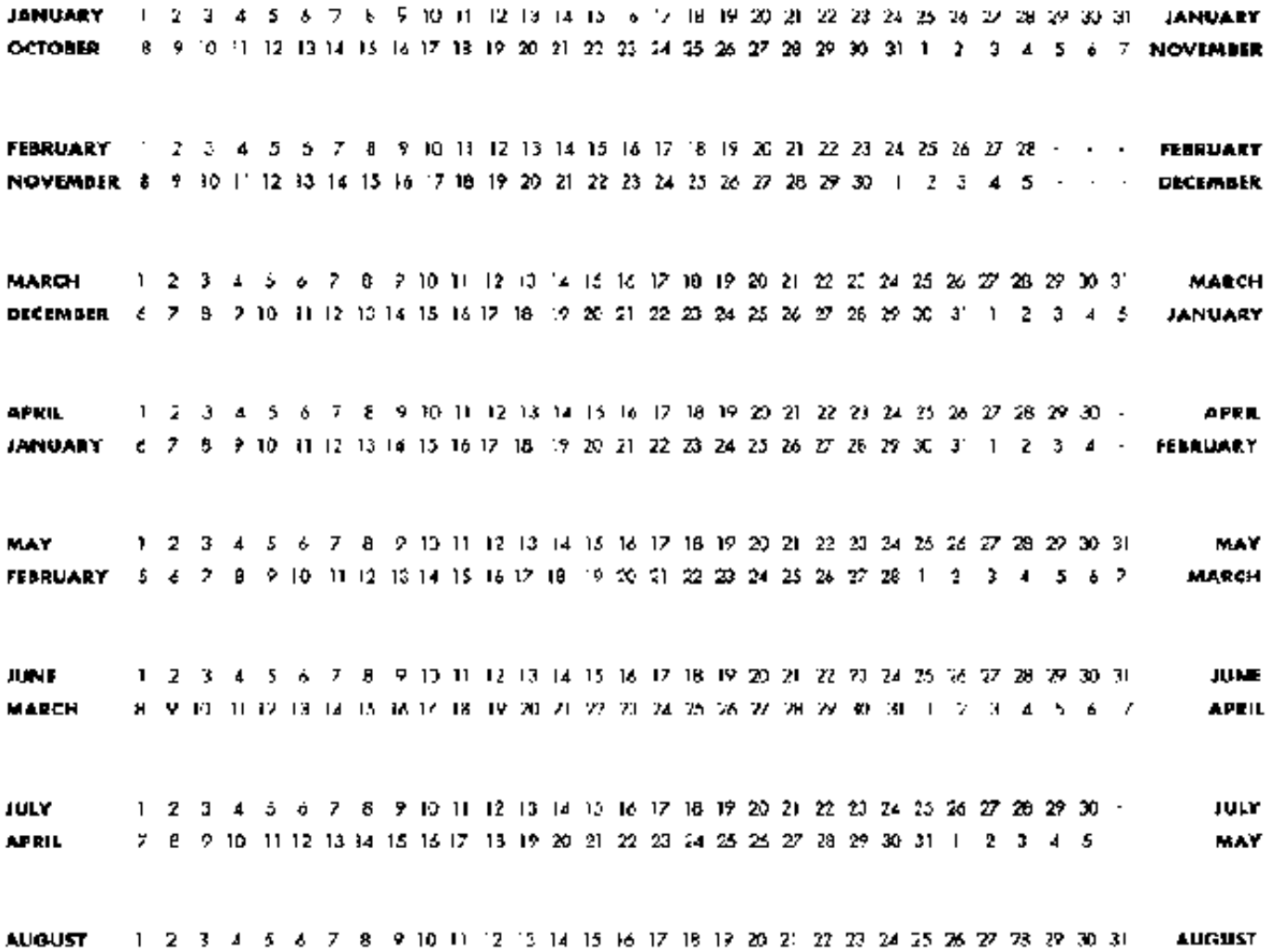
When Is the Baby Due?

Pregnancy normally lasts 40 weeks from the date the last normal menstrual period started. The length of the pregnancy is the same for both boy and girl babies. A pregnancy that has lasted 37 weeks or more is said to have "reached term", and labour can be expected to start any time.

To calculate the expected date of delivery, add seven days to the first day of the last menstrual period, then count forward nine months. For example, if the last period started on 15 January, add seven days to arrive at 22 January. Now count forward nine months to October. The expected date of delivery is 22 October. Table 6.1 can be used to calculate the expected date of delivery. The expected date of delivery is not an exact date. The baby may actually be born as much as two weeks before or after that calculated date.

Self-Care During Pregnancy

One of the most important things a woman can do as soon as she thinks she is pregnant is visit a health facility for antenatal care, ideally by the fourth month of pregnancy and sooner if possible. An early visit can detect complications such as anaemia or a sexually transmitted disease. These complications can then be treated before the pregnancy advances and the problem becomes serious. It is also important to make sure the woman has a. tetanus injection. Chapter 7 describes what happens during antenatal visits.



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OCTOBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	OCTOBER
JULY	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	AUGUST
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SEPTEMBER	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	OCTOBER

Table 6.1: ***How to Calculate the Estimated Date of Delivery***

The calculation is made from the first day of the last menstrual period. In each row, the top line of figures represents the first day of the menstrual period; the bottom line of figures represents the corresponding expected date of delivery.

EXAMPLE: If the first day of the woman's last menstrual period was 1 January, the expected date of delivery would be 8 October. Or if the first day was 18 April, the expected date of delivery would be 23 January

There are a number of reasons why a woman might not attend antenatal care early or often enough, or not go at all. She may not understand the benefits of antenatal care, so she sees no reason to go. Her husband or family may not think it is important, and may discourage her from going or refuse to give her money for transport or fees. Some women believe it is bad luck to talk about the pregnancy

before the fifth or sixth month because they think it may attract witches or evil people who will harm the baby.

It is important for health workers and others who are providing health education to understand why a woman might not be attending antenatal care. These beliefs can then be addressed directly. In addition, the benefits of early and regular antenatal attendance should be clearly explained to the woman and her family. They should know that antenatal care gives a trained health worker a chance to make sure that the woman is healthy, and find out if there is something wrong that needs special care. If found early and properly treated, many problems do not become dangerous to the mother or baby.

Other things women should know to improve their health and make them more comfortable during pregnancy include:

WORKLOAD, REST, AND SLEEP

Most women work very hard - in the home, on the farm, or in the office. Many continue to work just as hard or even harder when they are pregnant. Too much physically demanding work during pregnancy can contribute to problems with the pregnancy, such as miscarriage, premature labour, or underweight infants, especially if a woman is not eating enough (see section on Diet and Nutrition later on in this chapter).

Pregnancy is hard work in itself; the body is trying to feed a growing baby, and as the pregnancy advances a woman carries about 25 pounds (11 kilos) more weight than usual. This is like carrying a bucket of water all the time. Too much hard

work, especially gathering firewood, carrying water, and working in the fields, can strain a woman's body and make her too weak to withstand the physical demands of pregnancy and childbirth.

Women should, therefore, be encouraged to avoid heavy physical labour during pregnancy, especially work such as lifting and carrying heavy loads, walking for many hours, and digging or weeding for long periods. Other members of the family should help with these tasks. If they cannot be given up completely, women should make sure they rest as much as possible between tasks. Regular work and chores may be continued as long as they are not too tiring.

A pregnant woman should also get as much rest as possible; she should lie down for an hour or so during the day, and sleep between six and ten hours every night. Near the end of her pregnancy it may be difficult for her to get a good night's sleep because of the size and movements of the baby. Lying on the side is often the most comfortable position and improves the blood supply to the baby.

EXERCISE AND RECREATION

Women need regular exercise when pregnant but, as in most things, moderation is best. If their daily activities do not require much physical exercise, taking a walk every day helps women stay healthy and feel good. Special exercises can help women prepare for delivery and a speedy recovery after the baby is born, improve muscle tone, aid digestion, prevent constipation, and assure restful sleep. Some of these exercises are shown in Figures 6.1-6.4.

Some women avoid their normal social activities when they are pregnant. There is

no need for this, since pregnancy is a natural and normal event; women can continue their usual recreational and social activities for as long as they want to.

ILLNESS

Getting sick during pregnancy is especially uncomfortable and unpleasant, partly because of the pregnancy itself and partly because some medicines need to be avoided during pregnancy (see below). In addition, some diseases such as malaria can cause serious problems during pregnancy. For these reasons, women need to be especially careful to avoid diseases and infections when they are pregnant. For example, they should use mosquito nets on their beds when they sleep, and avoid water that is known to carry diseases like schistosomiasis.

PERSONAL HYGIENE

Bathing every day, or every other day, is refreshing for most pregnant women; it also reduces the chance of getting an infection or illness. It is especially important to take care of the breasts and the genital area by washing often with clean water; harsh chemicals or strong detergents are not necessary, and can even be harmful.

CLOTHING

In the often hot and humid climates of most African countries, loose clothes made of light cotton material are ideal. Well-fitting brassieres can help support the breasts as they get bigger and more tender. Comfortable shoes with flat or low heels can relieve aches in the feet, legs, and back.

TRAVEL

It is perfectly safe to travel during pregnancy, although pregnant women should avoid discomfort and exhaustion. If a woman must make a long journey by road, she should be encouraged to stop frequently to stretch her legs, drink plenty of liquids, and empty her bladder. If she has to walk for some distance, she should stop often to rest, and she should not carry a heavy load. Families and communities can help by organising other means of transport (bicycle, motorcycle, or car) when a pregnant woman has to go to a health centre or somewhere else.

ALCOHOL AND SMOKING

Alcohol in the mother's blood passes through the placenta to the baby. Women who drink heavily risk having babies with serious problems, including mental retardation and physical deformities. Since it is not known exactly how much alcohol is dangerous to a baby, women should be counselled to avoid it completely.

Smoking during pregnancy is unquestionably harmful as it interferes with the blood flow from the mother to the baby. Babies born to women who smoke during pregnancy are often smaller than babies of non-smoking mothers; smaller babies are more likely to be sick. It is best if women who smoke can stop before pregnancy, or as soon as possible during the pregnancy. Women who are unable to stop may at least be able to cut back the number of cigarettes they smoke each day if they know it will help their baby to be healthy.

Exercises to Strengthen Muscles Used During Pregnancy and Delivery

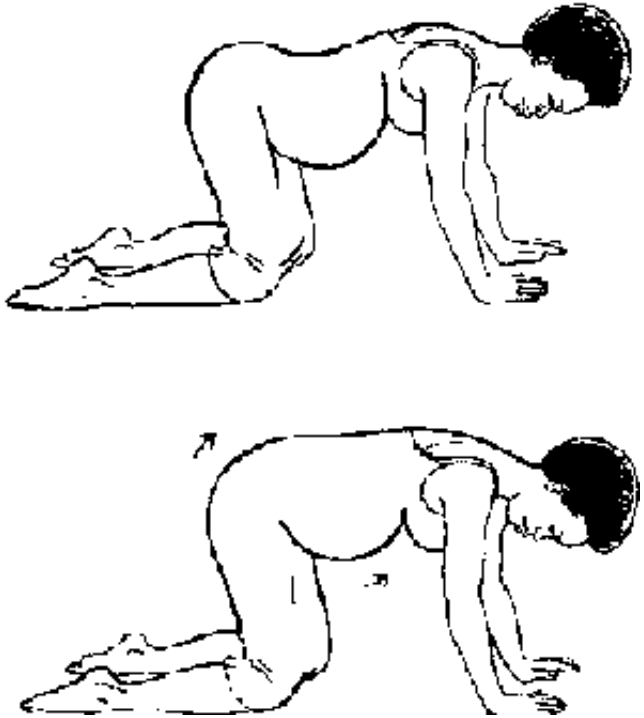

Figure 6.1: Pelvic Rock (helps relieve backache and pressure in abdomen and strengthens stomach muscles)

1. Get down on hands and knees, as shown in top figure.
2. Pull in abdomen and lift buttocks, as shown in bottom figure. Hold for a count of five.
3. Gently relax abdomen and buttocks, allowing the curve of the back to return.
4. Repeat 5-6 times.

Exercises to Strengthen Muscles Used During Pregnancy and Delivery

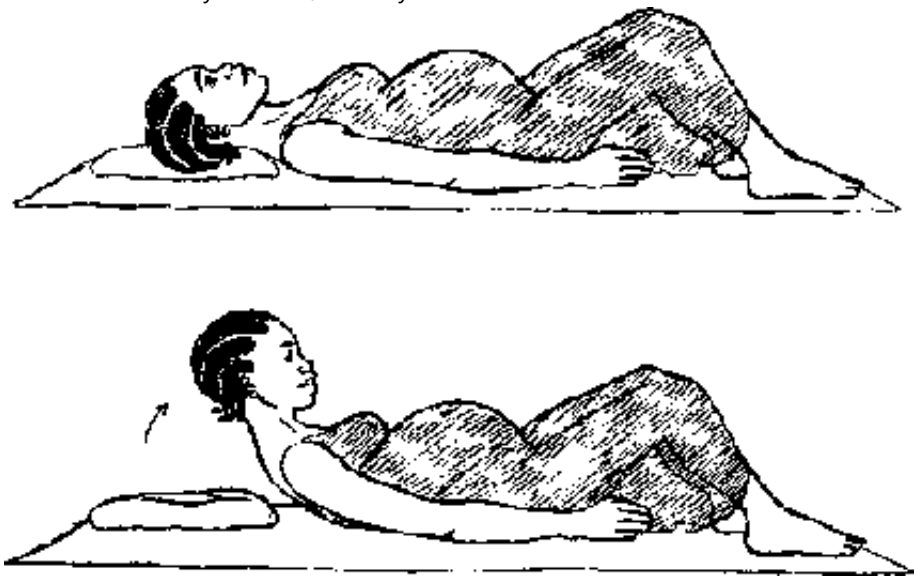

Figure 6.2: Head and Shoulder Lift (strengthens muscles in abdomen)

1. Lie on back with knees bent, feet flat on the floor, and arms at sides as shown.

2. Raise head and shoulders and tighten abdominal muscles. Hold for a count of five. Do not hold breath.

3. Lie back and relax.

4. Repeat 5-10 times.

Exercises to Strengthen Muscles Used During Pregnancy and Delivery

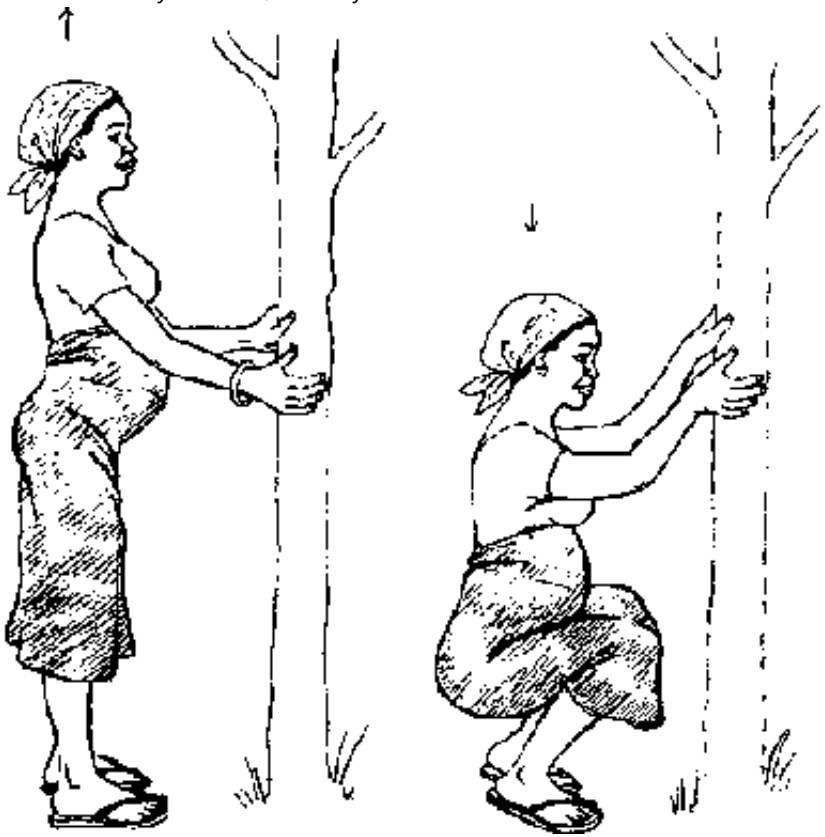

Figure 6.3: Squat (strengthens leg muscles)

1. Stand while holding onto something to help keep balance. Keep feet apart.
2. Slowly bend knees, keeping back straight and keeping knees and feet apart.
3. Rise slowly, keeping hold of the object for balance.
4. Repeat 3-5 times.

NOTE: Do not do this exercise if knees hurt.

Exercises to Strengthen Muscles Used During Pregnancy and Delivery

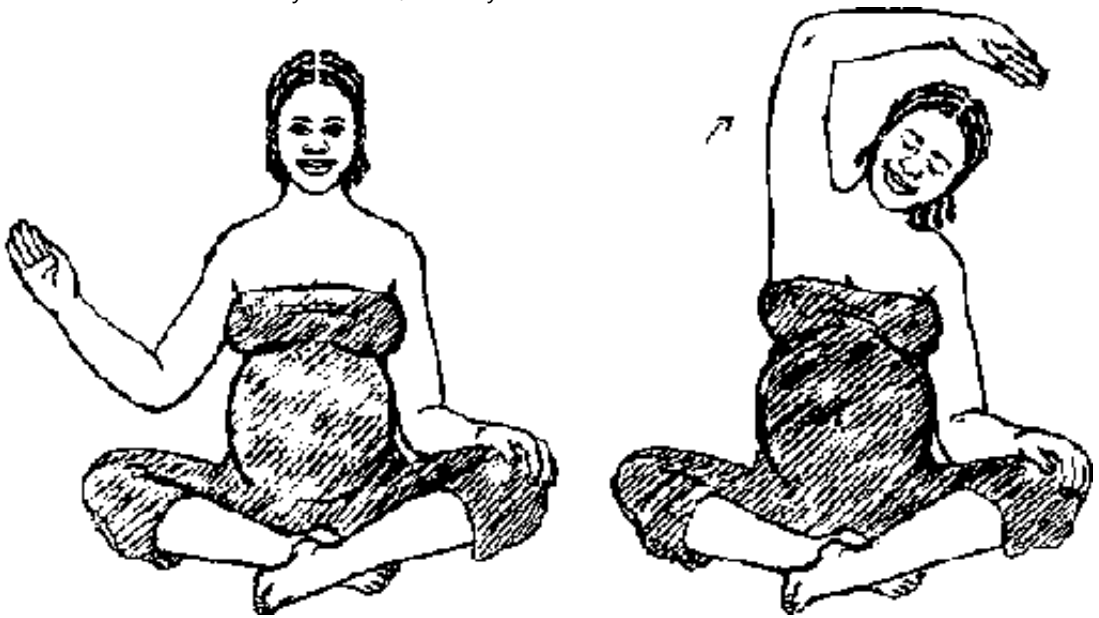

Figure 6.4: Rib Cage Lift (strengthens leg muscles and makes it easier to breathe)

1. Sit with legs crossed as shown.

2. Curve arm over head, hold it, and return to the original position.

3. Repeat 4-5 times, then do the same with the other arm.

Kegel Exercise (strengthens muscles that help make delivery easier, and reduces the chance of complications during delivery)

1. Tighten the muscles around the anal opening and in the vagina (as if holding back urine). Hold for a count of three, then relax.

2. Repeat 5-10 times. This exercise can be done anytime during the day when sitting down.

NOTE: There is no illustration for the Kegel exercise.

MEDICINES, HERBS, AND X-RAYS

Medicines taken during pregnancy pass through the placenta to the baby. Because no medicine is completely free of side-effects, and because the baby is more likely to suffer from these side-effects, medicines should be avoided during pregnancy. This is particularly true for medicines purchased from drug peddlers or chemists that are not prescribed by a doctor. It is especially important to avoid medicines during the first three months of pregnancy when the fertilised egg is undergoing the most rapid process of growth and development. Medicines taken at this particular time may cause abnormalities in the baby.

Mothers who are addicted to drugs have babies who are also addicted. In addition to going through withdrawal during their first few days, these babies are often smaller or are born too early, and they may develop much more slowly.

There are some exceptions to the "no medicines" rule. They include medicines prescribed by a trained health worker to prevent malaria, and tablets to supplement the diet with iron and vitamins. Other medications may be prescribed by a doctor for specific problems related to pregnancy, such as high blood pressure. If a woman is taking a prescribed medication before pregnancy, she should continue to take it until she has discussed the matter with a doctor as early as possible in the pregnancy.

Herbs or herbal potions that women sometimes take may also contain drugs. For example, some herbs can be addictive; others can cause the womb to contract,

which can be very dangerous. If possible, it is best to find out what kinds of herbs a woman is taking during pregnancy, if any, and try to determine whether they have any harmful effect. Most teas, for example, are fine. If an herb could be dangerous, the woman should be discouraged from taking it, and other, harmless herbs should be encouraged instead.

X-rays should be avoided during pregnancy, especially during the early weeks. If an X-ray is absolutely necessary, the woman's abdomen should be well shielded from the rays.

ENVIRONMENTAL HAZARDS

Some chemicals can cause serious problems in a baby, as well as the mother, if she is exposed to them during pregnancy. For example, some hair dyes can be absorbed through the skin and can cause birth defects. Pesticides (chemicals used to kill insects) can also be absorbed by the body and can damage the unborn baby. Herbicides (chemicals used to kill weeds) can cause miscarriages. It is best if pregnant women avoid breathing the fumes of such chemicals and avoid having skin contact with them.

SEXUAL INTERCOURSE

Women, as well as men, often have questions about the effects of sexual intercourse during pregnancy, although they may be reluctant to ask. Traditional beliefs regarding this topic are common. For example, some people believe that intercourse is necessary during pregnancy because they think the man's semen helps the baby grow. While this is not true, couples should know that they can

continue to have normal sexual relations during pregnancy as long as they want to. It will not hurt the baby or mother unless there is bleeding from the vagina, signs of premature labour, or the bag of water has broken. Some women feel no desire for sex during pregnancy; others do, and may even feel increased desire. As pregnancy advances, however, sex may be uncomfortable. Women should be encouraged to discuss their feelings, try different positions during sexual intercourse, and find other ways to be close to their husbands or partners.

Diet and Nutrition During Pregnancy

Pregnancy makes many demands on a woman's body, especially in terms of nutritional status. During pregnancy the fertilised egg grows from a cell not bigger than the tip of a fine needle to a human being weighing 6-7 pounds (3 kilos) at birth. All the food required by the egg to form the baby's body must be provided by the mother during the nine months of pregnancy.

During pregnancy, the baby's needs will be met before those of the woman. For example, if a woman does not get enough food or enough of a particular vitamin, her body will give the baby what it needs first, and then use whatever is left over - which may not be enough. Lack of some vitamins or minerals in the diet can cause illness. For example, anaemia is caused by lack of iron, and goiter is caused by lack of iodine. Therefore, it is critically important that a woman gains enough weight during pregnancy and eats the right foods in order to meet her own energy and nutritional needs, as well as those of her baby.

After pregnancy, breastfeeding places even greater nutritional demands on a woman's body, especially during the first 4-6 months. Depending on how long

breastfeeding continues, it can take two or more years for a woman's body to recover fully. Thus women who have many children close together (less than two years apart) do not have a chance to recover from one pregnancy to the next. Their nutritional reserves get used up, and they tend to become sick often and tire easily. Women will enjoy pregnancy more and feel healthier if they are able to plan to have their next pregnancy when their other children are at least two years old or more, and when they are in good health and well nourished.

WEIGHT GAIN

On average, women should gain about 20-30 pounds (9-13 kilos) during pregnancy, although many women - especially if they are underweight to begin with -gain less than this. This includes the 6-7 pounds of the baby itself, as well as the placenta, the growth in the womb, the increase in the size of the breasts, fat deposits, and increases in the blood and body fluids. Often there is very little weight gain during the first few months, and many women even lose several pounds. After the fourth month, however, a pregnant woman usually gains about four pounds (two kilos) each month.

If there is not enough weight gain and the woman is very thin to begin with, there is a chance the baby may weigh too little - less than 5½ pounds (2½ kilos). Underweight babies are five times more likely to die during their first year of life. They are also more likely to have illnesses such as diarrhoea, anaemia, and colic. If they survive, they are more likely to be mentally retarded. Underweight women are also more likely to suffer from problems during pregnancy and delivery, since their bodies may not be as strong as they need to be.

Some women intentionally try to avoid gaining too much weight during pregnancy, because they believe the baby will be smaller and easier to deliver if they do not eat too much. This custom, often called "eating down", can be very harmful; both the woman and the baby may suffer from problems caused by a poor diet, and both face a higher risk of illness and death. The custom is also unnecessary for a healthy woman of normal size, who is not likely to develop problems with obstructed labour. If she is very short or very young, a woman may need to be advised to deliver in a health facility where medical help is available.

TYPES OF FOODS

Pregnant women should follow a normal, healthy diet. The most important rule is for them to eat enough of the different types of foods to meet their needs and those of the developing baby. Some women have strong desires for certain types of foods, or develop strong dislikes for other foods that they previously enjoyed. Both reactions are normal, and women should be encouraged to eat what they want and avoid what they don't want as long as they eat what is healthy. The following are some of the different types of food that must be included in a daily diet (see Figure 6.5).

Energy-giving foods: These include the so-called starchy foods like maize or corn, potatoes, yams, plantains, cassava, rice, millet bread, etc. Fats are also an important source of energy. They include the oils used for cooking, such as palm kernel oil, coconut oil, and groundnut oil, as well as fat from animal sources, such as butter. A pregnant woman should eat four servings of food from this group every day.

Body-building foods: These include both meats and vegetables that provide the necessary materials, called proteins, for building the many types of tissues that form the human body. Good sources of animal protein include meat, fish, milk, and eggs. Vegetable sources include beans (which are healthiest if they are eaten with a starchy food such as rice or yams), groundnuts, and the leaves of some plants. A pregnant or breastfeeding woman should eat three servings of food from the body-building group each day.

Protective foods: Vitamins are special substances present in many types of food. The body needs small amounts of different vitamins for normal growth and development. Lack of vitamins gives rise to illness. Good sources of essential vitamins are liver, yeast, fish, and eggs. These foods can also provide many of the minerals (such as calcium, iron, iodine, and copper) needed for normal body functions and the growth of the baby. Other good sources of vitamins include fruits and vegetables such as oranges, bananas, pineapples, mangoes, pawpaw, tomatoes, okra, garden eggs, and carrots. They also provide roughage, which helps to keep the bowels moving regularly. A pregnant woman should eat three servings of food from the protective group, especially fruits and vegetables, each day.

A normal, healthy diet contains adequate amounts of vitamins and minerals. Only iron and folic acid, which are essential for preventing anaemia and nourishing both mother and baby, usually need to be taken regularly in addition to the normal diet during pregnancy. Antenatal clinics should provide these, and encourage women to take them by explaining their benefits.

Most of the foods mentioned above are available in local markets, depending

sometimes on the season. Imported foods are not only expensive, they are often not readily available.

Women should also drink plenty of liquids, especially clean water, during pregnancy. This helps prevent constipation and urinary tract infections.

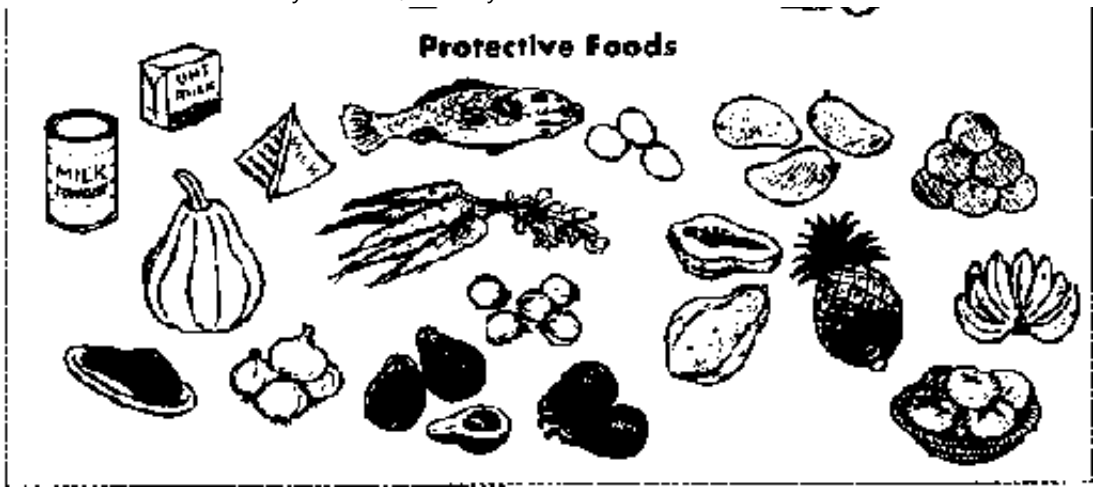

Figure 6.5: Food Groups and Proper Nutrition During Pregnancy

During pregnancy and breastfeeding, a woman's daily diet should include foods from all three groups

HOW MUCH FOOD IS ENOUGH?

A woman's energy and nutritional needs increase by about 15% during pregnancy and by about 25% while breastfeeding. This means that if the average non-pregnant woman needs about 2,000 calories of energy each day, she needs 2,300 calories during pregnancy, and 2,500 calories while breastfeeding.

TRADITIONAL ATTITUDES AND TABOOS ABOUT FOOD

Depending on where a woman lives, there may be certain rules and traditions about what may and may not be eaten during pregnancy. Most of these traditions are harmless.

Much harm can be done, however, if a woman is prevented from eating what she

needs during pregnancy. In many countries, for example, pregnant women are told they are not supposed to eat eggs, milk, or other foods that are excellent sources of vitamins and protein. When it comes to deciding what to eat and what not to eat, women and their families should remember two rules. First, if it is all right for a woman to eat it when she is not pregnant, it is all right to eat it when she is pregnant. Second, if it does not hurt men to eat it, it is not likely to harm a woman or her baby.

Summary: Early Pregnancy and Self-Care

DOS:

PREGNANT WOMEN SHOULD:

- Go for antenatal care as soon as they know they are pregnant and at least three or four times during pregnancy
- Sleep 6-10 hours each night
- Rest as much as possible; for example, lie down for one hour every day
- Keep clean by washing frequently
- Get regular exercise, for example by walking for half an hour every day
- Wear loose, comfortable clothing and low-heeled shoes that support the feet
- Continue to have sexual relations as long as they want to, unless there is

bleeding from the vagina, contractions have started, or the bag of water has broken

- Drink plenty of liquids and eat enough food, especially the right kinds of food (energy-giving, body-building, and protective)

DO NOTS:

PREGNANT WOMEN SHOULD NOT:

- Lift or carry heavy loads
- Drink alcohol - it can cause serious problems for the baby
- Smoke - smoking cigarettes or marijuana can harm the baby
- Take medicines, drugs, or herbs unless a doctor or nurse who knows about the pregnancy says it is all right

- Be exposed to chemicals such as hair dyes, pesticides to kill insects, or herbicides to destroy weeds


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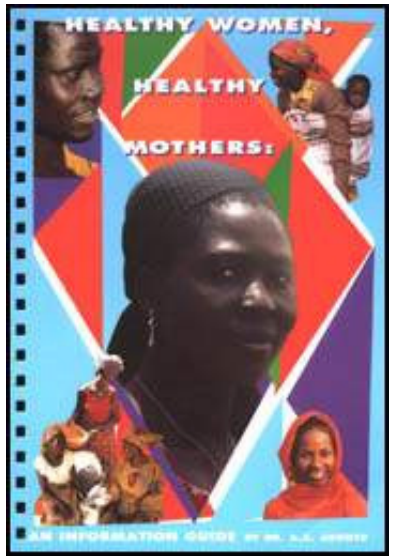

Healthy Women, Healthy Mothers - An Information Guide - Second Edition (FCI, 1995, 241 p.)

Chapter Seven - ANTENATAL CARE

Antenatal care is health care and education provided during pregnancy. The main goals of antenatal care are to ensure that the mother and baby are in good health, and that any problems during the pregnancy are recognised and treated promptly.

Pregnancy is not an illness, and the majority of women have normal pregnancies, safe deliveries, and healthy babies. Some women, however, do develop complications during the course of pregnancy. Some of these complications may be minor but others may be severe, even life-threatening to the mother, baby, or both. Regular visits to an antenatal clinic enable the midwife, nurse, or doctor to recognise the first signs of many pregnancy complications. Some traditional birth attendants (TBAs) have also been trained to recognise the signs of complications

and to know when a woman must be taken to a hospital. The complication can then be treated before it becomes serious, or arrangements can be made to handle it safely.

The First Antenatal Visit

Ideally, a woman should make her first antenatal visit by the time she is four months pregnant, or even earlier. During this visit, a thorough history is taken and a physical examination is carried out. Certain laboratory tests will also be done if the facility has the resources and equipment. In most countries, some type of antenatal card is used to record the information gathered during the interview, laboratory tests, and physical examination. The findings are used to assess how healthy the woman is during her pregnancy, to identify potential problems she or her baby may have, and to record the effects of whatever treatment she is given.

PERSONAL HISTORY

During the first interview a thorough personal history should be taken, including questions about the following issues:

General characteristics:

- **age**
- **number of living children**
- **number of dead children, if any**

- **last normal menstrual period**
- **regularity of periods before pregnancy**
- **use of contraception before pregnancy**

History of current pregnancy:

- **problems developed during this pregnancy**
- **antenatal care received elsewhere**
- **medications taken**

Obstetric history:

- **year of each pregnancy and outcome, including any problems before, during, or after birth (such as prolonged labour, retained placenta, fever after the delivery, fits, or convulsions)**
- **place of delivery**
- **type of delivery (normal, forceps, vacuum, or Caesarean section)**
- **whether delivery was pre-term or full-term**
- **weight of each baby delivered**
- **number of abortions, miscarriages, and ectopic pregnancies, if any**

Medical/surgical history:

- **current use of medications**
- **known allergies to medications**
- **medical problems, including sickle cell disease, heart disease, diabetes, asthma, tuberculosis, hypertension, or jaundice**
- **past operations or surgery, or past blood transfusions • sexually transmitted diseases and treatment**

Family history:

- **family members with medical problems such as high blood pressure, diabetes, cancer, or genetic problems**
- **whether any relatives have had twins**
- **whether any relatives had babies born with birth defects, including mental retardation**

Social history:

- **occupation**
- **current use of drugs**
- **use of cigarettes or alcohol**

- **living situation**
- **support from the father of the baby**
- **whether pregnancy is wanted**

Some of the information may not be available, either because the woman does not know it or because she does not want to talk about it for some reason. Probably the most important information to get is whether the woman has had any problems with this pregnancy, or any serious complications with a previous pregnancy or delivery.

PHYSICAL EXAMINATION

After a personal history is obtained, the midwife, nurse, or doctor carries out a thorough, head-to-toe examination of the woman. He or she looks for signs of disorders, such as anaemia. Height and weight are measured and blood pressure is taken (see Figures 7.1 and 7.2). The size of the woman's womb is measured to check the baby's growth and, after 20 weeks of pregnancy, the baby's heart may be listened to with a special stethoscope called a foetoscope.

What Will Happen During the Antenatal Visits?

Figure 7.1: Measuring Weight

A pregnant woman's weight should be measured at every antenatal visit.

Figure 7.2: Measuring Blood Pressure

A pregnant woman's blood pressure should also be measured at every antenatal visit.

LABORATORY TESTS

Depending on the facilities available at the clinic or hospital, certain laboratory tests may be carried out before or after the physical examination. Urine may be tested at every antenatal visit. Tests on blood and vaginal fluids are usually done only once or twice during the pregnancy (see Figure 7.3). Laboratory tests usually include the following:

HAEMOGLOBIN: This indicates whether the iron levels in the blood are high enough, and whether a woman is anaemic.

SICKLING TEST: If a woman suffers from sickle cell disease, she will need very close and careful supervision during pregnancy and labour because this condition may become more severe unless it is expertly managed. Women who are only carriers of sickle cell disease as opposed to actually having it (see Chapter 5) are not at increased risk during pregnancy. However, the sickle cell status of the baby's father should be checked if possible, and counselling should be provided about risks, if any, to the baby.

BLOOD GROUPING: Tests to find out a woman's blood group are useful in case a blood transfusion is needed later. Sometimes tests are also carried out to determine if the woman has a blood type called rhesus negative, which is associated with a higher rate of complications for the mother and child. Women with this blood type need extra care during their pregnancies and deliveries.

SEXUALLY TRANSMITTED DISEASES (STDs): Most STDs can be treated effectively if they are diagnosed early. It is important that this be done, since some STDs such as syphilis and gonorrhoea can threaten the health of the mother and baby. Blood tests or tests done on fluid from the vagina (see Chapter 18) are used to diagnose these diseases, if the facilities are available. In some countries where STDs are common but laboratory facilities are not available, the Ministry of Health may recommend that any woman who has an unusual discharge or fluid from the vagina, or other symptoms, be treated for an STD. There are special charts that can be provided for health workers to use this system of diagnosis and treatment.

URINE TESTS: Urine is tested for two things: sugar, which suggests diabetes; and protein, which may indicate an infection or pregnancy-related hypertension (see Chapter 9).

MEDICATIONS (TABLETS AND INJECTIONS)

There are a few basic medicines that can help a woman have a healthy pregnancy. First, a woman should be immunised against tetanus, a disease that could kill the baby (see Figure 7.4). The first dose can be given at the first antenatal visit; the second dose should be given four weeks later. Second, in areas where malaria is common, Ministries of Health sometimes recommend that pregnant women should be given chloroquine or a related medicine; local guidelines should be checked. Third, iron tablets, folic acid, and vitamins are often given to prevent anaemia and make sure the mother and baby get the right nutrients.

What Will Happen During the Antenatal Visits?

Figure 7.3: Blood Test

Blood should be tested at least two times during the pregnancy to determine if the woman has anaemia or other complications.

Figure 7.4: Tetanus-Toxoid Immunisation

(first visit, and again four weeks later as a booster dose) Every pregnant woman should be given a tetanus-toxoid immunisation to protect herself and her baby.

What Will Happen During the Antenatal Visits?

Figure 7.5: Health Education and Counselling

The nurse or midwife should provide information and advice to the pregnant woman on how to take care of herself, and answer any questions that she may have.

Figure 7.6: Examination

An examination to make sure the baby is growing normally. Toward the end of pregnancy, the baby's position or "lie" can also be checked.

HEALTH EDUCATION

Information from the personal history, physical examination, and laboratory tests can be used as the basis for a discussion about what the woman can and should do to stay in good health (see Figure 7.5). She should be encouraged to ask questions or talk about any special problems she might have. Some women may be shy about asking questions; the health worker can help by using simple, understandable language to explain what was done and what the findings mean. It is especially important to explain any danger signs or complications the woman

may have, and what should be done about them (see Chapters 9 and 11). In addition, basic information should be offered on nutrition, danger signs, personal hygiene, typical discomforts and what to do about them, and the baby's stage of development (see Chapters 4, 6, and 8).

Health education can be spread throughout the pregnancy; it is best not to go over too many topics at any one time. At the end of every antenatal visit, the next visit should be scheduled.

Later Antenatal Visits

Even women who are healthy and have no problems should have at least three or four antenatal visits to ensure that the pregnancy and delivery are free of problems. Women who have a problem, or are at risk of developing one, should go more often. Ideally, the first visit should be no later than the fourth month of pregnancy. All women should be sure to visit the antenatal clinic in the ninth month to check on the lie of the baby (see Chapter 11) and look for any other last-minute problems that can develop. Women should be encouraged to come to all antenatal visits even if they feel fine and do not seem to have any problems. Some of the serious complications of pregnancy do not show any signs until very advanced. To provide proper care, a clinic should be staffed with qualified medical personnel (a trained nurse, midwife, or doctor) and have the supplies and equipment to provide the services described above.

During later antenatal visits, the midwife, nurse, or doctor will be on the lockout for any complications that might develop. At each visit the woman is weighed, her blood pressure is checked, and usually her urine is tested. Half way through the

pregnancy her blood is tested again to check for anaemia. At every visit her abdomen is measured and felt to make sure the baby is growing normally and, towards the end of pregnancy, that the baby is lying in the right position (see Figure 7.6). At times it is necessary to carry out some new tests or repeat old ones to rule out problems. Health education and counselling should be provided, based on the findings of the examination. In particular, the question of where the woman should deliver the baby needs to be discussed (see next section). Toward the end of the pregnancy, family planning methods can be discussed so that women know the options available to them after their babies are born (see Chapter 17).

Box 7.1: ***What Should Happen During an Antenatal Visit***

FIRST VISIT:

This visit should occur as soon as the woman thinks she is pregnant, no later than the fourth month of pregnancy

- A personal history is taken
- A physical examination is done by a midwife, nurse, or doctor, who:

  Measures height and weight
  Measures blood pressure
  Examines the entire body

- Certain tests are done using samples of:

  Blood Urine

- Certain medicines may be given, including:

  Iron tablets (to prevent anaemia)
  Anti-malaria tablets
  An injection to prevent tetanus

- Appropriate health education and counselling is provided, depending on the stage of pregnancy
- Advice is given on where to deliver, based on the woman's health and history

LATER VISITS:

At least 3 or 4 additional visits should be made. One visit should be in the last month of pregnancy

- A history of problems since the last visit is taken
- A short physical examination is done that includes:

  Measuring the growth of the foetus and listening to the heart
  Checking weight gain
  Measuring blood pressure
  Testing urine and sometimes blood
  When the due date is near, checking on the lie of the baby

- Appropriate health education and counselling is provided, depending on the stage of pregnancy

- Advice is given on where to deliver, based on the woman's health and history

(the advice may change during the pregnancy, based on whether problems are treated or new ones develop)

Deciding on Where to Deliver

Sometime during the pregnancy, the question of where the baby will be born needs to be discussed. The most important issues are whether there are any complications and whether the delivery is likely to be difficult. As discussed below, a woman who has a health problem or is at risk of developing a serious complication should deliver in a health centre or hospital. A woman who has had no problems with her current pregnancy or with any earlier pregnancies may be able to deliver safely at home, as long as she has a trained birth attendant with her. In fact, however, many women who should deliver in a health facility, or who would like to, end up delivering at home. Often this is because they do not know what the danger signs of pregnancy are, or they lack funds to pay for transportation, medicines, or fees. Or it may be that they simply cannot get transport when the time comes.

Health staff and others in the community can help by making sure that women and their families are aware of danger signs during pregnancy and delivery. Families should know what to do if a complication develops, and especially where to take women if help is needed. They can also help by mobilising funds, and by making arrangements for transport when necessary. Some hospitals have maternity waiting homes nearby. Women who are at risk of developing a complication, or who want to deliver in the hospital but live far away, can go to these waiting homes when labour is expected and stay there until after the delivery. That way if

a complication does develop, they are right there at the hospital and can receive the care they need.

The following sections look at the choices for places to deliver.

HOME DELIVERY

The majority of deliveries in Africa take place at home, often attended by an untrained person such as a relative or neighbour. While most of the time both the mother and baby end up fine and healthy, home delivery can be dangerous. An untrained attendant may not know the proper procedures for a safe, normal delivery. Even more importantly, he or she may not know what to do if a serious problem arises. In most countries, many TBAs have been trained in the basic principles of safe delivery. Often, they have also been provided with TBA kits that include most of the basic supplies needed for a clean delivery. If the delivery is taking place at home, it is best if a trained birth attendant is there to spot trouble early and take the necessary action before the problem becomes serious or life threatening. The basic requirements for a safe delivery are listed in Chapter 10. Chapter 11 describes the signs of complications during delivery.

CLINIC OR MATERNITY CENTRE

Clinics and maternity centres are generally staffed by trained midwives. At a private facilities, the midwife may charge a fee for the delivery and for any medicines she may provide. If a woman has had one or two normal deliveries in the past and has had no complications with her current pregnancy, a clinic or maternity centre may be a safe place for her to deliver, provided it is clean and the

midwife is well trained and experienced. She should know how to recognise emergencies, how to take appropriate first measures, and when to refer the patient to the nearest hospital.

HOSPITAL DELIVERY

Most women recognise that a hospital is the safest place to deliver, as long as it is staffed by trained medical personnel and has the supplies and equipment to deal with an emergency if one develops. Sometimes, however, hospitals are more expensive, and families do not think they can afford to pay for a hospital delivery. Other times, local hospitals do not have the proper supplies and equipment, which means the family may have to buy whatever is needed.

In addition, some women just do not like to deliver in hospitals. There are many reasons for this. Hospitals can be overcrowded, noisy, and impersonal. Their rules and routines can seem strange or frightening, and they may do things that are not always comfortable for women. Sometimes hospitals do not allow certain rituals, or they may require families to bring clothes for the baby, which some women consider bad luck. Some women are afraid of hospitals, because they believe women are brought there to die.

Medical personnel can help address these fears by explaining hospital procedures, and the reasons for them, in clear, simple terms. They can also help by being kind and sympathetic, and by allowing women and their families to carry out whatever rituals they are used to, as long as they do not harm the mother or baby. These steps can help make hospitals less frightening, and make women more willing to deliver there when necessary.

The following sections describe pregnancies that have a higher-than-average risk of developing complications. If a woman falls into any of these categories, arrangements should be made for her to deliver in a hospital. This is especially important if she has two or more of these conditions. While the chances are that the labour and delivery will be normal, it is better to take precautions; otherwise the life of the mother or baby may be lost.

High-Risk Pregnancies

Some women are more likely than others to suffer a complication, because of their age, the number of times they have been pregnant, because they have had problems with past pregnancies, or because their general health is not good. Even if a woman falls into one of these groups, which are described in more detail below, she is still likely to have a healthy pregnancy and delivery. She should, however, be treated with extra care; she should be encouraged to go for antenatal care early and often, and to follow the advice of a doctor, nurse, or midwife about what to do during pregnancy and where to deliver. If she is delivering outside a hospital, it is especially important to have a trained, experienced attendant present and to have transport ready in case a serious complication develops.

However, even women who are perfectly healthy can still develop complications during pregnancy or childbirth. All women, therefore, need to be familiar with danger signs, and be ready to go to a health facility if necessary. Danger signs during pregnancy are described in Chapter 9. Danger signs during labour and delivery are discussed in Chapter 11.

ADOLESCENTS: PREGNANCIES TOO EARLY

Adolescents, especially those less than 17 years old, are more likely to have problems, especially during labour. The physical demands of pregnancy and delivery are especially difficult for them to handle because their bodies are still growing and developing. This is especially true if they are having their first baby. During pregnancy, young teenagers are more likely than women aged 20-24 years old to develop the following complications, which are described in later chapters:

- **High blood pressure (pre-eclampsia)**
- **Premature labour**
- **Prolonged and/or obstructed labour**
- **Low birth weight infants**

Figure 7.7: Adolescent Pregnancy

Pregnancy can be more difficult for teenagers both physically and emotionally. They have a higher risk of developing complications because their bodies are still growing and developing. A pregnant teenager may have to leave school, and may not know how to care for her new baby.

They should therefore be advised to deliver in a hospital or with a trained midwife or doctor in attendance. Other issues related to adolescent health are discussed in Chapter 21.

OLDER WOMEN: PREGNANCIES TOO LATE

Women who are older (over 35 and especially over 40) are also more likely to have serious complications during pregnancy or labour, especially if they already have a large number of children. They may suffer from (see Chapters 9 and II):

- **High blood pressure**
- **Problems with the placenta**
- **Problems with the baby, including a very large baby, deformities, mental retardation, miscarriage, and abnormal presentation (the baby is not lying head down)**

While it is certainly possible for older women to have problem-free pregnancies and deliver healthy babies, they should be encouraged to seek more careful medical attention during pregnancy and delivery.

MULTI-PARITY: TOO MANY PREGNANCIES

After the fifth or sixth pregnancy, women are more likely to have complications, including high blood pressure, anaemia, and abnormal presentation of the baby. The main risks are problems caused by weakened muscles in the womb such as heavy bleeding, long labour, and rupture of the womb. Therefore, women who have had many children are advised to deliver in a hospital.

SPACING: PREGNANCIES TOO CLOSE TOGETHER

Pregnancy, delivery, and breastfeeding put a considerable strain on a woman's body; pregnancies less than two years apart increase this strain. Severe anaemia, for example, is common in women with frequent pregnancies. Older mothers who have had a large number of pregnancies close together face a much higher risk of dying during pregnancy and labour.

Figure 7.8: Pregnancy in Older Women

Women who are older (over 40 years of age) and have already had many pregnancies (more than five) have a higher risk of complications during

pregnancy and delivery.

HEIGHT

If a woman is less than 5 feet tall (150 centimetres), she is more likely than taller women to experience obstructed (blocked) labour. This is why height is measured during antenatal care. Similarly, if a woman has some physical problem with her back, hips, or legs, she should deliver in a hospital because such conditions may make it difficult for the baby to pass through the birth canal.

POOR OBSTETRIC HISTORY

Many complications of pregnancy and labour tend to happen more than once. If a woman had problems with an earlier pregnancy, she should be strongly encouraged to deliver in a hospital under trained medical supervision. These problems include:

- **If the last two or three pregnancies resulted in miscarriage, this may happen again. A woman should get careful medical attention during the pregnancy, and deliver with the help of a trained midwife or doctor.**

- **If labour started early (before 37 weeks) in a previous pregnancy, it is likely to happen again. She should be especially careful to rest and avoid hard work to try to prevent premature labour. The signs of early labour should be carefully explained to the woman. She should also be encouraged to go to a hospital where premature infants can be adequately cared for in case labour does start too soon.**

- **If severe bleeding occurred before or after a previous delivery, it is likely to recur. Blood transfusions are sometimes necessary, so the woman should deliver in a health facility where transfusions can be done.**

- **If a woman had obstructed labour during a previous delivery, and especially if she had a fistula (a hole between the vagina and the urinary tract that allows urine to drip into the vagina, she should deliver in a hospital (see Chapter 11).**

- **If a woman delivered by Caesarean section in the past, she may need to have the operation again. This depends on the kind of incision that was made in the womb; with some incisions the scar tissue is not as strong as the rest of the womb, and it could rupture (see Chapter 12). These women should avoid labour entirely, and arrangements should be made for them to have a repeat Caesarean section. While some women can have a normal delivery after a Caesarean section, all women who have had the operation should have a trained medical attendant with them and be ready to go to the hospital if necessary.**

- **Women who have had a Caesarean section in the past may be reluctant to go to hospital for the next delivery because they are afraid of having another operation. A health worker should explain the risks to them, and urge them to deliver in a hospital in order to prevent a tragedy. If possible, the medical records from the previous surgery should be obtained in order to plan what kind of delivery to have.**

MEDICAL CONDITIONS OR PROBLEMS WITH CURRENT PREGNANCY

If a woman is pregnant with twins, or suffering from certain medical conditions before pregnancy, she will need careful supervision during pregnancy and labour. In most cases, this supervision can only be provided in a well-staffed and fully equipped hospital. These conditions include:

- **High blood pressure (hypertension)**
- **Diabetes**
- **Heart disease**
- **Tuberculosis**
- **Kidney disease**
- **Obesity (overweight)**
- **Sickle cell disease**
- **Severe anaemia**

These problems are discussed in Chapter 11.

Summary: Antenatal Care

All women, regardless of how healthy they feel, should have at least three or four antenatal visits during their pregnancies. Women who have health problems should go more often, as recommended by a doctor, nurse, or midwife.

The first antenatal visit should take place before the fourth month of pregnancy if possible. It involves:

A personal history
A physical examination

Laboratory tests (if the facilities exist)
Medications: tablets and injections
Health education and counselling

Later visits involve many of the same steps. These tests and examinations enable the midwife, nurse, or doctor to find out if there are any problems that need to be treated, or if the woman is likely to have complications with delivery. All women should be sure to make at least one visit in the ninth month of pregnancy. In this final visit, the health worker will look for any complications and make sure everything is ready for a safe delivery.

Women who fall into the following groups should be treated with extra care during pregnancy, and should deliver in a health facility if possible:

Adolescents (especially those under age 1 7) Older women (especially those over age 40)

Women who have had many pregnancies (five or more previous births)

Women whose pregnancies are too close together (less than two years apart)

Shorter women (less than five feet or 150 centimetres)

Women who had a problem with an earlier pregnancy or delivery (prolonged or obstructed labour, repeated miscarriages, premature labour, severe bleeding, or delivery by an operation)

Women who have a medical problem with their current pregnancy (bleeding

during pregnancy, high blood pressure, severe anaemia, sickle cell disease, diabetes, heart disease, tuberculosis, kidney disease)