NEONATE

Introduction

A newborn infant (perinatal period)

For information on parturition see birth.

The neonatal period (birth to 1 month) is a time of extensive and ongoing system transition from uterine environment to external world, this includes the initial period after birth which is referred to as the perinatal period.

It would seem obvious to say that development does not stop at birth. In fact many systems (cardiovascular, respiratory, gastrointestinal, homeostasis) undergo significant changes at birth, and many others (neural) have not yet completed their development. Note this current project focuses on prenatal development, so postnatal content is not as detailed.

Postnatal development can be broadly divided into the age categories of: Neonatal (birth to 1 month), Infancy (1 month to 2 years), Childhood (2 years to puberty), Puberty (12 years to mid-teens) and Young Adult which is a new category (late teens to early twenties).

Newborn Characteristics

Skin

Peeling or cracking skin around the wrists or ankles is common, especially in babies who have gone past their due date. As new skin cells grow, this condition will clear up without treatment. Newborns often have a lot of downy fuzz on their backs, arms and ears. This will soon rub off and disappear. Newborns also have a white, waxy coating that protects their skin. This is usually removed during the baby's first bath. It will be absorbed through the baby's skin within 24 hours after birth, if not removed during the first bath.

Stork bites

Many new babies have red areas around their foreheads, eyelids, and noses or on the backs of their necks. They are called "stork bites." They will be more visible when the baby cries and disappear by itself during the first year.

Milia

These look like "white heads" or pimples. They usually appear on the nose or chin. They usually disappear by themselves in the first weeks of life. Do not squeeze or put cream or lotion on them.

Rashes

Newborns often have rashes (reddened areas with an pinhead sized yellow or white raised center) that usually come and go during the first 10 days of life. These are normal and will soon disappear without treatment.

A raised pimple-like rash around the cord or genital area may occur. Usually this rash will clear up with normal bathing, sunbathing, or exposure to air. If the rash does not go away or increases, see your healthcare provider. A more severe blister-like rash that ruptures, leaves a scab, and continues to spread should be checked by your healthcare provider.

Skin rashes can also result from overdressing or harsh laundry soaps. As the baby becomes warm and sweats, skin irritation develops in skin folds. Keep the areas clean and dry, and avoid overdressing. You can also try a milder laundry soap, dissolve the soap before adding clothes and rinse twice. It is not recommended to put lotions or creams on a newborn's skin.

Acrocyanosis

Your baby's hands and feet may look blue for the first few days. This is normal. If you notice other parts of the baby turning blue, call your baby's healthcare provider immediately.

Sneezing

Babies clear their noses by sneezing. A stuffy nose, which is most noticeable when the baby is nursing, is common during the first days of life. It is caused by the swelling of the mucus membranes in response to the hormones from the mother. Breathing may be noisy and irregular at first. Soon you will get accustomed to your baby's habits.

Eyes

Your newborn may have swelling around the eyes. This will disappear a few days after birth. Some babies also have a red area in the white part of the eye. This is a small hemorrhage from the pressure during birth. No treatment is necessary, as it will disappear within several weeks.

A newborn can only see well for 8 to 12 inches. When an object is moved beyond this range, your baby's eyes wander and may appear crossed. As the eye muscles mature, your baby will be able to focus both eyes on the same object at the same time.

Head

Your infant will have a very large head in relation to the rest of the body. At birth, your infant's head takes on a melon-shaped appearance to help it fit through the birth canal. It will return to its normal shape a few days after birth.

Your baby will have soft spots (fontanelles) on the top of the head where bones are still growing together. A thick membrane covers these spots to protect the head and brain. You may gently touch these spots. Soft spots close completely by 2 years of age.

Crying

Right from the beginning, you should realize that babies cry and have fussy periods. Crying is their way of communicating (and relieving tension or boredom). Babies may cry for food, when uncomfortable, bored or in pain, or if they just want to be held close. Your baby may cry for several hours at the same time every day for no apparent reason. Sometimes babies cry from too much stimulation. If you suspect this is the case, take your baby to a quiet, darkened room so he or she can calm him or her self.

At times you will be able to comfort your baby very easily, and at other times nothing will work. Stay calm! Otherwise the baby will pick up on your discomfort. You may need to hand the baby to a different pair of arms and walk away for a few minutes. Never shake a baby. If the cries continue for long periods of time, call your healthcare provider.

Hormones

The effects of hormones may cause your newborn to have some swelling in the breasts or scrotum or a little bloody fluid/mucus coming from the vagina. These will go away and do not require treatment of any kind. Leftover hormones from Mother may cause both boys and girls to have swollen nipples. This swelling will go away a few days after birth.

Birth Process

Birth, also called **childbirth** or **parturition**, process of bringing forth a child from the uterus, or womb.

Initiation Of Labour

Despite decades of research, the events leading to the initiation of labour in humans remain unclear. It is suspected that biochemical substances produced by the fetus induce labour. In addition, the timing of the production of these substances and their interaction with placental and maternal biochemical factors appear to influence this process. Among the most studied of these biochemical substances are fetal hormones such as oxytocin and placental inflammatory molecules. Increased placental and maternal production of inflammatory molecules in late pregnancy has been strongly linked to the initiation of labour. Hormonelike substances called prostaglandins, which are produced by the placenta in response to various biochemical signals, can induce inflammation and are present in increased levels during labour. Several factors that increase the production of prostaglandins include oxytocin, which stimulates the force and frequency of uterine contractions, and a fetal lung protein called surfactant protein A (SP-A). Surfactant production in the fetal lung does not begin until the last stages of gestation, when the fetus prepares for air breathing; this transition may act as an important labour switch.

The Stages Of Labour

First stage: dilatation

Early in labour, uterine contractions, or labour pains, occur at intervals of 20 to 30 minutes and last about 40 seconds. They are then accompanied by slight pain, which usually is felt in the small of the back. As labour progresses, those contractions become more intense and progressively increase in frequency until, at the end of the first stage, when dilatation is complete, they recur about every three minutes and are quite severe. With each contraction a twofold effect is produced to facilitate the dilatation, or opening, of the cervix. Because the uterus is a muscular organ containing a fluid-filled sac called the amnion (or "bag of waters") that more or less surrounds the child, contraction of the musculature of its walls should diminish its cavity and compress its contents. Because its contents are quite incompressible, however, they are forced in the direction of least resistance, which is in the direction of the isthmus, or upper opening of the neck of the uterus, and are driven, like a wedge, farther and farther into this opening. In addition to forcing the uterine contents in the direction of the cervix, shortening of the muscle fibres that are attached to the neck of the uterus tends to pull those tissues upward and away from the opening and thus adds to its enlargement. By this combined action each contraction of the uterus not only forces the amnion and fetus downward against the dilating neck of the uterus but also pulls the resisting walls of the latter upward over the advancing amnion, presenting part of the child. In spite of this seemingly efficacious mechanism, the duration of the first stage of labour is rather prolonged, especially in women who are in labour for the first time. In such women the average time required for the completion of the stage of dilatation is between 13 and 14 hours, while in women who have previously given birth to children the average is 8 to 9 hours. Not only does a previous labour tend to shorten this stage, but the tendency often increases with succeeding pregnancies, with the result that a woman who has given birth to three or four children may have a first stage of one hour or less in her next labour. The first stage of

labour is notably prolonged in women who become pregnant for the first time after age 35, because the cervix dilates less readily. A similar delay is to be anticipated in cases in which the cervix is extensively scarred as a result of previous labours, amputation, deep cauterization, or any other surgical procedure on the cervix. Even a woman who has borne several children and whose cervix, accordingly, should dilate readily may have a prolonged first stage if the uterine contractions are weak and infrequent or if the child lies in an inconvenient position for delivery and, as a direct consequence, cannot be forced into the mother's pelvis.

On the other hand, the early rupturing of the amnion often increases the strength and frequency of the labour pains and thereby shortens the stage of dilatation; occasionally, premature loss of the amniotic fluid leads to molding of the uterus about the child and thereby delays dilatation by preventing the child's normal descent into the pelvis. Just as an abnormal position of the child and molding of the uterus may prevent the normal descent of the child, an abnormally large child or an abnormally small pelvis may interfere with the descent of the child and prolong the first stage of labour.

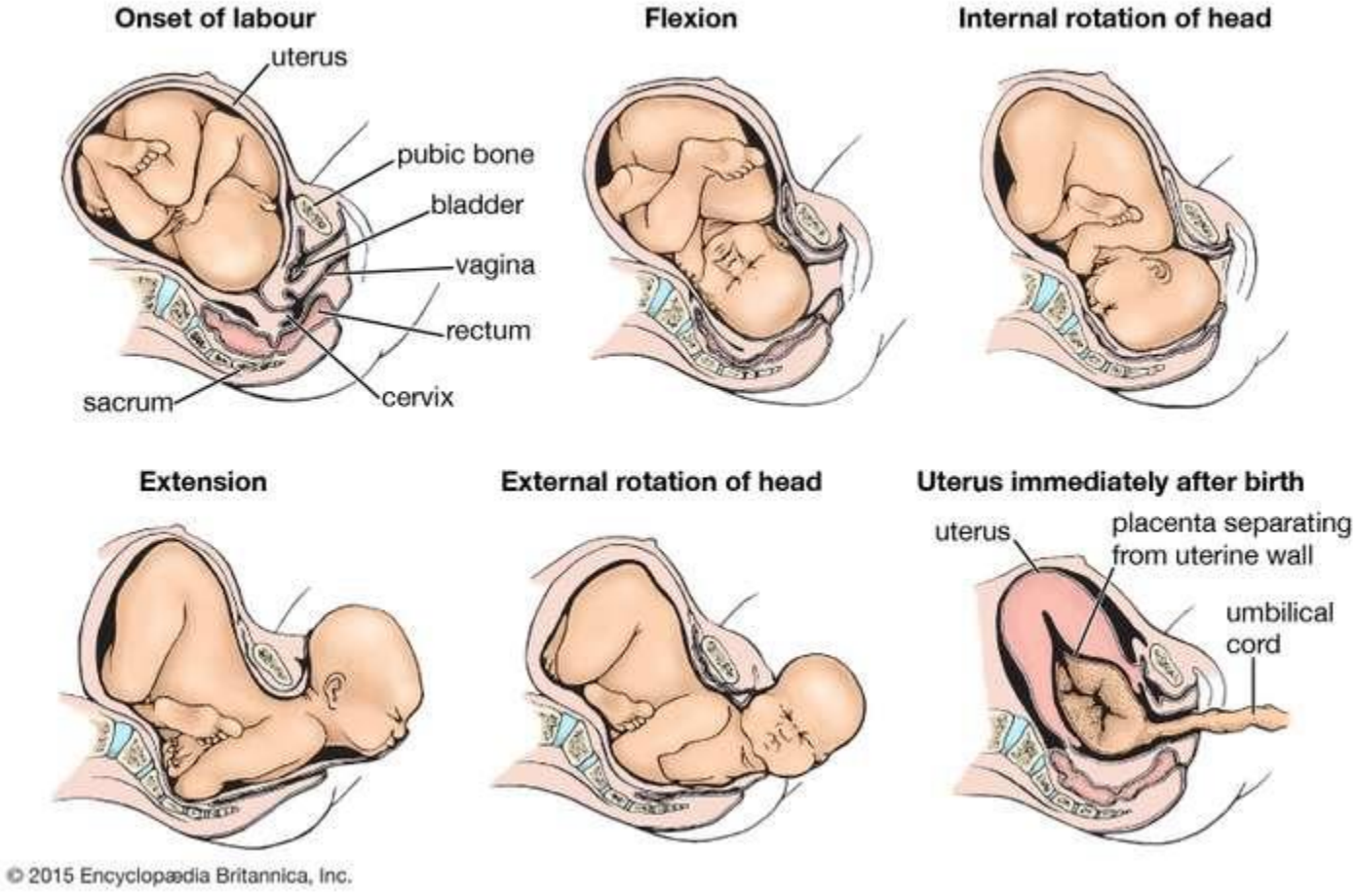
Second stage: expulsion

About the time that the cervix becomes fully dilated, the amnion breaks, and the force of the involuntary uterine contractions may be augmented by voluntary bearing-down efforts of the mother. With each labour pain, she can take a deep breath and then contract her abdominal muscles. The increased intra-abdominal pressure thus produced may equal or exceed the force of the uterine contractions. These bearing-down efforts may double the effectiveness of the uterine contractions.

As the child descends into and passes through the birth canal, the sensation of pain is often increased. This condition is especially true in the terminal phase of the stage of expulsion, when the child's head distends and dilates the maternal tissues as it is being born.

Fetal presentation and passage through the birth canal

The manner in which the child passes through the birth canal in the second stage of labour depends upon the position in which it is lying and the shape of the mother's pelvis. The sequence of events described in the following paragraphs is that which frequently occurs when the mother's pelvis is of the usual type and the child is lying with the top of its head lowermost and transversely placed and the back of its head (occiput) directed toward the left side of the mother (*see* onset of labour in the figure). The top of the head, accordingly, is leading, and its long axis lies transversely.



Sequential changes in the position of the child during labour.*Encyclopædia Britannica, Inc.*

The force derived from the uterine contractions and the bearing-down efforts exerts pressure on the child's buttocks and is transmitted along the vertebral column to drive the head into and through the pelvis.

Because of the attachment of the spine to the base of the skull, the back of the head advances more rapidly than the brow with the result that the head becomes flexed (i.e., the neck is bent) until the chin comes to lie against the breastbone (*see* flexion in the figure). As a consequence of this flexion mechanism, the top of the head becomes the leading pole and the ovoid head circumference that entered the birth canal is succeeded by a smaller, almost circular circumference, the long diameter of which is about 2 cm (0.75 inch) shorter than that of the earlier circumference.

As the head descends more deeply into the birth canal, it meets the resistance of the bony pelvis and of the slinglike pelvic floor, or diaphragm, which slopes downward, forward, and inward. When the back of the head, the leading part of the child, is forced against this sloping wall on the left side, it naturally is shunted forward and to the right as it advances (*see* internal rotation of head in the figure). This internal rotation of the head brings its longest diameter into relation with the longest diameter of the pelvic outlet and thus greatly assists in the adaptation of the advancing head to the configuration of the cavity through which it is to pass.

Further descent of the head directly downward in the direction in which it has been traveling is opposed by the lower portion of the mother's bony pelvis, behind, and the resisting soft parts that are interposed between it and the opening of the vagina (*see* internal rotation of head in the figure). Less resistance, on the other hand, is offered by the soft and dilatable walls of the lower birth canal, which is directed forward and upward. The back of the child's head accordingly advances along the lower birth canal, distending its walls and dilating its cavity while the head progresses. Soon the back of the child's neck becomes impinged against the bones of the pelvis, in front, and the chin is forced farther and farther away from the breastbone. Thus, as extension (bending of the head backward) takes the place of flexion, the occiput, brow, eye sockets, nose, mouth, and chin pass successively through the external opening of the lower birth canal and are born (*see* extension in the figure).

The neck, which was twisted during internal rotation of the head, untwists as soon as the head is born. Almost immediately after its

birth, therefore, the top of the head is turned toward the left and backward.
As the child's lower shoulder advances, it meets the sloping resistance of the pelvic floor on the right side and is shunted forward and to the left toward the middle of the pelvis in front. This position brings the long diameter of the shoulder circumference into relation with the anteroposterior, or long diameter, of the pelvic cavity. Because of this internal rotation of the shoulders, the top of the head undergoes further external rotation backward and to the left so that the child's face comes to look directly at the inner aspect of the mother's right thigh (*see* external rotation of head in the figure).

Soon after the shoulders rotate, the one in front appears in the vulvovaginal orifice and remains in this position while the other shoulder is swept forward by a lateral bending of the trunk through the same upward and forward curve that was followed by the head as it was being born. After this shoulder is delivered, the shoulder in front and the rest of the child's body are expelled almost immediately and without any special mechanism.

An average of about one hour and 45 minutes is required for the completion of the second stage of labour in women who give birth for the first time. In subsequent labours the average duration of the stage of expulsion is somewhat shorter.

Third stage: placental stage

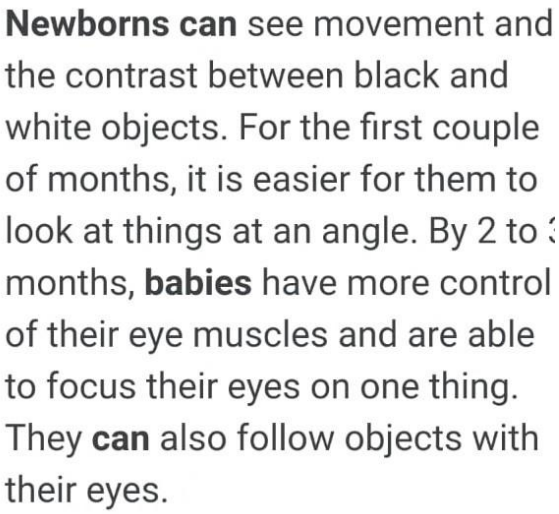
With the expulsion of the child, the cavity of the uterus is greatly diminished (*see* uterus immediately after birth in the figure). As a consequence, the site of placental attachment becomes markedly reduced in size, with the result that the placenta (afterbirth) is separated in many places from the membrane lining the uterus. Within a few minutes subsequent uterine contractions complete the separation and force the placenta into the vagina, from which it is expelled by a bearing-down effort. The third stage of labour, accordingly, is of short duration, seldom lasting longer than 15 minutes. Occasionally, however, the separation may be delayed and accompanied by bleeding, in which case surgical removal of the placenta is necessary.

Relief Of Pain In Labour

Pain experienced in childbirth can be reduced or relieved by psychoprophylaxis, systemic drugs, regional nerve blocks, or a combination of those methods. One of the first drugs to be used for pain relief was chloroform, which was initially employed in the late 1840s but eventually came into disuse because of its toxicity. In the early 20th century a mixture of scopolamine, an amnesic drug, and morphine was given to produce “twilight sleep.” On awakening from the induced dreamlike state, the woman would have no memory of her labour pains. The desire to be an active participant in the birth experience and to avoid the side effects of delirium and hallucinations led to abandonment of this approach.

Since first described in the 1930s, psychoprophylaxis has gained in popularity as a method of psychologically and physically preparing a woman for childbirth, thereby helping her to anticipate and cope with the pain of labour

Newborn Behavior



Though babies develop at different rates, they still follow many of the same behaviors. Learn about the development of sleep, crying, reflexes, vision, hearing, and breathing in newborns.

Many new parents might not know what is considered "normal" newborn behavior. Babies develop at different rates, but they still display many of the same behaviors. Don't be alarmed if your baby seems a little behind. It is important to know what kind of behaviors to expect from your newborn so that you can tell if there is a problem.

If your baby was born prematurely, don't compare his or her development to that of full-term newborns. Premature babies are often developmentally behind full-term babies. If your baby was born two months early, then he or she might be two months behind a full-term baby. Your doctor will follow the developmental progress of your premature baby. Contact your doctor if you think your baby is developing at an unusually delayed rate.

Sleeping

Newborn babies usually sleep 20 minutes to 4 hours at a time, up to 20 hours a day. Their stomachs are too small to keep them full for long, so they need to be fed every few hours. Babies have different sleeping habits, but at three months most babies sleep 6 to 8 hours a night.

Crying

Newborns might cry for several hours a day. It is their way of telling you they need something or that something is wrong. Newborns cry when they:

- Are hungry
- Are tired
- Are too cold or too hot
- Need their diaper changed
- Need to be comforted
- Have gas
- Are over-stimulated
- Are sick

It is also common for newborns to hiccup, sneeze, yawn, spit up, burp, and gurgle. Sometimes newborns cry for no reason at all. If this happens, try comforting your baby by rocking, singing, talking softly, or wrapping him or her in a blanket. Soon you will be able to tell what your baby needs by how he or she cries.

You might not always be able to comfort your newborn. This is not your fault. Try to be patient and remain calm when your newborn does not stop crying. If necessary, have someone else stay with your baby while you take a break. Never shake your baby under any circumstance. Shaking your baby can cause serious brain

damage, known as Shaken Baby Syndrome, resulting in lifelong disabilities.

Contact your doctor if your newborn cries more than usual, cries at a different time of day than usual, or if the crying sounds different than usual. These might be signs that your newborn is sick.

Reflexes

During their first few weeks, newborns maintain the position they had in the womb (fetal position): clenched fists; bent elbows, hips, and knees; arms and legs close to the front of the body. This will change when your baby develops more control over his or her movements. Newborns have several natural reflexes. Understanding these reflexes will help you understand the cause of some of your newborn's behaviors. Newborn reflexes include the following:

- **The rooting reflex**: The newborn turns in the direction of food and is ready to suck. Stroking a newborn's cheek will cause this response.
- **The sucking reflex**: If you place an object in a baby's mouth, the baby naturally begins to suck.
- **The startle response**: The baby throws out his or her arms and legs and then curls them in when startled. This response often includes crying.
- **The tonic neck reflex**: The baby turns his or her head to one side and holds out the arm on the same side.
- **The grasp reflex**: The baby's fingers close tightly around an object placed in his or her palm.
- **The stepping reflex**: The baby's feet imitate a stepping action when he or she is held upright with the feet touching a hard surface. A baby's arms, legs, and chin might tremble,

especially when crying. This occurs because newborns' nervous systems are not fully developed.

Breathing

It is not uncommon for newborns to experience irregular breathing. This is when newborns stop breathing for 5 to 10 seconds and then immediately begin breathing again on their own. This is normal. However, you should call your doctor or take your baby to the emergency room if he or she stops breathing for longer than 10 seconds or begins to turn blue.

Vision

Newborns can see, but their eyes might be crossed because it is hard for them to focus at first. Newborns can see movement and the contrast between black and white objects. For the first couple of months, it is easier for them to look at things at an angle. By 2 to 3 months, babies have more control of their eye muscles and are able to focus their eyes on one thing. They can also follow objects with their eyes.

Hearing

Newborns can distinguish between different sounds. They recognize familiar voices, so you should talk to your baby often. You might soon find that your baby turns toward the sound of your voice. To newborns, language sounds like music with different tones and rhythms.

Pregnancy: Ovulation & Conception

Ovulation, the release of the egg (ovum) from a woman's ovary, is a phase in the menstrual cycle. Ovulation and conception are discussed.Ovulation is a phase in the menstrual cycle. It occurs at about day 14 of a 28-day menstrual cycle. Specifically, ovulation is the release of the egg (ovum) from a woman's ovary.

Each month, between days six and 14 of the menstrual cycle, follicle-stimulating hormone causes follicles in one of a woman's ovaries to begin to mature. However, during days 10 to 14, only one of the developing follicles forms a fully mature egg. At about day 14 in the menstrual cycle, a sudden surge in luteinizing hormone causes the ovary to release its egg. The egg begins its five-day travel through a narrow, hollow structure called the fallopian tube to the uterus. As the egg is traveling through the fallopian tube, the level of progesterone, another hormone, rises, which helps prepare the uterine lining for pregnancy.

How does conception occur?

Conception occurs when a sperm cell from a fertile man swims up through the vagina and into the uterus of a woman and joins with the woman's egg cell as it travels down one of the fallopian tubes from the ovary to the uterus.

As the fertilized egg continues to move down the fallopian tube, it begins to divide into two cells, then four cells, then more cells as the division continues. About a week after the sperm has fertilized the egg, the fertilized egg has traveled to the uterus and has become a growing cluster of about 100 cells called a blastocyst.

The blastocyst then attaches itself to the lining of the uterus (the endometrium). This attachment process is called implantation. Release of the hormones estrogen and progesterone causes the endometrium to thicken, which provides the nutrients the blastocyst needs to grow and eventually develop into a baby.

As cells continue to divide — some developing into the baby, others forming the nourishment and oxygen supply structure called the placenta — hormones are released that signal the body that a baby is growing inside the uterus. These hormones also signal the uterus to maintain its lining rather than shedding it. This means that a woman does not have a period that month, which may be the first way a woman knows she is pregnant.

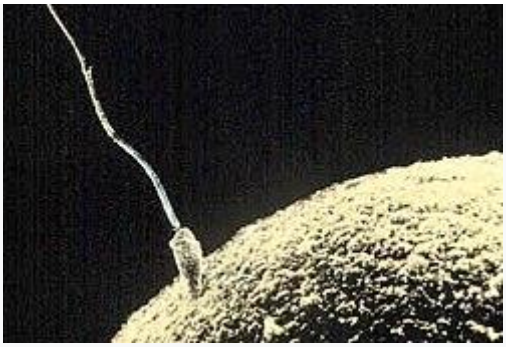
Prenatal development

Different terms are used to describe **prenatal development**, meaning **development before birth**. A term with the same meaning is the "antepartum" (from Latin *ante* "before" and *parere* "to give birth") Sometimes "antepartum" is however used to denote the period between the 24th/26th week of gestational age until birth, for example in antepartum hemorrhage.[1][2]

The **perinatal period** (from Greek *peri*, "about, around" and Latin *nasci* "to be born") is "around the time of birth". In developed countries and at facilities where expert neonatal care is available, it is considered from 22 completed weeks (usually about 154 days) of gestation (the time when birth weight is normally 500 g) to 7 completed days after birth.[3] In many of the developing countries the starting point of this period is considered 28 completed weeks of gestation (or weight more than 1000 g).[4]

Fertilization[edit]

Main article: Human fertilization



A sperm cell fertilizing an egg cell.

Fertilization marks the first germinal stage of embryonic development. When semen is released into the vagina, the spermatozoa travel through the cervix and body of the uterus and into the fallopian tubes where fertilization usually takes place. Many sperm cells are released with the possibility of just one managing to adhere to and enter the thick protective layer surrounding the egg cell (ovum). The first sperm cell to successfully penetrate the egg cell donates its genetic material (DNA) to combine with the DNA of the egg cell resulting in a new organism called the zygote. The term "conception" refers variably to either fertilization or to formation of the conceptus after its implantation in the uterus, and this terminology is controversial.

The zygote will develop into a male if the egg is fertilized by a sperm that carries a Y chromosome, or a female if the sperm carries an X chromosome.[5] The Y chromosome contains a gene, SRY, which will switch on androgen production at a later stage leading to the development of a male body type. In contrast, the mitochondrial DNA of the zygote comes entirely from the egg cell.

Development happens quickly during the **Prenatal Period**, which is the time between conception and birth. This period is generally divided into three stages: the germinal stage, the embryonic stage, and the fetal stage.

Stage 1: The Germinal Stage

The two-week period after conception is called the **Germinal Stage**. Conception occurs when a sperm cell combines with an egg cell to form a **Zygote**. About thirty-six hours after conception, the zygote begins to divide quickly. The resulting ball of cells moves along the mother's fallopian tube to the uterus.

Around seven days after conception, the ball of cells starts to become embedded in the wall of the uterus. This process is called **Implantation** and takes about a week to complete. If implantation fails, as is quite common, the pregnancy terminates. One key feature of the germinal stage is the formation of a tissue called the **Placenta**. The placenta has two important functions:

- **Passing oxygen and nutrients from the mother's blood into the embryo or fetus**
- **Removing waste materials from the embryo or fetus**

Stage 2: The Embryonic Stage

The **Embryonic Stage** lasts from the end of the germinal stage to two months after conception. The developing ball of cells is now called an **Embryo**. In this stage, all the major organs form, and the embryo becomes very fragile. The biggest dangers are teratogens, which are agents such as viruses, drugs, or radiation that can cause deformities in an embryo or fetus. At the end of the embryonic period, the embryo is only about an inch long.

Stage 3: The Fetal Stage

The last stage of prenatal development is the **Fetal Stage**, which lasts from two months after conception until birth. About one month into this stage, the sex organs of the fetus begin to form. The fetus quickly grows as bones and muscles form, and it begins to move inside the uterus. Organ systems develop further and start to function. During the last three months, the brain increases rapidly in size, an insulating layer of fat forms under the skin, and the respiratory and digestive systems start to work independently.

Adverse Factors Affecting Fetal Development

Although the womb provides protection, the fetus remains indirectly connected to the outside world through its mother. Several factors that are linked to the mother can harm the fetus:

- **Poor nutrition**
- **Use of alcohol**
- **Smoking**
- **Use of certain prescription or over-the-counter drugs**
- **Use of recreational drugs such as cocaine, sedatives, and narcotics**
- **X-rays and other kinds of radiation**
- **Ingested toxins, such as lead**
- **Illnesses such as AIDS, German measles, syphilis, cholera, smallpox, mumps, or severe flu**

Fetal Alcohol Syndrome

Mothers who drink heavily during pregnancy may have babies with fetal alcohol syndrome. Babies with this syndrome may have problems such as small head size, heart defects, irritability, hyperactivity, mental retardation, or slowed motor development. Fetal alcohol syndrome is incurable.

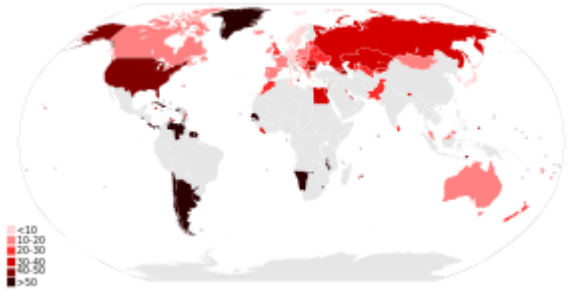
Reproductive health

Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so.

The WHO assessed in 2008 that "Reproductive and sexual ill-health accounts for 20% of the global burden of ill-health for women, and 14% for men."[4] Reproductive health is a part of sexual and reproductive health and rights. According to the United Nations Population Fund (UNFPA), unmet needs for sexual and reproductive health deprive women of the right to make "crucial choices about their own bodies and futures", affecting family welfare. Women bear and usually nurture children, so their reproductive health is inseparable from gender equality. Denial of such rights also worsens poverty.[5]

Contents

Adolescent health



Teenage birth rate per 1,000 females aged 15–19, 2000–2009[6]

Further information: Teenage pregnancy and Adolescent sexuality

Adolescent health creates a major global burden and has a great deal of additional and diverse complications compared to adult reproductive health such as early pregnancy and parenting issues, difficulties accessing contraception and safe abortions, lack of healthcare access, and high rates of HIV and sexually transmitted infections, and mental health issues. Each of those can be affected by outside political, economic and socio-cultural influences.[7] For most adolescent females, they have yet to complete their body growth trajectories, therefore adding a pregnancy exposes them to a predisposition to complications. These complications range from anemia, malaria, HIV and other STI's, postpartum bleeding and other postpartum complications, mental health disorders such as depression and suicidal thoughts or attempts.[8] In 2016, adolescent birth rates between the ages of 15-19 was 45 per 1000.[9] In 2014, 1 in 3 experienced sexual violence, and there more than 1.2 million deaths. The top three leading causes of death in females between the ages of 15-19 are maternal conditions 10.1%, self-harm 9.6%, and road conditions 6.1%.[10] The causes for teenage pregnancy are vast and diverse. In developing countries, young women are pressured to marry for different reasons. One reason is to bear children to help with work, another on a dowry system to increase the families income, another is due to prearranged marriages. These reasons tie back to financial needs of girls' family, cultural norms, religious beliefs and external conflicts.[11]

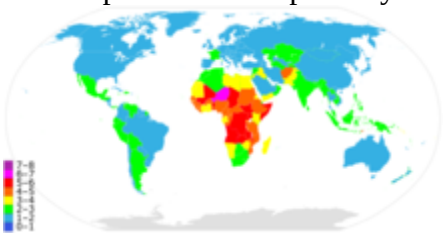
Adolescent pregnancy, especially in developing countries, carries increased health risks, and contributes to maintaining the cycle of poverty.[12] The availability and type of sex education for teenagers varies in different parts of the world. LGBT teens may suffer additional problems if they live in places where homosexual activity is socially disapproved and/or illegal; in extreme cases there can be depression, social isolation and even suicide among LGBT youth.

Maternal health

Maternal Mortality Rate worldwide, as defined by the number of maternal deaths per 100,000 live births from any cause related to or aggravated by pregnancy or its management, excluding accidental or incidental causes.[13]

Ninety nine percent of maternal deaths occur in developing countries and in 25 years, maternal mortality globally dropped to 44%.[14] Statistically, a woman's chance of survival during childbirth is closely tied to her social economic status, access to healthcare, where she lives geographically, and cultural norms.[15] To compare, a woman dies of complications from childbirth every minute in developing countries versus a total of 1% of total maternal mortality deaths in developed countries. Women in developing countries have little access to family planning services, different cultural practices, have lack of information, birthing attendants, prenatal care, birth control, postnatal care, lack of access to health care and are typically in poverty. In 2015, those in low-income countries had access to antenatal care visits averaged to 40% and were preventable.[14][15] All these reasons lead to an increase in the Maternal Mortality Ratio (MMR).

One of the international Sustainable Development Goals developed by United Nations is to improve maternal health by a targeted 70 deaths per 100,000 live births by 2030.[15] Most models of maternal health encompass family planning, preconception, prenatal, and postnatal care. All care after childbirth recovery is typically excluded, which includes pre-menopause and aging into old age.[16] During childbirth, women typically die from severe bleeding, infections, high blood pressure during pregnancy, delivery complications, or an unsafe abortion. Other reasons can be regional such as complications related to diseases such as malaria and AIDS during pregnancy. The younger the women is when she gives birth, the more at risk her and her baby is for complications and possibly mortality.[14]



Map of countries and territories by fertility rate as of 2018

There is a significant relationship between the quality of maternal services made available and the greater financial standings of a country.[17] Sub-Saharan Africa and South Asia exemplify this as these regions are significantly deprived of medical staff and affordable health opportunities.[18] Most countries provide for their health services through a combination of funding from government tax revenue and local households.[17] Poorer nations or regions with extremely concentrated wealth can leave citizens on the margins uncared for or overlooked. However, the lack of proper leadership can result in a nation's public sectors being mishandled or poorly performing despite said nation's resources and standing.[17] In addition, poorer nations funding their medical services through taxes places a greater financial burden on the public and effectively the mothers themselves.[18] Responsibility and accountability on the part of mental health sectors are strongly emphasized as to what will remedy the poor quality of maternal health globally.[18] The impact of different maternal health interventions across the globe stagger variously and are vastly uneven.[17] This is the result of a lack of political and financial commitment to the issue as most safe motherhood programs internationally have to compete for significant funding.[18] Some resolve that if global survival initiatives were promoted and properly funded it would prove to be mutually beneficial for the international community. Investing in maternal health would ultimately advance several issues such as: gender inequality,

poverty and general global health standards.[19] As it currently stands, pregnant women are subjugated to high financial costs throughout the duration of their term internationally that are highly taxing and strenuous.

Contraception

Combined oral contraceptive pill


De Morbo Gallico. 52

A page from *De Morbo Gallico* (On the French Disease), Gabriele Falloppio's treatise on syphilis. Published in 1564, it describes an early use of condoms.

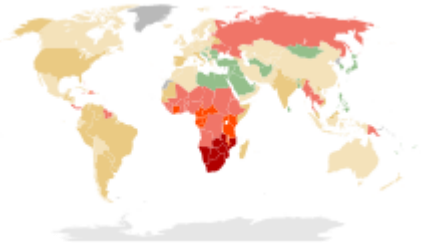
Margaret Sanger, birth control advocate, and her sister Ethyl Byrne, on the courthouse steps in Brooklyn, New York City, January 8, 1917, during their trial for opening a birth control clinic. Contraception has been and still remains in some cultures a controversial issue.

Access to reproductive health services is very poor in many countries. Women are often unable to access maternal health services due to lack of knowledge about the existence of such services

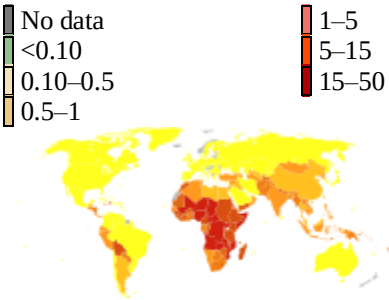
or lack of freedom of movement. Some women are subjected to forced pregnancy and banned from leaving the home. In many countries, women are not allowed to leave home without a male relative or husband, and therefore their ability to access medical services is limited. Therefore, increasing women's autonomy is needed in order to improve reproductive health, however doing may require a cultural shift. According to the WHO, "All women need access to antenatal care in pregnancy, skilled care during childbirth, and care and support in the weeks after childbirth".
The fact that the law allows certain reproductive health services, it does not necessary ensure that such services are *de facto* available to people. The availability of contraception, sterilization and abortion is dependent on laws, as well as social, cultural and religious norms. Some countries have liberal laws regarding these issues, but in practice it is very difficult to access such services due to doctors, pharmacists and other social and medical workers being conscientious objectors.
In developing regions of the world, there are about 214 million women who want to avoid pregnancy but are unable to use safe and effective family planning methods.[20] When taken correctly, the combined oral contraceptive pill is over 99% effective at preventing pregnancy. However, it does not protect from sexually transmitted infections (STIs). Some methods, such as using condoms, achieve both protection from STIs and unwanted pregnancies. There are also natural family planning methods, which may be preferred by religious people, but some very conservative religious groups, such as the Quiverfull movement, oppose these methods too, because they advocate the maximization of procreation.[21] One of the oldest ways to reduce unwanted pregnancy is coitus interruptus - still widely used in the developing world.
There are many types of contraceptives. One type of contraceptive includes barrier methods.[22] One barrier method includes condoms for males and females.[22] Both types stop sperm from entering the woman's uterus, thereby preventing pregnancy from occurring.[22] Another type of contraception is the birth control pill, which stops ovulation from occurring by combining the chemicals progestin and estrogen.[22] Many women use this method of contraception, however they discontinue using it equally as much as they use it.[23] One reason for this is because of the side effects that may occur from using the pill, and because some health care providers do not take women's concerns about negative side effects seriously.[23] The use of the birth control pill is common in western countries, and two forms of combined oral contraceptives are on the World Health Organization's List of Essential Medicines, the most important medications needed in a basic health system.[24]
There are many objections to the use of birth control, both historically and in the present day. One argument against birth control usage states that there is no need for birth control to begin with.[25] This argument was levied in 1968 when Richard Nixon was elected president, and the argument stated that since birth rates were at their lowest point since World War II ended, birth control was not necessary.[25] Demographic planning arguments were also the basis of the population policy of Nicolae Ceaușescu in communist Romania, who adopted a very aggressive natalist policy which included outlawing abortion and contraception, routine pregnancy tests for women, taxes on childlessness, and legal discrimination against childless people. Such policies consider that coercion is an acceptable means of reaching demographic targets. Religious objections are based on the view that premarital sex should not happen, while married couples should have as many children as possible. As such, the Catholic Church encourages premarital abstinence from sex.[25] This argument was written out in *Humanae Vitae*, a papal encyclical released in 1968.[25] The Catholic Church bases its argument against birth control pills on the basis that birth control pills undermine the natural law of God.[26] The Catholic Church also argues against birth control on the basis of family size, with Cardinal

Mercier of Belgium arguing, "...the duties of conscience are above worldly considerations, and besides, it is the large families who are the best" (Reiterman, 216).[26] Another argument states that women should use natural methods of contraception in place of artificial ones, such as having sexual intercourse when one is infertile.[25]
Support for contraception is based on views such as reproductive rights, women's rights, and the necessity to prevent child abandonment and child poverty.[27][28] The World Health Organization states that "By preventing unintended pregnancy, family planning /contraception prevents deaths of mothers and children".[27]

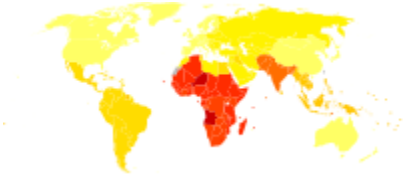
Sexually transmitted infection



Estimated prevalence in % of HIV among young adults (15–49) per country as of 2011.[29]



Deaths from syphilis in 2012 per million persons



Disability-adjusted life year for gonorrhea per 100, 000 inhabitants.

Condoms offer effective protection from STIs

Main article: Sexually transmitted infection

A Sexually transmitted infection (STI) --previously known as a *sexually transmitted disease (STD)* or *venereal disease (VD)*-- is an infection that has a significant likelihood of transmission between humans by means of sexual activity. The CDC analyses the eight most common STI's: chlamydia, gonorrhea, hepatitis B virus (HBV), herpes simplex virus type 2 (HSV-2), human immunodeficiency virus (HIV), human papillomavirus (HPV), syphilis, and trichomoniasis.[30]

There are more than 600 million cases of STI's worldwide and more than 20 million new cases within the United States.[30] Numbers of such high magnitude weigh a heavy burden on the local and global economy. A study[31] conducted at Oxford University in 2015 concluded that despite giving participants early antiviral medications (ART), they still cost an estimated $256 billion over 2 decades. HIV testing done at modest rates could reduce HIV infections by 21%, HIV retention by 54% and HIV mortality rates by 64%, with a cost-effectiveness ration of $45,300 per Quality-adjusted life year. However, the study concluded that the United States has led to an excess in infections, treatment costs, and deaths, even when interventions do not improve over all survival rates.[31]

There is a profound reduction on STI rates once those who are sexually active are educated about transmissions, condom promotion, interventions targeted at key and vulnerable populations through a comprehensive Sex education courses or programs.[32] South Africa's policy addresses the needs of women at risk for HIV and who are HIV positive as well as their partners and children. The policy also promotes screening activities related to sexual health such as HIV counseling and testing as well as testing for other STIs, tuberculosis, cervical cancer, and breast cancer.[33]

Young African American women are at a higher risk for STI's, including HIV.[34] A recent study published outside of Atlanta, Georgia collected data (demographic, psychological, and behavioral measures) with a vaginal swab to confirm the presence of STIs. They found a profound difference that those women who had graduated from college were far less likely to have STIs, potentially be benefiting from a reduction in vulnerability to acquiring STIs/HIV as they gain in education status and potentially move up in demographic areas and/or status.[34]

Abortion

Globally, an estimated 25 million unsafe abortions occur each year.[35] The vast majority of such unsafe abortions occur in developing countries in Africa, Asia and Latin America.[35]

The abortion debate is the ongoing controversy surrounding the moral, legal, and religious status of induced abortion.[36] The sides involved in the debate are the self-described “pro-choice” and “pro-life” movements. “Pro-choice” emphasizes the right of women to decide whether to terminate a pregnancy. “Pro-life” emphasizes the right of the embryo or fetus to gestate to term and be born. Both terms are considered loaded in mainstream media, where terms such as “abortion rights” or “anti-abortion” are generally preferred.[37] Each movement has, with varying results, sought to influence public opinion and to attain legal support for its position, with small numbers of anti-abortion advocates using violence, such as murder and arson.

Articles from the World Health Organization call legal abortion a fundamental right of women regardless of where they live, and argue that unsafe abortion is a silent pandemic. In 2005, it was estimated that 19-20 million abortions had complications, some complications are permanent, while another estimated 68,000 women died from unsafe abortions.[38] Having access to safe abortion can have positive impacts on women's health and life, and vice versa. "Legislation of abortion on request is necessary but an insufficient step towards improving women's

health.[39] In some countries where it abortion is legal, and has been for decades, there has been no improvement in access to adequate services making abortion unsafe due to lack of healthcare services. It is hard to get an abortion due to legal and policy barriers, social and cultural barriers (gender discrimination, poverty, religious restrictions, lack of support etc., health system barriers (lack of facilities or trained personnel), however safe abortions with trained personnel, good social support, and access to facilities, can improve maternal health and increase reproductive health later in life.[40]

The Maputo Protocol, which was adopted by the African Union in the form of a protocol to the African Charter on Human and Peoples' Rights, states at Article 14 (Health and Reproductive Rights) that: "(2). States Parties shall take all appropriate measures to: [...] c) protect the reproductive rights of women by authorising medical abortion in cases of sexual assault, rape, incest, and where the continued pregnancy endangers the mental and physical health of the mother or the life of the mother or the foetus." [41] The Maputo Protocol is the first international treaty to recognize abortion, under certain conditions, as a woman's human right.[42]

The *General comment No. 36 (2018) on article 6 of the International Covenant on Civil and Political Rights, on the right to life*, adopted by the Human Rights Committee in 2018, defines, for the first time ever, a human right to abortion - in certain circumstances (however these UN general comments are considered soft law,[43] and, as such, not legally binding).

"Although States parties may adopt measures designed to regulate voluntary terminations of pregnancy, such measures must not result in violation of the right to life of a pregnant woman or girl, or her other rights under the Covenant. Thus, restrictions on the ability of women or girls to seek abortion must not, inter alia, jeopardize their lives, subject them to physical or mental pain or suffering which violates article 7, discriminate against them or arbitrarily interfere with their privacy. *States parties must provide safe, legal and effective access to abortion where the life and health of the pregnant woman or girl is at risk, and where carrying a pregnancy to term would cause the pregnant woman or girl substantial pain or suffering, most notably where the pregnancy is the result of rape or incest or is not viable.* [8] In addition, States parties may not regulate pregnancy or abortion in all other cases in a manner that runs contrary to their duty to ensure that women and girls do not have to undertake unsafe abortions, and they should revise their abortion laws accordingly. [9] For example, they should not take measures such as criminalizing pregnancies by unmarried women or apply criminal sanctions against women and girls undergoing abortion [10] or against medical service providers assisting them in doing so, since taking such measures compel women and girls to resort to unsafe abortion. States parties should not introduce new barriers and should remove existing barriers [11] that deny effective access by women and girls to safe and legal abortion [12], including barriers caused as a result of the exercise of conscientious objection by individual medical providers. [13]"[44]

When negotiating the Cairo Programme of Action at the 1994 International Conference on Population and Development (ICPD), the issue was so contentious that delegates eventually decided to omit any recommendation to legalize abortion, instead advising governments to provide proper post-abortion care and to invest in programs that will decrease the number of unwanted pregnancies.[45]

The Committee on the Elimination of Discrimination against Women considers the criminalization of abortion a "violations of women’s sexual and reproductive health and rights"

and a form of "gender based violence"; paragraph 18 of its *General recommendation No. 35 on gender based violence against women, updating general recommendation No. 19* states that: "Violations of women's sexual and reproductive health and rights, such as forced sterilizations, forced abortion, forced pregnancy, criminalisation of abortion, denial or delay of safe abortion and post abortion care, forced continuation of pregnancy, abuse and mistreatment of women and girls seeking sexual and reproductive health information, goods and services, are forms of gender based violence that, depending on the circumstances, may amount to torture or cruel, inhuman or degrading treatment."[46] The same *General Recommendation* also urges countries at paragraph 31 to [...] In particular, repeal: a) Provisions that allow, tolerate or condone forms of gender based violence against women, including [...] legislation that criminalises abortion".[46]

In 2008, the Parliamentary Assembly of the Council of Europe, a group comprising members from 47 European countries, has adopted a resolution calling for the decriminalization of abortion within reasonable gestational limits and guaranteed access to safe abortion procedures. The nonbinding resolution was passed on April 16 by a vote of 102 to 69.[47]

Accesses to abortion is not only a question of legality, but also an issue of overcoming de *facto barriers*, such as conscientious objections from medical stuff, high prices, lack of knowledge about the law, lack of access to medical care (especially in rural areas). The *de facto* inability of women to access abortion even in countries where it is legal is highly controversial because it results in a situation where women have rights only on paper not in practice; the UN in its 2017 resolution on *Intensification of efforts to prevent and eliminate all forms of violence against women and girls: domestic violence* urged states to guarantee access to "safe abortion where such services are permitted by national law".[48]

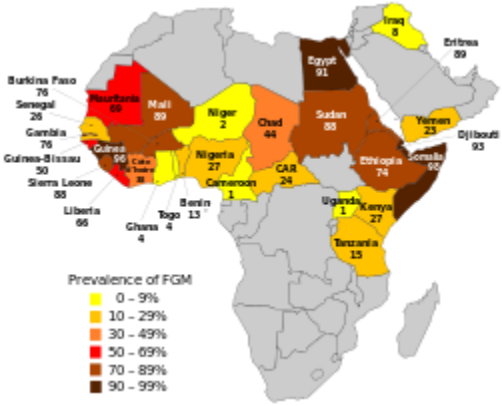
There are two primary arguments for maintaining legalized abortion today in the U.S. The first is recognizing the full citizenship of women.[49][50] The Roe v. Wade court case on abortion compared the citizenship of women and fetuses [49] Because the Constitution defines born people as citizens, Justice Harry Blackmun ruled that fetuses were not citizens.[49] The citizenship of women is emphasized because fetuses are not individual entities that can exist without the woman.[50] Another reason why the full citizenship of women is defined by advocates for abortion is that it recognizes the right of women to manage their own bodies.[50] Fertility affects women's bodies. The argument for abortion prevents others from making decisions that alter a woman's body.[50] Pro-choice advocates also attempt to confirm that state-mandated education or other outside biases don't attempt to influence these decisions.[50] Feminists argue that women throughout history have had to justify their citizenship politically and socially.[49] The right to manage one's own body is a matter of health, safety, and respect.[50] The citizenship of women and the right to manage their own bodies is a societal confirmation that feminists highlight as a pro-choice justification.[50]

The second primary argument to uphold legalized abortion and creating better access to it is the necessity of abortion and the health and safety of pregnant women.[51][52] There are two events that largely changed the course of public opinion about abortion in the U.S.[49][50] The first is Sherry Finkbine, who was denied access to an abortion by the board of obstetrician-gynecologists at her local hospital.[49] Although she was privileged enough to afford the trip, Finkbine was forced to travel to Sweden for an abortion to avoid caring for a damaged fetus in addition to four children.[49] The other event that changed public opinion was the outbreak of rubella in the 1950s and 60s.[49][50] Because rubella disrupted the growth of fetuses and caused deformities during pregnancy, the California Therapeutic Abortion Act was signed in 1967.[49] This Act allowed doctors to perform abortions when the pregnancy risked the physical

or mental health of the pregnant person.[49] These two events are commonly used to show how the health and safety of pregnant women are contingent upon abortions as well as the ability to give birth to and adequately take care of a child. Another argument in favor of legalized abortion to service necessity are the reasons why an abortion might be necessary. Nearly half of all pregnancies in the United States are unintended, and over half of all unintended pregnancies in the United States are met with abortion.[49] Unintended pregnancy can lead to serious harm to women and children for reasons such as not being able to afford to raise a baby, inaccessibility to time off of work, difficulties facing single motherhood, difficult socio-economic conditions for women.[49] Unintended pregnancies also have a greater potential for putting women of color at risk due to systematically produced environmental hazards from proximity to pollution, access to livable income, and affordable healthy food.[49][53] These factors as threats to the health and safety of pregnant women run parallel to data that shows the number of abortions in the United States did not decline while laws restricting legal access to abortion were implemented.[52]
At a global level, the region with the strictest abortion laws is considered to be Latin America (see Reproductive rights in Latin America), a region strongly influenced by the Catholic Church in Latin America.

Female genital mutilation

Main article: Female genital mutilation



Prevalence of FGM by country, according to a 2013 UNICEF report[54]

Anti-FGM road sign, Bakau, Gambia, 2005

Female genital mutilation (FGM), also known as female genital circumcision or cutting, is the traditional, non-medical practice of altering or injuring the female reproductive organs, often by removing all or parts of the external genitalia.[55] It is mostly practiced in 30 countries in Africa, the Middle East, and Asia, and affects over 200 million women and girls worldwide. More severe forms of FGM are highly concentrated in Djibouti, Eritrea, Ethiopia, Somalia, and Sudan.[56]

The WHO categorizes FGM into four types:

- **Type I** (Cliteridectomy) is the removal of all or part of the clitoris. This may or may not include removing the prepuce along with the clitoral glans.
- **Type II** (Excision) is the removal of the clitoris along with all or part of the labia minora. This may or may not include removing all or part of the labia majora.
- **Type III** (Infibulation) is the act of removing the inner or outer labia and sealing the wound, leaving only a narrow opening.
- **Type IV** refers to "all other harmful procedures to the female genitalia for non-medical purposes (piercing, scraping, cauterizing of the genital area)."[55]

FGM often takes the form of a traditional celebration conducted by an elder or community leader. The age that women undergo the procedure varies depending on the culture, although it is most commonly performed on prepubescent girls. Certain cultures value FGM as coming of age ritual for girls, and use it to preserve a woman's virginity and faithfulness to the husband after marriage. It is also closely connected with some traditional ideals of female beauty and hygiene.[57] FGM may or may not have religious connotations depending on the circumstances.[55]

There are no health benefits of FGM, as it interferes with the natural functions of a woman's and girls' bodies, such as causing severe pain, shock, hemorrhage, tetanus or sepsis (bacterial infection), urine retention, open sores in the genital region and injury to nearby genital tissue, recurrent bladder and urinary tract infections, cysts, increased risk of infertility, childbirth complications and newborn deaths. Sexual problems are 1.5 more likely to occur in women who have undergone FGM, they may experience painful intercourse, have less sexual satisfaction, and be two times more likely to report lack of sexual desire. In addition, the maternal and fetal death rate is significantly higher due to childbirth complications.[58]

FGM can have severe negative psychological effects on women, both during and after the procedure. These can include long-term symptoms of depression, anxiety, post-traumatic stress

disorder, and low self-esteem.[55] Some women report that the procedure was carried out without their consent and knowledge, and describe feelings of fear and helplessness while it was taking place. A 2018 study found that larger quantities of the hormone cortisol were secreted in women who had undergone FGM, especially those who had experienced more severe forms of the procedure and at an early age. This marks the body's chemical response to trauma and stress, and can indicate a greater risk for developing symptoms of PTSD and other trauma disorders, although there are limited studies showing a direct correlation.[59]
Legislation has been introduced in certain countries to prevent FGM. A 2016 survey of 30 countries showed 24 had policies to manage and prevent FGM, although the process to provide funding, education, and resources were often inconsistent and lacking. Some countries have seen a slight decline in FGM rates, while others show little to no change.[57][60]
The Istanbul Convention prohibits FGM (Article 38).[61]

Child and forced marriage

Main articles: Child marriage and Forced marriage

Poster against child and forced marriage

The practice of forcing young girls into early marriage, common in many parts of the world, is threatening their reproductive health. According to the World Health Organization:[62]

"The sexual and reproductive health of the female in a child marriage is likely to be jeopardized, as these young girls are often forced into sexual intercourse with an older male spouse with more sexual experience. The female spouse often lacks the status and the knowledge to negotiate for safe sex and contraceptive practices, increasing the risk of acquiring HIV or other sexually transmitted infections, as well as the probability of pregnancy at an early age."

Niger has the highest prevalence of child marriage under 18 in the world, while Bangladesh has the highest rate of marriage of girls under age 15.[63] Practices such as bride price and dowry can contribute to child and forced marriages

blood occur over the first few days and weeks after birth (Moore & Persaud, 2003).

Types of birth

Natural or Spontaneous birth: Spontaneous birth is usually referred to as "natural" childbirth because it occurs without aid and with a minimum of or no medication of the mother. In this type of birth, the position of the fetus in the mother's uterus and the size of the fetus make it possible for the fetus to emerge head first. After the head, one shoulder and then the other appear as the fetal body rotates slowly in the birth canal. Next the arm emerge, one at a time and finally the legs.

Vacuum extraction (Ventouse/suction or Kiwi delivery): Vacuum extraction may be performed when there is very little progress despite you pushing well during the delivery stage of

labour. Sometimes this type of birth is recommended when baby seems very tired at this stage. The Ventouse extractor consists of a rubber or metal cap that a doctor attaches to your baby's head using suction provided by a small machine. The baby is then gently guided through the birth canal whilst you push during contractions. Once your baby's head is born, the cup is removed and your baby's body is born naturally. The Kiwi cup also uses suction, but there is no need for a machine.

Forceps/Instrumental delivery: A forceps delivery may be performed for similar reasons to the vacuum extraction – when the baby is making slow progress. Sometimes the baby's head is in a position which slows down his progress, and forceps can be used to correct this. Forceps are metal instruments like large spoons. A doctor places the forceps around the baby's head to cradle it. The baby is then guided through the birth canal as the mother pushes with your contractions. Once the baby's head is born, the forceps are removed, and your baby's body is born naturally. There are three types of forceps used (named after the people who invented them), and the reasons they are used are shown below:

- **Wrigley's (low forceps)** – these are simple forceps used when your baby's head is facing the right direction, and he is low down in the birth canal
- **Neville Barnes (straight forceps)** – these are used if your baby is not as far down in the birth canal
- **Kielland's (rotational forceps)** – these are used if your baby's head needs help to turn slightly before he is guided down the birth canal Forceps deliveries are always performed by a doctor.

Caesarean Section

There are many reasons why Caesarean Section is performed, but mainly it is recommended when there is a medical indication that a vaginal birth may not be safe either for you or your baby. It is a surgical operation where the baby is born through a cut in the abdominal wall. It is always performed in an operating theatre Caesarean Section is sometimes performed as an emergency

operation. The anaesthetist will put in a Spinal or a woman may need to have a general anaesthetic and be asleep for her operation.

Breech Birth

As in labour with a baby in a normal head-down position, uterine contractions typically occur at regular intervals and gradually cause the cervix to become thinner and to open. In the more common breech presentations, the baby's bottom (rather than feet or knees) is what is first to descend through the maternal pelvis and emerge from the vagina.

At the beginning of labour, the baby is generally in an oblique position, facing either the right or left side of the mother's back. As the baby's bottom is the same size in the term baby as the baby's head. Descent is thus as for the presenting fetal head and delay in descent is a cardinal sign of possible problems with the delivery of the head.