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Chapter 11

Mental and physical changes during adolescence

Learning objectives

You will be able to gain proper understanding and explain:

- The mental and physical changes and the issues associated with growth and development during adolescence and how to handle them.
- Pregnancy and childbearing and sexually transmitted infections in youth.
- The social challenges regarding sexual health in Cambodia and discuss their solutions.

In this chapter, you will learn about the following three topics: characteristics of mental and physical growth and development in adolescence in the context of sexual health; basic information about pregnancy/childbearing and sexually transmitted infections, and the current landscape and challenges in Cambodia concerning these issues; and the current state of sexual health and its handling in Cambodia.

1. Characteristics of mental and physical growth and development in adolescence (Table 11.1)

1) Physical changes

(1) Significance of adolescence as a period of transition from childhood to adulthood[1]

Adolescence is a period when a child undergoes dramatic changes biologically, physically, and socially. During this period, one experiences the **appearance of secondary sexual characteristics** due to hormonal changes in the body, while mentally, one goes through rapid cognitive and emotional development. The human brain continues to develop until around the age of 25; during adolescence, one becomes able to control their impulses and make more rational judgments as they grow older.

The first half of adolescence is a period during which, as one grows, one becomes increasingly more susceptible to the influence of people of the same age group, while becoming less dependent on their parents. What you should keep in mind when addressing adolescence is the fact that the duration of adolescence is growing "longer." Specifically, most men and women today are experiencing the appearance of secondary sexual characteristics earlier in life, while entering into a period in life when they assume social roles expected of adults, such as those connected to marriage, later, compared to what they used to assume.

(2) Secondary sexual characteristics[2]

During the second half of adolescence (ages 15–19), one experiences **sexual development and maturation** following the growth spurts in the first half of adolescence. Physical growth and **sexual**

Table 11.1 Physical, cognitive, social, and psychological development in adolescence[1]

Changes during early adolescence (ages 10–14)	
■ **Physical changes** • Start of puberty (typically ages 8–14 in females) • Muscle acquisition and growth spurts • Menstruation and breast growth (females) • Voice change and facial hair growth (males)	■ **Cognitive, social, and psychological changes** • Appearance of self-consciousness and low self-esteem • Feelings of awkwardness or discomfort related to physical changes • Susceptible to peer pressure (influence by friends and peers) • Improved ability to engage in abstract thinking and introspection • Tendency to focus on the present rather than the future
Changes during late adolescence (ages 15–19)	
■ **Physical changes** • Continued physical growth, especially for males	■ **Cognitive, social, and psychological changes** • Increased independence and feelings of invincibility • Tendency to seek out novel and varied experiences • Increased interest in opposite-sex friendships and romantic relationships • Continued improvements in abstract thinking and introspection • Improved decision-making, critical thinking, planning skills, and moral development

Source: Skolnik R. Global Health 101 Third Edition. Jones & Bartlett Learning, 2016 (Kihara M and Kihara M, Trans., and Ed. Gurobaru herusu: Sekai no kenko to taishosenryaku no saishin doko [Global Health: Latest Trends in World's Health and Health Strategies]. Medical Science International, 2017).

maturation are considered to be based on different mechanisms from one another. However, when you consider the onset of menstruation, which is a typical occurrence that represents sexual maturation in girls, one does not experience the onset of menstruation until after she has reached a certain level of physical growth (see Column: Factors contributing to the onset of menstruation and health consequences of age for menarche).

The most representative changes during adolescent sexual development are the **onset of menstruation** for girls and **spermarche** for boys. These occurrences of sexual maturation are caused by the actions of **sex hormones**; there are also other changes such as the growth of pubic hair, voice changes, and enlargement of breasts. These are collectively referred to as **secondary sexual characteristics**. As the appearance of secondary sexual characteristics is one of the most characteristic features of adolescence, it is generally common to refer to ages between 15 and 19 years as "adolescence." In the second half of adolescence, the development of secondary sexual characteristics is nearly complete, as adolescents come close to sexual maturity, and the physical build of their bodies is nearly that of an adult.

Such occurrences of the **adolescent growth spurt** (the dramatic increase in height during adolescence) and secondary sexual characteristics are not random incidents, but sequentially ordered by the genetic program.

Column: Factors contributing to the onset of menstruation and health consequences of age for menarche

The age of onset of menstruation is influenced by heredity and environment, which are intricately related to one another. As early as the 19th century, the physical maturation of girls was considered to be influenced by climate (especially the mean annual temperature), ethnicity, social status, place of residence (urban or rural), physical activity, level of education, sexual stimulation, housing, inheritance, and health status.[3] The 20th century saw further additions to the list of factors that affect the onset of menstruation, including season and month of birth, physique (e.g., BMI), dietary habits, position in sibship, family income, education and occupation of parents, and family size. A recent review pointed out that, while the onset of menstruation was now known to be controlled by a complex neuronal network as well as genes, it was also influenced by factors other than genetics, including socioeconomic and environmental factors, BMI, exercise, dietary habits, and geographical factors, and that more studies were needed.[4]

In the context of health implications, early menarche is associated with increased risks of cardiovascular diseases and breast cancer mortality, and higher susceptibility to health issues of a psychosocial nature, such as anxiety, depression, premature intercourse, and violence. Late menarche, meanwhile, has been associated with an increased risk of osteoporosis and bone fracture.[4] Further research is needed in order to find out what consequences early menarche may have on women's health later in their lives.

(3) Functions of the male reproductive system

This section gives an overview of the functions and anatomy of the reproductive system and sexual response in males.[5]

a) Anatomy and function

Sperm is a cell that consists of a head of 4–5 μm in diameter and a long, thin tail, with an overall length of approximately 60 μm. Sperm produced in the testes do not move at all at first; as they leave the testes and move through the epididymis, sperm start swimming and gain fertilizing capability. Sperm swim at a rate of around 1–4mm per minute. Sperm production begins as a male reaches puberty, and it continues mostly throughout the rest of his life. The two testes of an adult male produce over 120 million sperm every day, but the number significantly declines as one reaches old age. Around 100–400 million sperm are released in a single ejaculation. Once expelled, sperm can live only for 24–48 hours at human body temperature. Yet, they may be preserved for years if frozen at −100°C. Low sperm count, abnormal sperm morphology, or low sperm motility can be a **cause of male infertility**.

See Chapter 2 for the anatomy of the male reproductive system (i.e., a cross-section).

b) Sexual response

The male penis becomes erect in response to sexual stimulation. Penile erection is a phenomenon in which the firmness and size of the penis increase, and it occurs as the corpora cavernosa fill with blood.

Upon receiving sexual stimulation, the pelvic parasympathetic nerves send stimulation to the penis, causing arterioles to dilate. This allows blood to flow into the corpora cavernosa, but as the venous outflow is restricted, the corpora cavernosa fills with blood and becomes firm, which results in **penile erection**. If a man is exposed to further sexual stimulation and becomes highly aroused, the **ejaculation** of seminal fluid out of the urethra occurs. The seminal fluid consists mainly of fluids secreted from the seminal vesicles, prostate glands, and bulbourethral glands, and contains sperm produced in the testes. The volume of seminal fluid ejaculate is 2.5–3.5 mL, and the sperm count is 100 million per 1 mL of seminal fluid.

When either ejaculation occurs or sexual stimulation is interrupted, the sympathetic nervous system becomes dominant. This removes the restriction of venous outflow, allowing the blood retained in the corpora cavernosa to flow out, which ends erection.

(4) Functions of the female reproductive system

The female reproductive system functions in two different periods: the **preconception period with a reproductive cycle of 28 days on average**; and the **period of pregnancy**. A preconception period involves two reproductive cycles: the **ovarian cycle**, which refers to a series of periodic changes that occur in the **ovaries**; and the **menstrual (uterine) cycle**, which occurs due to periodic changes in the volumes of the hormones secreted by the ovaries.

A female has **1–2 million oocytes (immature ova)** in her ovaries at birth; the number decreases down to 300–400 thousand by the time one reaches puberty. Each oocyte is surrounded by a layer of follicular epithelial cells, forming an ovarian follicle. Once a female reaches puberty, one of the follicles becomes mature, and **ovulation** (the follicle ruptures at the surface of the ovary and releases ova) occurs every 28 days. Supposing a female has menarche at age 12, ovulates 13 times in each of the successive years, and has menopause at age 50, the number of ova ovulated over her lifetime would be around 500. The remaining oocytes reduce by the hundreds or up to one thousand every time ovulation occurs; following menopause, there is no oocyte remaining in her ovaries.

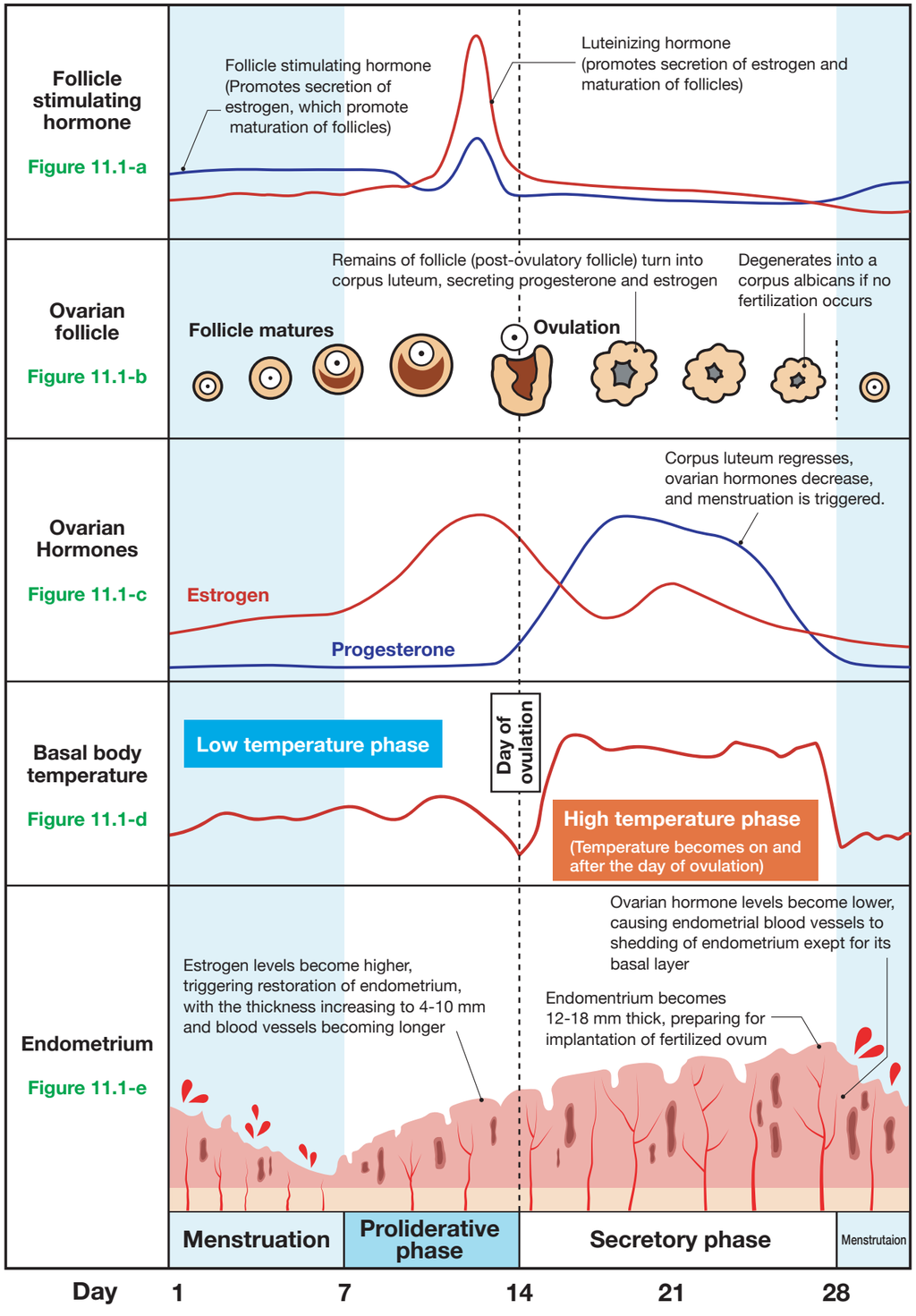
a) Ovarian cycle (Figures 11.1-a, b, and c)

The ovarian cycle is divided into the **follicular phase** and the **luteal phase**.

During the follicular phase, a number of ovarian follicles begin maturing, but only one of them continues to mature while the rest regress. **Follicle stimulating hormone (FSH)**, secreted by the pituitary gland, stimulates the maturation of follicles. Mature follicles within them produce **estrogen**, which works on both the follicles and the uterus; it stimulates follicles to mature further while promoting the proliferation of the endometrium. On the 14th day after the start of the follicular phase, the secretion of **luteinizing hormone (LH)** sees a spike, causing **ovulation**.

Ovulation is followed by the luteal phase. After the release of the ovum, follicular epithelial cells remain on the surface of the ovary, and these cells form the corpus luteum. Stimulated by LH, the corpus luteum releases small amounts of estrogen and progesterone. **Progesterone** is involved in the maintenance of the proliferated level of the endometrium and the preparation of the uterus for implantation of a fertilized ovum.

Female body temperature undergoes periodic changes on a cycle of around 4 weeks. It is lower



The period from the first day of the start of menstruation to the day before the start of the next menstruation is called the menstrual cycle, and one cycle is about 28 days.

Figure 11.1 Reproductive cycles

during the follicular phase (i.e., after menstruation) and higher during the luteal phase (i.e., before menstruation), with a fluctuation of 0.2–0.4°C. In addition, it dips during ovulation, then becomes higher from the day of ovulation onward (**Figure 11.1-d**).

b) Menstrual cycle (Figure 11.1-e)

The menstrual cycle is divided into the **menstrual phase**, the **proliferative phase**, and the **secretory phase**. The duration of each of the phases varies among individuals; **Figure 11.1** is based on a 28-day cycle, which is a typical duration.

During the **menstrual phase**, the secretion of female sex hormones, i.e., estrogen and progesterone, from the corpus luteum decreases, causing the endometrium to degenerate and eventually be shed through the vagina along with blood. An unfertilized ovum dies and is shed during menstruation. The menstruation phase lasts from 5 to 7 days, with the first day of menstruation being Day 1.

The **proliferative phase** sees the maturation of the follicles, which results in increases in the secretion of estrogen and significant proliferation of the endometrium. As a result of the proliferation of the basal layer and the development of the glands and blood vessels, the thickness of the endometrium increases from 1 mm at the beginning to around 5–6 mm. The proliferative phase lasts until Day 14.

As the corpus luteum develops after ovulation, progesterone secreted from the corpus luteum puts the uterus into the **secretory phase**. The glands and blood vessels develop further, and the glands secrete a fluid containing glycogen. A number of folds appear on the surface of the endometrium, which facilitates the implantation of a fertilized ovum.

If pregnancy occurs, the corpus luteum will be sustained. As progesterone will also be produced by the placenta, the endometrium will be kept at its secretory phase. If, on the other hand, no pregnancy occurs, the secretion of progesterone will decline, and the endometrium will degenerate in around 12 days, leading to the start of another menstrual phase.

Column: Keep track of your menstrual cycle[6]

Are you female readers keeping proper track of your menstrual cycle? If you know your cycle, you won't need to feel worried if you have irregular menstruation, and you can detect irregular menstruation early should you have it. Irregular menstruation may affect any future pregnancy; if you keep experiencing irregularities years after your first menstruation, it will be reassuring to determine the cause. If you are not pregnant but experiencing amenorrhea, or the absence of menstruation, and that lasts for six months or longer, you should see a doctor (or consult an expert) at an early date.

You should also be aware that extreme diets, stress, or irregular/unhealthy lifestyles can also be the cause of amenorrhea. Your menstrual cycle provides important information to understand your physical condition and when you are more likely to get pregnant. For these reasons, and to know precisely when your due date will be if you do become pregnant, it is important that you always keep track of your menstrual cycle. If your menstruation lasts only for 1–2 days or for 8 days or longer, it may potentially be due to amenorrhea or some other factors; in such a case, you are advised to talk to your doctor or an expert first.

(5) Sexual desire[6]

As a child reaches adolescence, the release of the sex hormones leads to the development of secondary sexual characteristics, and their body matures into an adult body capable of reproduction. During this period, it is natural for adolescents to realize their interest in sexuality is heightened and that their desire for a closer relationship with someone of the opposite sex is strengthened. It has been said that men have a stronger sex drive than women do. Considering that male sex hormones are responsible for sexual desire and that they are found in women's blood at a level around one-tenth of that found in men, it may be reasonable to say that men may indeed have stronger libidos and sexual desire. This, however, varies considerably among individuals, and it does not remain constant but fluctuates greatly depending on factors such as one's physical condition or the situation they are in, their values, experience, environment, and personal relationships.[6]

2) Mental and social changes[7]

(1) Understanding mental development and problem behaviors during adolescence

Adolescence is a period when one comes to establish an identity as an adult human being while also being influenced by others around them. **Peer groups** have a substantial role to play in this process, and peer problems can have consequences on the adolescent's mental development and any problem behaviors. In addition, in order for you to understand, and take action to address, adolescent problem

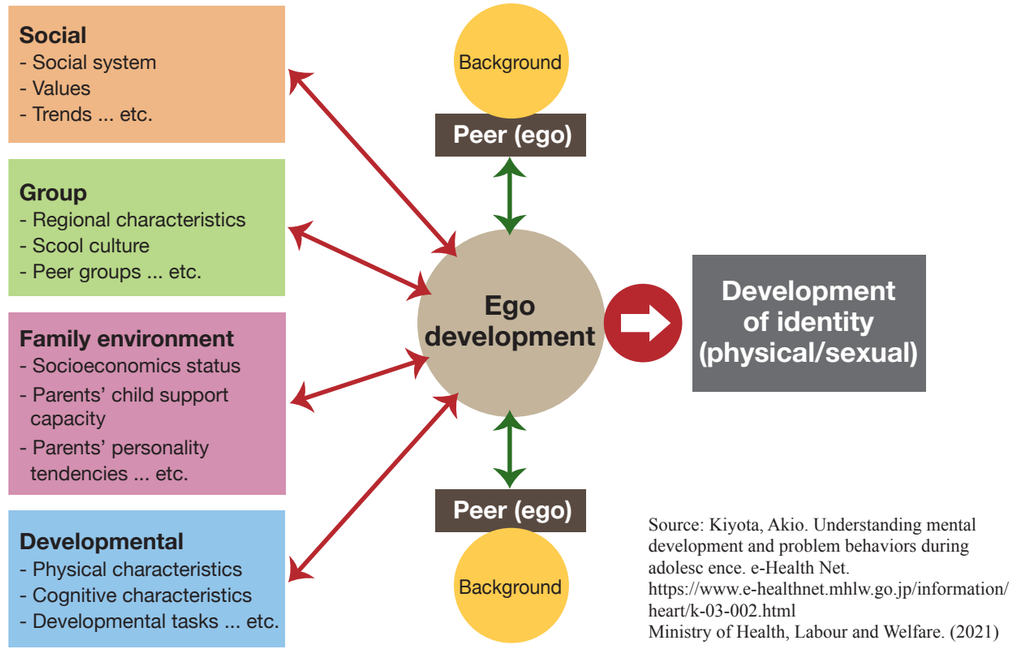


Figure 11.2 Adolescent mental development and relevant factors[7]

behaviors, you need to understand what their aims are and the diverse factors behind their behaviors.[7] One of the keys to understanding adolescence is "**ambivalence**."

Mental development during adolescence involves a number of physical, psychological, and social factors. In terms of development, at an individual level, adolescents experience significant physical and mental changes, including secondary sexual characteristics, and as they undergo sexual development and maturation, levels of sexual energy become higher. Meanwhile, the values, trends, and institutions of the groups to which one belongs, such as their school, peer groups, and family, as well as society at large, have a psychosocial influence on one as a member of these various societies as they explore how they want to live their lives and gradually form their own identity as an adult individual. Adolescence is a period in one's life when they "achieve a self-identity" like this, but some of the influence put on them during this process may lead to problem behaviors (**Figure 11.2**).

Column: What is ambivalence?

Ambivalence is one of the key concepts in addressing adolescence.[7] Ambivalence is to have and/or express two contrasting emotions or attitudes towards a certain object simultaneously, such as the kind of affection and aversion that an adolescent girl and her mother may have towards one another. Adolescence is a time when one often feels conflicted over the gap between justice or idealism and reality, or about autonomy from, and dependence on, parents, and this means that they experience stronger ambivalence and tendencies of extreme behaviors. It is the role of adults who are around a child to help the adolescent contain such swings to a state that will not interfere with their social life. With proper support from others around them, and through the twists and turns of life, an adolescent will achieve a healthy self-identity and grow into an adult. [7]

If, however, ambivalent emotions or attitudes in adolescence manifest in the form of drug abuse, eating disorders, violence/delinquency, truancy, or certain physical symptoms, it will become necessary to consult school staff, experts, or specialist organizations. In Cambodia, human resource development in school counselors, social workers, and other specialists providing support to children, their parents and guardians, and teachers, remains a challenge that needs to be addressed. And adults who are close to children, including teachers, families, and relations, as well as their elders, will play a large role in such endeavors.

a) Autonomy and peer relationships

In adolescence, while one's desire to become autonomous from parents becomes stronger, they also feel anxiety and a sense of loss or sadness over being more distant from parents. As if to compensate for the unstable emotions, adolescents associate themselves with their peers in an attempt to have a sense of security and approval of being accepted by their peers and a sense of belonging to peer groups. For a child in the last years of primary school up to middle school, in particular, what plays a significant role is groups of peers of one's own sex, those that are characterized by a sense of unity and closeness based on inner similarities. Although this allows adolescents to act autonomously from parents, it may also lead them to take on socially deviant behaviors (e.g., crime and bullying) or health risk behaviors (e.g., drinking and smoking) in order to conform to peers out of fear of rejection or isolation from their peers, or by peer pressure. How peer relationship dynamics work among children of these ages has a significant impact on their mental development and socially deviant behaviors.

By the time they are in high school and have developed a sense of "I am me, and they are them," they become able to accept others who are different from themselves in some ways.[7] In this phase, the peer relationships develop into those in which adolescents accept one another's differences as autonomous individuals, both inside and outside. Through the experience of such relationships, they gain a sense of self-contentment and security, which helps their mental development and builds a base for achieving self-identity.

b) Understanding symptoms and problem behaviors observed in adolescence

Adolescence is also a period for a child who has not successfully accomplished the developmental tasks for school-age to return to the past developmental tasks and redo or re-experience them. For instance, a middle-school child who has not fully experienced a sense of unity or intimacy with peers mentioned above may resort to self-harming or truancy out of anxiety or lowered self-affirmation. It is not uncommon for adolescents to demonstrate different problem behaviors or physical/mental symptoms, but these may be interpreted as signs for such children to have another chance to go through developmental challenges they have yet to accomplish.

To handle such symptoms or problem behaviors in an appropriate manner, it is important that you understand which developmental task(s) the child needs to try again. You also need to explore underlying developmental factors to find out why the task(s) have been allowed to remain unaccomplished up to now. Simply looking at the problem behaviors or symptoms that manifest on the surface will not be enough to remedy the situation. In order for a teacher to provide support to these children, a teacher needs to understand child development (see Chapter 3).

2. How pregnancy and childbirth work and the current situation around them[5]

1) Pregnancy

Pregnancy brings significant changes to the physiology and shape of the mother's body. While many such changes are designed to prepare the body as an ideal environment for the fetus's growth, maturation, and delivery, there may also be secondary changes that result from pressure from the enlarging uterus or the changing hormone balance.

(1) Somatic changes

Physiological weight gain during pregnancy is approximately 8–10 kg. This is partly due to the growing body of the fetus itself, but other factors also account for the gain, including the enlargement of the uterus and **increasing volume of extracellular fluid including blood** due to the body's tendency for fluid retention as a part of physiological changes caused by pregnancy. Other changes include **increased**

insulin resistance, increases in postprandial hypertension and fasting hypoglycemia, decreased tubular reabsorption of glucose, which can all often lead to a diabetic state. In addition, **increases in serum lipid levels** may also be observed; the levels can be markedly high, especially in late pregnancy.

(2) Changes to the uterus

The most notable pregnancy-related changes are naturally found in the uterus. In a woman who is not pregnant, the uterus is approximately 7-cm long, 5-cm wide, and 3-cm thick. Towards the end of pregnancy, the measurements can increase to 35 cm × 25 cm × 22 cm. This is due to the enlargement of uterine smooth muscle, as well as the enlargement and growth of connective tissue. Uterine blood flow also increases to around 500 mL per minute at the end of pregnancy.

2) Childbirth (delivery)

By around the 270th day after implantation, the uterine cervix becomes softer, and the uterine muscle layer's **oxytocin sensitivity** is increased, making it ready for delivery (childbirth).

The course of parturition (childbirth) is divided into three stages.

(1) First stage of parturition (dilation stage)

Once regular **uterine contractions (labor)** have started, and the uterine cervix has extended to the point the external os of the uterus is open to the full dilation (10 cm), the release of oxytocin increases, and labor intensifies. Labor intervals gradually become shorter until eventually the amniotic sac breaks, and the amniotic water is released (**water breaking**).

(2) Second (expulsion) stage to third (placental) stage of parturition

These stages represent a period from the full dilation of the external os until the fetal expulsion. The fetus is gradually expelled toward the birth canal. The force to expel the fetus (**expulsive force**) gradually becomes stronger, and when it reaches its peak, the fetus is pushed out of the mother's body, and takes its first breath. A fetus commonly comes out head-first; if however, its buttocks and/or legs are to come out first, it can make for a difficult delivery. Following the expulsion of the baby, fetal appendages, including placentas are expelled, to complete the delivery.

There are no national data available on weight and length at birth for children in Cambodia. However, statistics on 4,991 newborn children born in health facilities (in a five-year period between 2010 and 2014) show that the average birth weight was 3,100 g, with the prevalence of low birth weight being around 7% on average.[8] For reference, data from a Lao hospital showed the average birth weight among newborn children born at the hospital in 2013 to be 3,049 g (in 3,912 children).[9] While average birth weight and length varies among different nationalities, ethnicities, socioeconomic statuses, and sexes, typical birthlength and birthweight are approximately 48–50 cm, and 2.9–3.5 kg, respectively.[10]

3) Today's circumstances surrounding pregnant and nursing mothers[11]

Cambodia's maternal and child health situation, despite the large amount of foreign aid it had received, used to fare poorly on such indicators as maternal mortality and infant mortality until as recently as the beginning of the 2000s. To address this, the Cambodian Ministry of Health positioned maternal health as one of the key issues in its Health Strategic Plan 2003–2007 and set a goal to promote perinatal checkup by healthcare professionals and skilled birth attendance. As part of this, it established a midwifery training program and had all regional centers employ midwives. Thanks to these efforts, maternal mortality in particular saw dramatic declines, with the rate per 100,000 live births down from 472 in 2005 to 161 in 2015.

Besides medical issues, there are more fundamental issues such as regional differences in infrastructure and disparities in wealth. Data from 2010, for instance, showed stark differences in child mortality (per 100,000 live births), with 13 in the capital Phnom Penh on the one end, compared to 95 in two northeastern provinces of Preah Vihear and Stung Treng on the other, the worst in the country. The absence of a health insurance system is one of the reasons people hesitate to seek medical attention or have surgery; in addition, there are a number of regions where people lack physical access to a health center, are situated far away from a provincial hospital that provides surgery, and/or have no means of transportation in case of an emergency that requires surgery.

While a mountain of issues still remains, there are signs of change in parts of the rural areas that are close to urban areas. One such sign is receiving skilled birth attendance at home by calling in a midwife affiliated with a healthcare institution, in place of aging traditional birth attendants. Maintaining the practice of home birth helps to preserve its beneficial aspects, such as the traditional healing procedure known as **Ang Pleung** (see Column: Traditional culture that supports childbirth (Ang Pleung) and changes in childbirth), and for an expecting mother to have her family and neighbors around her during delivery. In addition, it also provides secondary benefits through contact with a **midwife**, such as more people acquiring family planning knowledge, and families getting sound advice, including a switch to facility birth if necessary. This may be an example of coexistence, or harmony, between traditional wisdom and modern medicine.

Column: Traditional culture that supports childbirth (Ang Pleung) and changes in childbirth

Takahashi[11] reported that "there is a traditional healing procedure in Cambodia called Ang Pleung, in which a postpartum mother rests on a delivery bed with charcoal fire underneath her to warm her body over several days. It is believed to be practiced widely in rural areas. The mother as a rule sleeps and eats in an area separated from others throughout the period of the procedure. Ang Pleung is completed on the day the fire is put out, and the newborn and the new mother for the first time leave the enclosed area and undergo a ritual presided over by Kru Khmer, or a practitioner of traditional medicine." However, hospital checkups and delivery are becoming mainstream in many parts of the country, especially urban areas, where Ang Pleung is no longer practiced; the situation is very different from that of rural areas where access to modern medicine is often difficult.

According to a recent study[12], the percentage of women seeking support from health facilities during delivery increased from 8% in 2000 to 82% in 2014, showing that more women are delivering babies at facilities, both in urban and rural areas. While the increases are more rapid in rural areas, the number of facility deliveries is greater among those in urban areas, as it is in more highly educated and economically advanced populations, which shows that regional and socioeconomic disparities remain unresolved. As a health facility delivery has beneficial influence on the child's future health outcome, improvements in maternal and child health services targeting women and children are hoped for.

4) Contraception

Pregnancy can threaten or damage a woman's health. Can you say that your knowledge of **contraception** is accurate? Have you been able to talk about contraception with your partner? An unexpected and unwanted pregnancy may lead to abortion, and birth resulting from an unexpected pregnancy is a high-risk factor for child abuse. Contraception is a means for you to determine the interval between pregnancies on your own, and it protects the human rights of women and children born as a result of an unexpected pregnancy. Unwanted pregnancies are avoidable, and we should ensure that pregnancy does not change the course of a woman's life against her will.[6]

(1) Methods of contraception

Although there are periods of time when a woman is more likely to become pregnant and those when she is not, there is no true "safe day." And considering how pregnancy works, the window of fertility is quite wide. Whenever one has sexual intercourse, they should be aware that there is always a possibility of pregnancy. Men, in particular, should recognize that theirs is the sex that can cause a woman to become pregnant, and make sure they use a secure form of contraception where necessary.

One of the male-based contraceptive methods, for instance, is **condoms**. They are inexpensive and readily available, free of adverse reactions, highly effective when used properly, and effective in preventing sexually transmitted infections as well. However, cases of contraceptive failures are common due to improper use. **Oral contraceptive pills** are a female-based method. They contain female sex hormones, which inhibit ovulation when taken orally. While proper use of these pills is highly effective for contraception, they can be expensive, and some women cannot use them depending on their constitution or pre-existing conditions. Unlike condoms, they have no effect against sexually transmitted infections.

There are multiple methods of contraception, yet none is 100% reliable. Even so, using a combination of contraceptive methods can boost contraceptive effectiveness. One needs to understand the advantages and disadvantages of each method, and have thorough discussions with one's partner to choose methods that are best suited to them.

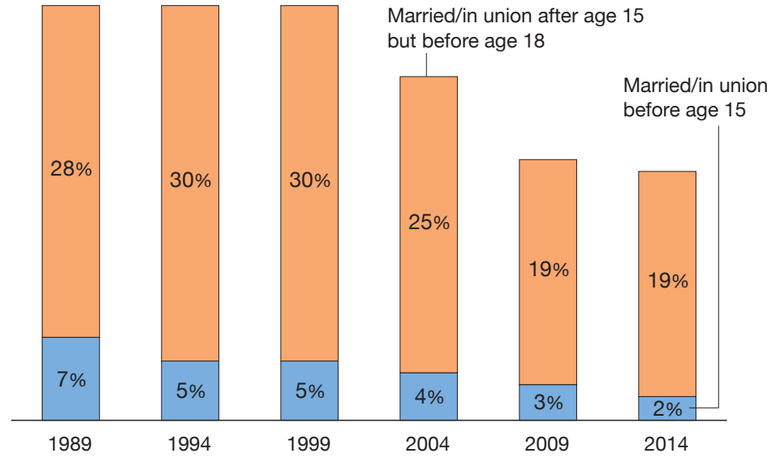
5) Youth sexual health and its challenges in today's Cambodia

This section outlines the circumstances that surround youth sexual health in Cambodia and its challenges.[13, 14]

(1) Child marriage

Child marriage in Cambodia has been in decline over the years. In 1989, 28% of women aged 20–24 were married before the age of 18, compared to 19% in 2014 (**Figure 11.3**). The marriage of girls under the age of 15 declined from 7% in 1989 to 2% in 2014. However, the overall number of child marriages was comparable to that of 2009. The median age at first marriage among women in Cambodia has remained largely unchanged at 20–21 years over the past two decades.

Child marriage is known to be widespread among certain ethnic groups and in certain parts of the country. The percentage of young women aged 20–24 years who were married before the age of 18 varies pretty widely by region, ranging from 36% in Mondulkiri and Rattanakiri to 5% in Phnom Penh.

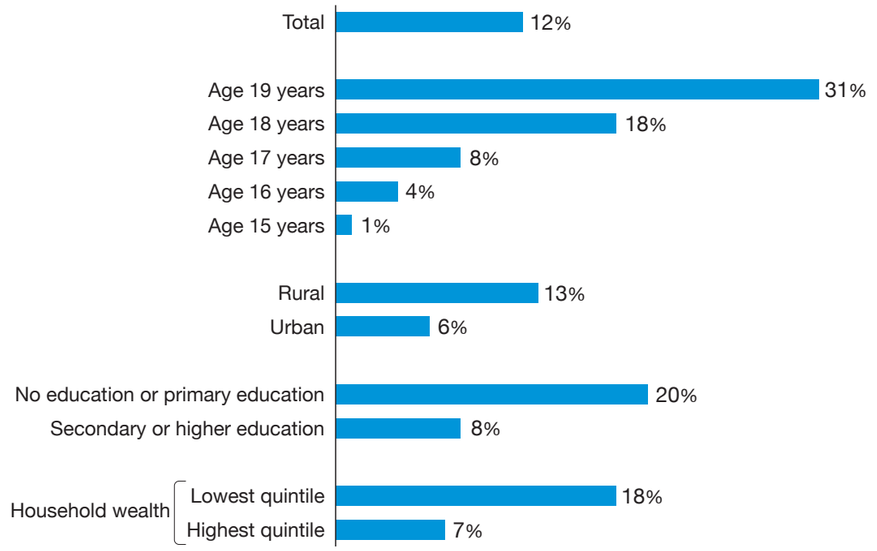


Source: UNICEF Cambodia and Division of Data, Research and Policy, UNICEF New York, A Statistical Profile of Child Protection in Cambodia, p.11, United Nations Children's Fund, New York, March 2018.

Figure 11.3 Child marriage today[13]

(2) Youth pregnancy and childbearing

In Cambodia, roughly one in eight girls aged 15–19 experiences childbearing. The percentage of girls aged 10–19 varies across regions, with the provinces of Battambang and Pailin being the lowest (4%) and Mondulkiri and Rattanakiri, the highest (34%). The percentage of girls aged 10–19 who experience childbearing decreases with urbanization, household wealth, and education (**Figure 11.4**).



Source: UNICEF Cambodia and Division of Data, Research and Policy, UNICEF New York, A Statistical Profile of Child Protection in Cambodia, p.6, United Nations Children's Fund, New York, March 2018.

Figure 11.4 Youth pregnancy and childbearing today[13]

(3) Use of contraception during sexual intercourse

The **percentage of people who use condoms during sexual intercourse** in Cambodia, as shown below, varies depending on the place of residence, socioeconomic status, and level of education.[14]

The percentage of males aged 15–24 who use condoms varies by the place of residence, and it has been consistently higher among those who live in urban areas than in rural areas (**Table 11.2**).

The **use of condoms** varies by socioeconomic status, as well. The percentage is higher in wealthier populations than in poorer ones (**Table 11.3**). While the percentage declined from 2005 to 2014, it remained largely unchanged in the middle class.

Whether or not one has a comprehensive knowledge of HIV and AIDS varies by place of residence, and the percentage of those who have a comprehensive knowledge has been consistently higher among those who live in urban areas than in rural areas (**Table 11.4**). The percentage is also higher among those with higher levels of education (**Table 11.5**).

Table 11.2 Percentage of use of condoms (males aged 15–24) by place of residence (%)

Place of residence	2005	2010	2014
Urban	57.7	50.8	57.2
Rural	23.3	9.5	10.3

Source: UNFPA, Sexual and Reproductive Health in Cambodia, 2016[14]

Table 11.3 Use of condoms by socioeconomic status (%)

Socioeconomic status	2005	2010	2014
Poorest	8.3	10.1	4
Poorer	11.2	8.4	8.7
Middle	16.4	14.5	16.9
Richer	29.1	43.1	17.6
Richest	63.3	52.4	44.9

Source: Based on Reference[14]

Table 11.4 Comprehensive knowledge about HIV and AIDS by place of residence (%)

Place of residence	2005		2010		2014	
	Female	Male	Female	Male	Female	Male
Urban	62.5	58.6	54.9	67.1	55.3	64.7
Rural	48.1	43.2	42.1	38.1	34.2	43.6

Source: Based on Reference[14]

Table 11.5 Comprehensive knowledge about HIV and AIDS by the level of education (%)

Level of education	2005		2010		2014	
	Female	Male	Female	Male	Female	Male
No education	19.7	21.9	16.2	9.7	17.9	20.1
Primary	42.1	30.3	33.4	28.5	25.7	31.0
Secondary	72.0	60.7	54.2	51.0	42.5	53.7
Higher	89.9	87.9	71.5	84.3	74.6	76.2

Source: Based on Reference[14]

Column: Sexual behaviors among university students in today's Cambodia

A 2015 study conducted on sexual behaviors among 1,359 university students in Cambodia (mean age: 21.3 years; 690 males and 669 females)[9, 15] reported the following results. The subjects included a small number of those married and/or cohabitating (2.1%).

- 144 subjects (10.6%) had sexual intercourse; the figures showed sex differences, with 119 male students (17.3%) compared to 25 female students (3.7%).

The results of detailed analyses of those who had experience of sexual intercourse are as follows:

- Age at first sexual intercourse was 20.7 years for males and 20.2 years for females; no gender difference.
- Condom use during the most recent sex among those who had experience of sexual intercourse was 57.6%; the rate was lower among females at 32.0%, compared to 63.0% in males.
- 9.2% had had sex in exchange for money/gifts, and all were males (11.2% of males).
- 7.1% had had a sexually transmitted infection in the previous 12 months.
- The percentage of the subjects who had ever made someone pregnant/been pregnant was 12.7%, with 12.0% for males and 16.0% for females.

These results, which indicate that many of the male students had experience of sexual intercourse and that around 40% had sex without using a condom, point to the importance of sex education among male students.

According to Sexual and Reproductive Health of Adolescents and Youth in Cambodia (2016),[16] Cambodia has a large youth population with the percentage of those aged between 15 and 24 years among the highest in Southeast Asia. And this young population has issues such as sexually transmitted infections, unwanted pregnancies, and unsafe abortions, whose likely causes include the lack of information on sex, poor educational attainment and high school dropout rates, and rural-to-urban migration for employment. The study subjects referred to in this column are students of two universities who had received a certain level of education. Taking these results into consideration, one may surmise that high-risk sexual behaviors may be even more prevalent among young people who have received lesser degrees of education or those in rural areas.

6) Reproductive health and rights[6]

The concept of **reproductive health and rights** was proposed at the International Conference on Population and Development held in Cairo in 1994 and has been widely supported across the world. The concept recognizes the **basic human right** (a right to which a person is inherently entitled as a human being) of people to: have a safe and satisfying sex life; freely decide whether or not to bear a child, when to have one, and how many to have; and have information and the means to do so.

Although it is a woman who becomes pregnant and gives birth, or undergoes an abortion, it is the responsibility of a couple, both the man and the woman, to not cause or have an unwanted pregnancy. It is difficult for a couple to ensure contraception unless they have accurate knowledge, care about their sex lives and the lives of one another, and have a relationship in which they respect one another and work together on equal terms. For this reason, it is important for a couple to be able to have serious conversations about contraception and build a relationship of mutual cooperation before they have a sexual relationship.

3. Sexually transmitted infections

1) AIDS

Acquired immunodeficiency syndrome (AIDS) is a condition caused by the **human immunodeficiency virus (HIV)**. If not treated properly, **severe systemic immunodeficiency** can lead to **opportunistic infections** or malignancies. With dramatic advancements in the development of medications in recent years, it is now possible for a patient to lead a normal life without weakening their immune system if they start taking medicine at an early stage. It is therefore critical that a patient takes tests and detects the infection early, receives proper treatment, and continues proper medication as instructed for life.

Meanwhile, as of the end of 2019, 38 million people worldwide were living with HIV, 1.7 million had become newly infected, and 690 thousand people had died a year.[17] This shows that HIV remains one of the most severe infectious diseases that humankind is faced with today. In Cambodia, however, HIV infections among those aged 15–49 have declined, from 2% in 1998 to 0.7% in 2013 and 0.6% in 2014. The estimated number of people living with HIV is 74,298, and an estimated ten thousand people do not know they are infected with HIV.

(1) Causes and routes of transmission

The pathogen is the **human immunodeficiency virus (HIV-1 and HIV-2)**. The primary route of transmission is **sexual contact**, in which the virus contained in seminal or vaginal fluids of a patient is transmitted via mucous membranes (of the urethra, vagina, or anus). Other routes include **mother-to-child transmission** (transmission during pregnancy, birth, or breastfeeding) and **bloodborne transmission**, which includes needlestick injuries and needle sharing.

(2) Symptoms and course of the disease

The natural course of HIV infection has three stages: **primary HIV infection (acute stage), asymptomatic HIV infection, and AIDS** (Figure 11.5). Throughout the infection, patients sustain progressive destruction of the immune system, which leads to immunodeficiency in most of those infected.

i. **Primary HIV infection (acute stage)**: 2–3 weeks after infection, the level of HIV in the blood rapidly reaches its peak. During this period, patients develop influenza- or mononucleosis-like symptoms, such as fever, sore throat, muscle aches, rash, lymphadenopathy, or headache. The intensity of the symptoms varies widely; some may feel virtually no symptoms, while others may suffer from aseptic meningitis. Early-stage symptoms may last for around ten weeks, and may subside on their own.

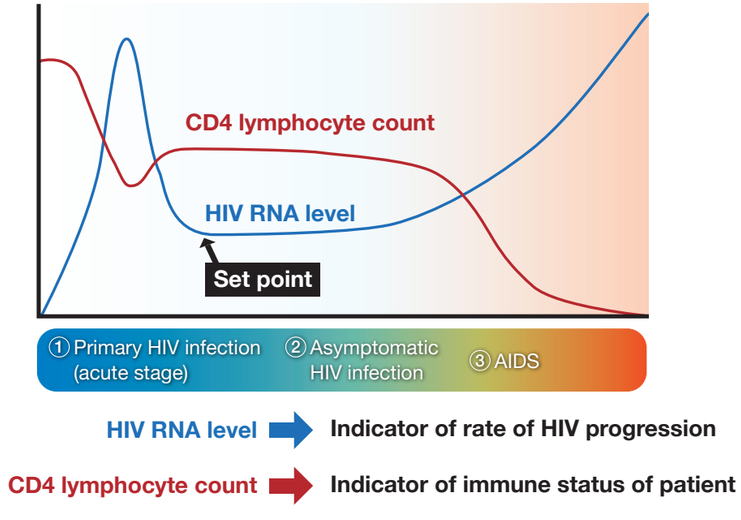


Figure 11.5 Course of HIV infection[19]

ii. **Asymptomatic HIV infection**: As a result of the immune responses following infection (such as Cytotoxic T Lymphocytes (CTLs) induction and antibody production), the viral load, after reaching its peak, decreases to a certain level after 6–8 months and reaches a steady state. Patients may then be asymptomatic for several years or up to ten or more years; after this period, they are likely to develop symptoms such as fever, tiredness, and lymphadenopathy, as well as shingles. During this period, few symptoms characteristic of HIV infection occur.

iii. **AIDS**: If a patient does not receive anti-HIV treatment following infection, the HIV infection further progresses, and CD4-positive T cells are rapidly depleted. If a patient's CD4 lymphocyte count falls below 200/mm^3, they become susceptible to **opportunistic infections** such as Pneumocystis carinii pneumonia; if the CD4 lymphocyte count drops further and falls below 50/mm^3, a patient may develop opportunistic infections that are rarely seen in people with a normal immune status, such as cytomegalovirus infections, atypical mycobacterial infections, and malignant lymphoma of the central nervous system, as well as malignancies. Symptoms such as loss of appetite, diarrhea, malnutrition, and debilitation also become marked.
(Source: Yoshimura K. What is AIDS (Acquired Immunodeficiency Syndrome)? -Clinical Symptoms. National Institute of Infectious Diseases website.[18])

(3) Issues surrounding sexually transmitted infections (prejudice/discrimination against people with HIV/AIDS)

Since the world's first reporting of cases in 1981, HIV/AIDS has spread throughout the world. In its early years, there was no treatment for AIDS, and media reports would emphasize the dangers of the disease alone. This created misconceptions and prejudices among people, which led to human rights abuses, such as people having job offer withdrawn due to HIV infection or facing discriminatory attitudes or refusal of care by healthcare facilities.

There are only three routes of HIV transmission, namely transmission through sexual contact, bloodborne transmission, and mother-to-child transmission. HIV does not spread through ordinary everyday contact, such as shaking hands, sharing everyday items, or going into a pool or bath together (**Table 11.6**). It is not transmitted through coughing or sneezing, either. In other words, one does not contract HIV through everyday activities, but only through sexual contact. However, because one may not experience many symptoms even when infected with HIV, there are cases where an infected person passes it on to others through sexual contact, etc., without knowing about their own infection. In this regard, HIV infection is not someone else's problem but is something that can happen to you or someone close to you. It is, however, preventable by using condoms correctly.

In addition, HIV infection does not equal AIDS, and there may be a long latency period before one develops AIDS if at all. Today many medicines have been developed, and more are coming; early detection of HIV infection and early start of treatment makes it possible to suppress the development of AIDS. This means that even if one is infected with HIV, one can go on with their social life by receiving proper treatment.

In the United States, the **Red Ribbon campaign** started in the 1990s when AIDS was becoming a social issue to commemorate people who lost their lives from AIDS and show understanding and support for those who are suffering from it. The campaign has since spread across borders and grown into a global movement. The red ribbon conveys that you do not have discriminate against people living with AIDS. See Chapter 7 to learn more about prejudice/discrimination against infectious diseases.

Table 11.6 Common misconceptions and assumptions about HIV infection and AIDS and correct knowledge[20]

Common misconceptions/assumptions	Correct knowledge
• It spreads by shaking hands or talking • You catch it by going into a bath or pool with an infected person • It spreads through coughing or sneezing • You catch it by sharing everyday items, such as a toilet seat, dish, or towel • You catch it through the bite of a mosquito or tick that has consumed infected blood	• There are only three routes of HIV transmission, namely transmission through sexual contact, bloodborne transmission, and mother-to-child transmission; it does not spread through ordinary everyday contact • The development of HIV medicines has made it possible to suppress the development of AIDS among people infected with HIV through early detection of infection and early start of treatment • Recently, cases of HIV transmission through sexual contact are on the rise; even steady partners cannot be ruled out for risk of transmission. HIV is an issue that can affect anyone

Source: Japanese Government Public Relations Online, Eliminating Prejudice and Discrimination against HIV and Leprosy. https://www.gov-online.go.jp/useful/article/201108/3.html

2) Other sexually transmitted infections[1]

Table 11.7 provides a list of sexually transmitted infections that are common around the world. One should take particular note of the fact that women are more susceptible to sexually transmitted infections. This is due to biological factors such as that women have more exposed mucosal surfaces and that they often show no symptoms of those diseases; as well as social factors such as that women are forced into a disadvantageous position, which makes them less likely to receive treatment for sexually transmitted infections than men.

If a woman has a sexually transmitted infection other than HIV and does not receive treatment in a timely and appropriate manner, it can have a number of long-lasting effects on her health, such as pelvic inflammatory disease, chronic pain, ovarian abscesses, ectopic pregnancies, and infertility.

Table 11.7 Types and overview of sexually transmitted infections [21]

	Pathogen	Route of transmission	Latency period	Symptoms
Syphilis	Treponema pallidum	Direct contact with skin or mucosal lesion via sexual contact	Approx. 3 weeks	• Red and hard lumps or sores appear on the original site of infection (e.g., genitals, mouth), accompanied by swollen lymph nodes in the vicinity (primary stage). Around 3–12 weeks later, systemic symptoms such as fever and general malaise appear along with various types of rash on the skin (secondary stage). It affects the heart, blood vessels, or brain over the next 10–30 years (latent and tertiary stages). If left untreated, the disease gradually progresses from primary to secondary, latent, and tertiary stages. It can cause neuropsychiatric symptoms and can even be fatal. • A newborn may have congenital syphilis when the mother with syphilis has passed the infection on to the baby.
Gonorrhea	Neisseria gonorrhoeae	Direct contact with mucosal lesion via sexual contact	2–7 days	• Pain when urinating and pyuria for men, and vaginal discharge and vaginal bleeding between periods; however, symptoms may often be too mild for patients to notice. • May cause infections in the rectum and throat, but patients often have no symptoms and may therefore fail to notice the infection. • May result in infertility if left untreated. • A baby born to a mother infected with gonorrhea may develop gonococcal conjunctivitis.
Chlamydia	Chlamydia trachomatis	Direct contact with mucosal lesion via sexual contact	1–3 weeks	• Pain when urinating and itchy urethra for men; women may often have mild or no symptoms. • May lead to infertility and miscarriage/stillbirth if left untreated.
Candida infections	Candida yeasts	Candida yeasts are transmissible via sexual contact, but may not necessarily lead to disease	Varies	• It is not common for symptoms to manifest among men with Candida infection; women may experience itching of the vulva and increased vaginal discharge. • People can have Candida in their body without it causing any problem. • It left untreated, the symptoms persist, recur, or relapse; it can not be cured without treatment.
Condyloma acuminatum	Human papillomavirus (often types 6 and 11)	Direct contact with skin or mucosal lesion via sexual contact	3 weeks Up to 8 months	• Warts that look like a chicken's comb appear around the genitals and anus. • If left untreated, it resolves spontaneously within 3 months in 20–30% of the cases; some may see a malignant transformation, however.

Source: Japanese Foundation for Sexual Health Medicine. A List of Common Sexually Transmitted Infections. https://www.jfshm.org/

4. Social challenges and solutions surrounding sexual health

1) Handling information concerning sex

Today's highly advanced information society provides an environment where we have constant access to an internet connection, and children are exposed to staggering amounts of information in their everyday lives. They also have easy access to information concerning sex. This is leading to instances where children who do not possess **information literacy** are sexually victimized through the Internet and social media. It can also become their first contact with drugs.

Social media can have an impact on the values about, attitudes to, and norms for sex. We should aim to ensure that children can acquire basic knowledge about sex and help them develop capabilities of gathering information they need on their own and making the right decision or choosing the right action (i.e., **sexual health literacy**).

2) Sexual violence

According to WHO, sexual violence is defined as "(a)ny sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed against a person's sexuality, using coercion, intimidation, or violence, by any person, regardless of their relationship to the victim, in any setting, including, but not limited to, home and work."[22]

Globally, sexual violence takes various forms, and they may include, but are not limited to, rape, sexual harassment, sexual abuse/assault, forced marriage or cohabitation, genital mutilation, forced prostitution, and trafficking of people for the purpose of sexual exploitation. Sexual violence may include intimate partner violence. WHO defines intimate partner violence as "(b)ehaviour by an intimate partner that causes physical, sexual, or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviours."

3) Sexual norms in Cambodia[23]

Cambodia has cultural codes of sexual conduct known as the **Chbab Pros** and the **Chbab Srey**, the former applies for men, the latter, women. They have a significant impact on people's perceptions, behaviors, and health. The male code of conduct says that men are strong and ambitious, serve as the head of the household, and should be treated with respect and deference. If a man deviates from the male code of conduct, it is not common for him to be subjected to sharp criticism or discrimination from society, and their sexual conduct is likewise tolerated. The female code of conduct, on the other hand, is extremely strict; it forbids premarital or extramarital sexual intercourse, and directs women to care for the family, perform all household duties, not defy parents, and obey their husband once married. In addition, any deviation from the code committed by a woman will subject her to harsh judgment from society; in rural areas, in particular, their "value as a woman" will be questioned. It has been pointed out that these cultural codes of sexual conduct help conceal violence against women committed by their spouses or other men. Women who have suffered premarital rape or human trafficking, in particular, and who should be protected as victims, are often expelled from society on the grounds of the female code of sexual conduct and become desperate as a result.[23]

Such instances of gender inequalities are not limited to Cambodia but are a global issue that affects women's opportunities in educational, political, social, and economic activities as well as their health. In the field of international cooperation, the approach known as "gender and development" has become mainstream since the 1980s. A key to sustainable development in Cambodia is the type of support that empowers women in order to eliminate factors that threaten women's living environment (such as poverty, violence, and human trafficking) and discriminatory traditions and customs that have a harmful impact on women, by understanding specific needs for men and women, and securing understanding and involvement from men.

Column: Harmful practices performed around the world[24]

Harmful practices against young girls inflict severe and lifelong trauma on them and deprive them of the rights to fulfill their potential. For instance, gender inequalities and negative attitudes towards women and girls are causes of such harmful practices. According to a survey conducted in countries that account for 80% of the world population, 90% of people had certain kinds of prejudice against women, and over 140 million females were considered "missing" as a result of sex selection at birth or child neglect (i.e., extreme son preference, which privileges sons over daughters).

Today, around 200 million girls and women have experienced some form of **female genital mutilation (FGM)**. These harmful practices are being imposed on girls by their family members, and supported by discrimination and community norms. The country where FGM is most prevalent in Asia is Indonesia, where 49% of girls aged 11 and under have experienced it. Half of the women and girls who have experienced FGM believe the practice should be abandoned.

4) Comprehensive sexuality education

Sex education incorporating international policies is actively practiced across the world. This section provides an outline of the **International Technical Guidance on Sexuality Education**, which is an international standard for such practice.[25, 26, 27]

To meet the need for education on sexual health and rights, UNESCO published the International Technical Guidance on Sexuality Education in 2009, in partnership with UNAIDS, UNFPA, WHO, and UNICEF. In light of the accumulation of practice implemented around the world over nine years, as well as the emergence of new concerns such as the influence of the Internet and social media, the content of the guidance was reviewed, and a revised edition was published in 2018.[27] In addition to providing the latest scientific evidence, the revised edition presents an updated set of eight key concepts, topics, and learning objectives, organized into different age groups (four groups: 5–8 years; 9–12 years; 12–15 years and 15–18+ years) (**Figure 11.6**). The guidance also contains the means of institutionalization for implementing **comprehensive sexuality education** and specific recommendations on how to deliver effective programs.

Comprehensive sexuality education (CSE) is a curriculum-based process of teaching and learning about the cognitive, emotional, physical, and social aspects of sexuality. It aims to equip children and young people with knowledge, skills, attitudes, and values that will empower them to: realize their health, well-being and dignity; develop respectful social and sexual relationships; consider how their choices affect their own well-being and that of others, and; understand and ensure the protection of their rights throughout their lives.

The fundamental components of comprehensive sexuality education are summarized in the ten elements shown in **Table 11.8**. As shown here, comprehensive sexuality education regards sex education as a **sexual right**. It is based on respect for human rights that is built on perspectives of gender equality and diversity of gender. Comprehensive sexuality education has been practiced in many countries and territories, including Thailand, China, Taiwan, South Korea, Australia, New Zealand, Canada, the United

States, and the Republic of South Africa, among others.

Key concept 1 : Relationships

Topics:
- 1.1 Families
- 1.2 Friendship, Love and Romantic Relationships
- 1.3 Tolerance, Inclusion and Respect
- 1.4 Long-term Commitments and Parenting

Key concept 2 : Values, Rights, Culture and Sexuality

Topics:
- 2.1 Values and Sexuality
- 2.2 Human Rights and Sexuality
- 2.3 Culture, Society and Sexuality

Key concept 3 : Understanding Gender

Topics:
- 3.1 The Social Construction of Gender and Gender Norms
- 3.2 Gender Equality, Stereotypes and Bias
- 3.3 Gender-based Violence

Key concept 4 : Violence and Staying Safe

Topics:
- 4.1 Violence
- 4.2 Consent, Privacy and Bodily Integrity
- 4.3 Safe Use of Information and Communication Technologies (ICTs)

Key concept 5 : Skills for Health and Well-being

Topics:
- 5.1 Norms and Peer Influence on Sexual Behaviour
- 5.2 Decision-making
- 5.3 Communication, Refusal and Negotiation Skills
- 5.4 Media Literacy and Sexuality
- 5.5 Finding Help and Support

Key concept 6 : The Human Body and Development

Topics:
- 6.1 Sexual and Reproductive Anatomy and Physiology
- 6.2 Reproduction
- 6.3 Puberty
- 6.4 Body Image

Key concept 7 : Sexuality and Sexual Behaviour

Topics:
- 7.1 Sex, Sexuality and the Sexual Life Cycle
- 7.2 Sexual Behaviour and Sexual Response

Key concept 8 : Sexual and Reproductive Health

Topics:
- 8.1 Pregnancy and Pregnancy Prevention
- 8.2 HIV and AIDS Stigma, Care, Treatment and Support
- 8.3 Understanding, Recognizing and Reducing the Risk of STIs, including HIV

Source: UNESCO. Revised edition International technical guidance on sexuality education: An evidence-infomed approach. 36. 2018 https://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf

Figure 11.6 An overview of key concepts, topics, and learning objectives[27]

Table 11.8 Basic learning contents of comprehensive sexuality education[27]

Elements	Specific learning content
1. Scientifically accurate	The content of comprehensive sexuality education is based on facts and scientific evidence related to sexual and reproductive health, sexuality, and behaviors
2. Incremental	Comprehensive sexuality education is a continuing educational process that starts at an early age and where new information builds upon previous learning, using a spiral-curriculum approach
3. Age- and developmentally-appropriate	The content of comprehensive sexuality education is responsive to changes that accompany the child's development
4. Curriculum based	Comprehensive sexuality education serves as a guide for teachers in their efforts to support child's learning
5. Comprehensive	Comprehensive sexuality education is supported by comprehensive, deep, and iterative learning
6. Based on a human rights approach	Comprehensive sexuality education aims to encourage people to recognize their own rights and those of others, and advocate for those whose rights are violated
7. Based on gender equality	Comprehensive sexuality education addresses how gender norms can create inequality and how they can harm people's overall health and well-being and have an impact on sexually transmitted infections, unintended pregnancies, and gender-based violence
8. Culturally relevant and context appropriate	Comprehensive sexuality education encourages learners to challenge and practice how cultural structures and norms affect individuals' formation of relationships of their choice, and acquire skills to build responsible relationships
9. Transformative	Comprehensive sexuality education contributes to the formation of a more fair and compassionate society and transformation
10. Able to develop life skills needed to support healthy choices	Comprehensive sexuality education aims to cultivate the ability to make informed decisions, communicate effectively, and demonstrate assertiveness

Source: UNESCO. Revised edition International technical guidance on sexuality education: An evidence-informed approach. 16-17. 2018 https://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf

5) Menstrual hygiene management

In the field of international development, menstruation has recently come to be discussed in association with issues such as school attendance and hygiene and is now considered a matter that requires improvement.[28] In Cambodia, issues concerning menstruation that have been identified include the sexual code of conduct mentioned earlier, the cultural norms that regard secrecy and silence about menstruation as virtuous, and a sense of shame and traditional taboos surrounding menstruation.[29]

Menstrual hygiene management (MHM) refers to access to the following: accurate knowledge about health; clean menstrual hygiene materials to absorb or collect menstrual blood; space that provides privacy for changing materials as often as necessary during a period of menstruation; soap and water for

washing the body when necessary; and disposal facilities for menstrual materials.[29]

The International Technical Guidance on Sexuality Education discussed earlier identifies the topic of menstruation as one of the learning objectives for the age group 9–12 years under Key Concept 6.3 Puberty. The key idea is "Menstruation is a normal and natural part of a girls' physical development and should not be treated with secrecy or stigma," and what learners will be able to do are as follows:

(a) describe the menstrual cycle and identify the various physical symptoms and feelings that girls may experience during this time (knowledge);
(b) describe how to access, use and dispose of sanitary pads and other menstrual aids (knowledge);
(c) recall how gender inequality can contribute to girls' feelings of shame and fear during menstruation (knowledge);
(d) recognize that it is important for all girls to have access to sanitary pads and other menstrual aids, clean water, and private toilet facilities during their menstruation (attitudinal); and
(e) demonstrate positive and supportive strategies for girls to feel comfortable during their menstruation (skill)."

5. Sexual diversity

1) Gender

Gender is a social/cultural distinction, as opposed to **sex which is a biological distinction**, and it refers to differences that are born out of different roles men and women play in society (i.e., **gender role**). It is used as a term that expresses social or cultural conceptions of "masculinity" and "femininity," such as "men work outside the home" and "women do housework and care for children."

In the International Technical Guidance on Sexuality Education mentioned earlier, discussion of issues that concern **sexual orientation and gender identity** is recommended under Key Concept 3: Understanding Gender.

Specifically, the guidance suggests goals such as the following:

For learners aged 5–8 years,

(a) define gender and biological sex and describe how they are different (knowledge), and
(b) reflect on how they feel about their biological sex and gender (skill).

For learners aged 9–12 years,

(c) define gender identity (knowledge),
(d) explain how someone's gender identity may not match their biological sex (knowledge),
(e) acknowledge that everyone has a gender identity (attitudinal), and
(f) appreciate their own gender identity and demonstrate respect for the gender identity of others (skill).

The aim is for children to acquire basic knowledge, attitudes, and skills by the time they are in the last years of primary school, and it sets more advanced learning objectives for older learners.

At the same time, the learning objectives presented in the guidance are to be interpreted by curriculum developers at the local level. "The guidance is voluntary and non-mandatory, based on universal evidence and practice, and recognizes the diversity of different national contexts in which sexuality education is taking place."

The guidance also notes that "a **positive school environment** has been shown to facilitate the full implementation of programs, thus supporting their effectiveness." It identifies "making the school a safe environment for the provision of [comprehensive sexuality education], for example by having zero-tolerance policies for sexual harassment and bullying, including stigma and discrimination on the grounds of sexual orientation and gender identity" as one of the duties of the school.

2) Gender identity[30]

Gender identity refers to the concept of personal sense of one's own gender. It may be called "psychological gender" or "brain gender." While many people identify with "being a male" or "being a female," there are a variety of forms of gender identity, such as "not identifying with either male or female," "not sure," or "don't want to pick."

Many people have a gender identity that matches their biological sex, namely, they are **cisgender**. Some people are **transgender**, meaning they have a gender identity that does not align with their biological sex.

3) Sexual orientation[22,30]

Sexual orientation refers to the pattern of sexual attraction to other people. Many people are heterosexual, or they are sexually attracted to people of the sex opposite to their own. There are, however, different categories of sexual orientation, including homosexuality (sexual attraction to people of the same sex as their own), bisexuality (sexual attraction toward both males and females), and asexuality (the lack of sexual attraction to others).

Column: Ingenuities for lessons and guidance on sex at school

To what degrees are lessons and guidance on sex offered at schools in Cambodia? Some teachers may find it difficult to teach the subject as they are hesitant to offer such guidance to children of different sex to their own. Some teachers may not have any experience in giving guidance on sexual diversity. If you find yourself in a situation that involves teasing of, or discriminatory comments against, a child of a sexual minority, how should you handle it as a teacher?

One thing you can do is to change the way of giving guidance according to the learning content. For instance, with the topic of menstruation, it may be a good idea to have boys and girls take lessons separately or to have children take lessons from a teacher of the same sex as that of themselves. If the school has only male teachers, one way of going about it is to ask community health workers or people from relevant NGOs to give lessons.

What about guidance on sexuality for boys? It has been reported that boys may feel flustered by

the physical and mental changes they experience when they reach spermarche, or feel repulsed or embarrassed during an ejaculation. Acquiring accurate information and correct knowledge helps them build a good relationship with their partner and conduct appropriate sexual behaviors. Giving guidance on sexuality for boys is important to ensure that they accept their mental and physical changes positively.

Exercises for further thought and research

[11-1] How do one's feelings towards and perception of sex change during adolescence? Take a specific example and look into it.

[11-2] What kinds of environmental improvement or institutions are necessary to support pregnancies and parenting? What kinds of facilities and services are available in the area where you live?

[11-3] How can one cope with the changes that happen to their feelings towards sex? Use your own experience as a child as a sample case and discuss.

[11-4] What should one do to communicate their intentions to their partner? Think of a scenario and do a role-play.

[11-5] Pick a case of challenges associated with sex in Cambodia and discuss possible measures for improvement.

[11-6] What are the challenges one faces when giving children guidance on sex? Give examples and discuss.

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