

Health effects of tobacco use, alcohol consumption, and drug abuse

Learning objectives

You will be able to gain proper understanding and explain:

- The health effects of tobacco use.
- The health effects of alcohol consumption.
- The health effects of drug abuse.
- Why some people begin tobacco use and alcohol consumption while knowing that they are harmful to their health.
- Why it is difficult for people to stop tobacco use, alcohol consumption, and drug abuse.

In this chapter, you will learn the health effects of tobacco use, alcohol consumption, and drug abuse, and the factors underlying them. Specifically, you will learn about the spread of tobacco use, alcohol consumption, and drugs in Cambodia as well as what you can do to protect the health of young people from tobacco use, alcohol consumption, and drug abuse by understanding drug dependence, relationships between tobacco use and health, and relationships between alcohol consumption and health.

1. Tobacco use and health

1) Health effects of tobacco use¹

When lit by flame, tobacco generates various components (i.e., gas and particulate components). If these components are inhaled, they circulate around the body through the blood and do harm to many organs of the human body (Figure 10.1). The smoke inhaled by a smoker is called **the mainstream smoke**, and the smoke coming from the end of the tobacco is known as **the sidestream smoke**. The sidestream smoke contains more harmful chemicals than the mainstream smoke that is inhaled through a filter. This is why tobacco use has serious **health effects** not only on smokers but also on their children and partners who live with the smokers and are subject to **passive smoking**.

In pregnant women,² smoking and passive smoking can increase the possibilities of miscarriage and premature delivery. The chemicals of tobacco inhaled by a pregnant woman affect her fetus through the blood, increasing the risk of her delivering a **low-birth-weight baby (with a birth weight of less than 2500 g)** or delaying the development of the fetus. Attention should also be paid to smoking and passive smoking by breastfeeding women. The mother's milk, which contains harmful substances in two to three times higher concentrations than the mother's blood, can do harm to the infant (the lung and the brain in particular). Furthermore, smoking has been shown to decrease the amount of mother's milk secretion. Note that the benefits of breast-feeding are considered to outweigh the risks of mother's

smoking, and therefore, breastfeeding is recommended.

In young people, there are health risks, including the effects on physical activities and sports, contracting respiratory disease, progression to nicotine dependence, an increased risk for using alcohol and drugs such as cannabis and cocaine, and the fact that the younger they start tobacco use, the higher the risk for developing lung cancer becomes.³

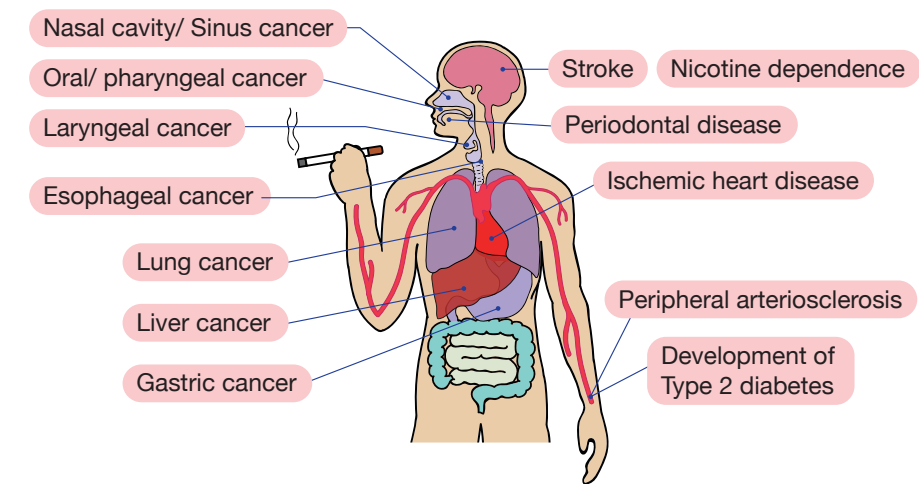


Figure 10.1 Health effects of tobacco use

2) Harmful chemicals contained in tobacco

Tobacco smoke contains approximately 5300 types of chemicals, of which approximately 50 to 70 types are shown to be carcinogenic. Among its gas components, **carbon monoxide** competes with oxygen to bind to hemoglobin in erythrocytes, decreasing the amount of oxygen carried by erythrocytes. If the state of oxygen deficiency chronically persists, red blood cell count may increase to maintain the delivery of oxygen, which increases blood viscosity and raises blood pressure. **Tar**, a particulate component, is a complex mixture that contains chemicals having carcinogenic effects, meaning they turn healthy cells into cancer cells, as well as cancer-promoting actions, which grow cancer cells. Nicotine, a type of alkaloid (a substance that neutralizes acid to form salt), is a deadly poison with strong neurotoxicity. After being taken into the body through tobacco smoke, nicotine rapidly spreads throughout the body. Because of **the dependency on nicotine**, it becomes difficult to give up the habit of smoking. In addition, it has a strong vasoconstrictor effect, which constricts capillaries and increases blood pressure. Although nicotine itself is not shown to be carcinogenic, nitrosoamines, which are produced when nicotine is broken down / metabolized in the body, are known to be carcinogenic.

Column: Emergence of heated tobacco products, a new type of tobacco⁴

Heated tobacco products (HTPs) are tobacco products that produce aerosols containing nicotine and other chemicals, and inhaled by users through the mouth. They contain the highly addictive chemical nicotine. They also contain additives and are often flavored. They also make people mimic

the behavior of smoking a conventional cigarette. The products include iQOS from Philip Morris International, PloomTECH from Japan Tobacco International, Glo from British American Tobacco, and PAX from PAXLabs. These products use a battery-powered heating system to heat tobacco up to 350°C in order to generate vapors containing nicotine.

Currently, there is no evidence to show that HTPs are less harmful than conventional tobacco products. However, some studies sponsored by the tobacco industry have claimed that they significantly reduce the formation of and exposure to harmful and potentially harmful components relative to standard cigarettes. Presently, there is no evidence suggesting that reduced exposure to these chemicals leads to reduced risk in humans. Therefore, in order to verify the claims of reduction of risks and harm, additional studies without conflicts of interest are needed. In addition, there is insufficient evidence regarding the effects of passive smoking caused by HTPs. Further studies are needed to assess the risk of being exposed to emissions released from HTPs.

All forms of tobacco use are harmful, including HTPs. Tobacco is inherently toxic and contains carcinogens even in its natural form. Therefore, HTPs should be subject to policy and regulatory measures applicable to all other tobacco products in line with the WHO Framework Convention on Tobacco Control (FCTC).⁵

The Phnom Penh Post reported in March 2021 that the National Authority for Combating Drugs (NACD) of Cambodia has directed all relevant ministries and agencies as well as organizations to take action to immediately stop the commercialization and use of HTPs.⁶

Column: What is a conflict of interest (COI)?

Take a study sponsored by the tobacco industry as an example. If a relationship based on interest is suspected between the company and a researcher who conducts the sponsored study, it will lead to a situation in which third parties may have doubts about the neutrality, objectivity, and scientific rigor of procedures that are required in the study of HTPs and health effects. That is, they may raise questions about the possibilities of data being falsified or fabricated to deliberately produce study results that support the interest of the tobacco industry. This situation is called a conflict of interest, and researchers are required to disclose relationships based on interest to ensure that public trust in the study will not be lost.

2. Alcohol consumption and health

1) Health effects of alcohol⁷

Alcohol is a central nervous depressant and has a relaxing effect if consumed in small amounts. However, before consuming alcohol, we need to understand that it has short- and long-term health effects. In the short term, it suppresses the brain function and has psychological effects, such as impaired judgment, and physical effects, including slower body movement. Moreover, consuming a large amount of alcohol in a short period of time can cause **acute alcohol intoxication**, resulting in life-threatening conditions,

such as vomiting, a depressed level of consciousness, and worsening of respiratory status. In the long term, meanwhile, it has effects on the liver, which bears the burden in breaking down alcohol, and on the whole body (Figure 10.2). Examples of the long-term effects include increased susceptibility to alcoholic hepatitis, cirrhosis, hypertension, cancer, diabetes, and cerebral atrophy.

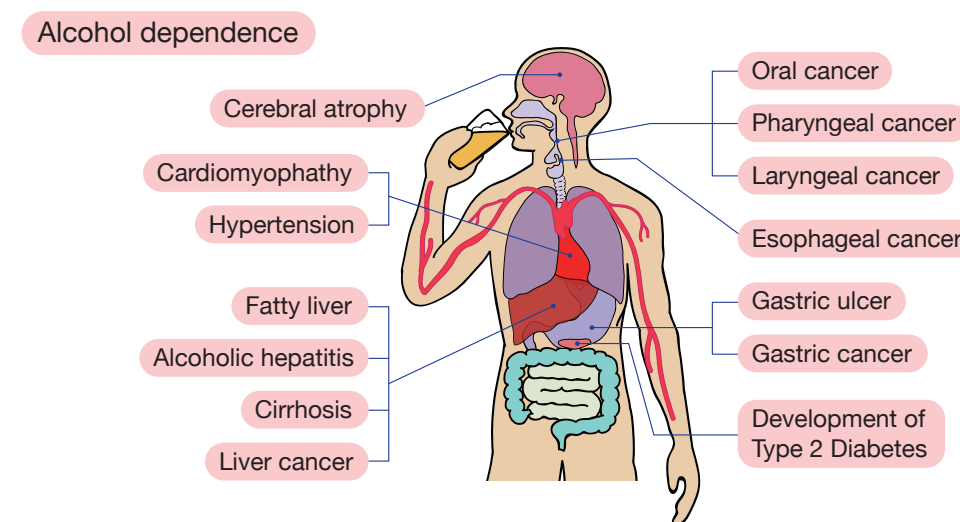


Figure 10.2 Effects of alcohol consumption on the body

2) Alcohol dependence⁸

Chronic consumption of large amounts of alcohol will develop **dependence on alcohol**, resulting in a persistent or chronic disorder of mental/physical function. Symptoms of dependence consist of **psychic dependence** and **physical dependence**. In psychic dependence, symptoms that may appear include a strong desire to consume alcohol, inability to control drinking behavior through one's own will (e.g., time and quantities), and a tendency to consume alcohol to cope with feelings of frustration, tension, and depression from daily stress. If psychic dependence progresses further, it leads to harmful behaviors, including spending most of a day consuming alcohol and sobering up by disregarding pleasures other than alcohol consumption, and not abstaining alcohol even though mental/physical problems have worsened. Thus, psychic dependence is a condition in which the habitude has changed in such a way that the person is driven by a strong desire to re-experience a pleasant sensation that can be obtained when alcohol activates the reward system of the central nerve, and this condition is the nature of dependence.

In physical dependence, **withdrawal symptoms** appear, including trembling hands and fingers and sweating, when alcohol is cleared from the body. These symptoms can lead to alcohol consumption at the workplace, a decline in work performance and absence from work, and human-relation problems at the workplace, causing difficulties in work. In addition, people who consume alcohol in the daytime can destroy their family lives for reasons including being unable to engage in housework or childcare, using violence toward family members, and borrowing money for alcohol consumption. In the case of students, they will not be able to continue their studies for reasons such as absence, poor academic performance, and dropping out.

In this way, if psychic and physical dependence are developed, social lives in one's workplace, family, school, and community can be destroyed.

3) Social impacts caused by alcohol⁹

A drunken condition (drunkenness) is a condition in which emotional control and judgment are impaired. It can cause social issues and problems such as traffic accidents resulting from drunk driving, accidents including falls, and high-risk behaviors such as unprotected sexual behavior and self-injurious behavior, as well as violent incidents, domestic violence/abuse, and involvement in crimes.

3. Harm of tobacco use and alcohol consumption by minors

Tobacco use and alcohol consumption by minors are said to cause greater health damage and are more likely to cause dependence. This is because the organs of the growing body are undergoing maturation, thus making them more susceptible to harmful chemicals and alcohol. Particularly, the period between 10 and 24 years of age, defined by the World Health Organization (WHO) as young people, corresponds to puberty/adolescence, which is not merely a period for becoming sexually mature and physically developing into an adult, but is also a transitional period toward psychosocially developing into an adult by achieving the developmental tasks of the relevant age group through brain development and maturation.¹⁰ Although the accomplishment of physical, cognitive, and psychosocial developmental tasks are affected by other factors mentioned in Chapters 3 and 11, alcohol has influences on the development of the brain of young people and is considered to have impacts on the accomplishment of developmental tasks as well.

This is why many countries define the minimum ages for tobacco use and alcohol consumption. In Japan, the legal minimum age is 20 years old for both. In Cambodia, the minimum age for tobacco use is 18 years old. Although the minimum age for alcohol consumption is not established as of 2020, there is a movement to it at 21 years old.

4. Drug abuse and health

1) What is drug abuse?

Drug abuse refers to the use of illicit drugs and the use of pharmaceuticals for purposes other than their intended use. Drugs that may be abused include stimulants, cocaine, the synthetic narcotic MDMA (methylenedioxy-methylamphetamine, known as Ecstasy), and heroin (Table 10.1). Among drugs, there are central nervous system stimulants (uppers) and central nervous system depressants (downers). Despite their different actions, they eventually increase dopamine activity in the brain, excite nerve cells

Table 10.1 Types of drugs and examples of symptoms

Type	Symptom
Stimulant (central nervous excitation)	Exhibits a neuroexcitatory action for several hours. Then, severe weakness, fatigue, and malaise occur. Hallucinations and delusions appear. Results in death if consumed in large amounts. Likely to develop toxic psychosis . May cause flashbacks even after stopping use.
Cocaine (central nervous excitation)	Alkaloid contained in coca. Gives the experience of extreme euphoria and a feeling of being full of energy. Hallucinations and delusions appear. A large amount of consumption causes generalized seizure and difficulty of breathing, resulting in death.
MDMA (Ecstasy) (central nervous excitation)	A type of synthetic narcotic. Changes perception. Increases a feeling of well-being and a sense of closeness to others. On the other hand, increases sleeplessness and uneasiness. Gives a strong psychic dependence. A large amount of consumption results in hyperthermia and death.
Heroin (central nervous depression)	A drug made from poppy. Causes severe withdrawal symptoms, including severe pain, chill, vomiting, and fainting. A large amount of consumption results in difficulty of breathing, and coma followed by death.



in **the reward system circuit**, and produce pleasure. Both of them affect the brain and may result in death if consumed in large amounts at one time.

Note that besides tobacco, alcohol, and the drugs listed in Table 10.1, there are other drugs and chemicals that may be abused, such as volatile organic solvents (e.g., lacquer thinners and toluene for painting, and adhesive bond) and pharmaceuticals (e.g., analgesics, purgatives, antitussives, sleeping pills/antianxiety drugs, and cold medicine), which are easily available and thus require attention.

Column: Is cannabis legal or illegal?

The possession and use of cannabis have been illegal for many years. It is also true, however, that it has historically/traditionally been used as medicine and food materials.

In recent years, there have been growing movements to legalize cannabis in some countries and regions. Cannabis is used for recreational, medical, and industrial purposes. It is used for personal, recreational enjoyment, to provide analgesia/sedation as a medicine, and to process clothes, cosmetics, and foods in industry. Cannabis for industrial use does not have euphoric effects and is said to pose little risk of being abused as a drug.

Currently, cannabis for recreational use is legalized nationwide in Uruguay, Canada, and Mexico. In the United States of America, it is prohibited by the federal government but legalized by some state governments. The aims of legalization are to conduct proper management by setting the legal age for cannabis use and the maximum amount that can be possessed, and to cut off funding sources for criminal organizations by restricting the cannabis trade on the black market.

There are arguments for and against the legalization of cannabis, and it has been discussed at the WHO and the United Nations as well. Cannabis is said to be a **gateway drug** (drugs that serve

as a gateway to the use of other substances with stronger dependence and adverse reactions, such as stimulants, heroin, and cocaine). This is because those who become unsatisfied with cannabis will begin to use other drugs for a stronger stimulus. The legalization of cannabis use may promote the abuse of other drugs.

It has been pointed out that cannabis use would affect the health of young people, including cognitive distortion, impairment of concentration, mental disease, excessive vomiting, and dependence. In puberty and adolescence in particular, it may affect the development of prefrontal cortices as well as the neural circuit and neural structure of the hippocampus, having negative effects on brain functions to control attentiveness, thinking, and behavior as well as on memory; it is considered that the earlier they begin to use cannabis, the greater the effect becomes. Therefore, regardless of whether it is legal or illegal, cannabis should not be used during the ages in which the brain develops, as in the case of alcohol consumption and tobacco use.¹¹

For adults, in whom the period of brain maturation has finished, societies will consider how they should deal with cannabis use from various perspectives, including risks, traditional / medical values, and impacts of legalization on communities.

2) What is drug dependence?

Drug dependence refers to a condition in which people cannot give up using a drug on their own as a result of the continued use of the drug since stopping makes them feel unpleasant (Figure 10.3). Because obtaining the drug becomes the highest priority in their daily life, they may have difficulty leading a normal life, or may try to obtain the drug without a thought for how they look. Using a drug as a one-time experiment may result in drug dependence, or some cue may prompt a person who stopped the use of a drug to begin it again.

Drug addicts have a strong desire to use a drug when its effect wears off. As a result, money to buy the drug becomes necessary, and they even commit crimes, such as shoplifting, robbery, and prostitution, to obtain the drug. They cannot control their desire by themselves even if they think that they do not want to use the drug or they want to give it up after using a certain amount. Stopping drug use may lead to sleeplessness/hypersomnia, depression, anxiety, fretfulness, hallucination/delusion, muscle/joint pain, convulsive seizure, hyperphagia, weakness, vomiting, diarrhea, abnormal sweating, and withdrawal symptoms. The habitual use of a drug builds up **tolerance** to the drug, increasing the amount necessary to gain pleasure.

No specific medicine or therapeutic method is available for curing drug dependence. The only possible way is to continue to live without using a drug. Receiving appropriate advice from experts and continuing to live without using drugs will make it possible to return to social life. This is called **recovery**. In order to effectively achieve this recovery, people suffering from dependence on alcohol or illicit drugs, such as stimulants, should accept that they cannot voluntarily control their behavior and try to keep themselves away from drugs through ties with people who have also suffered from drug abuse by joining a mutual self-help group.

In this connection, Al-Anon, a **mutual self-help group** that started in the United States in 1951 and

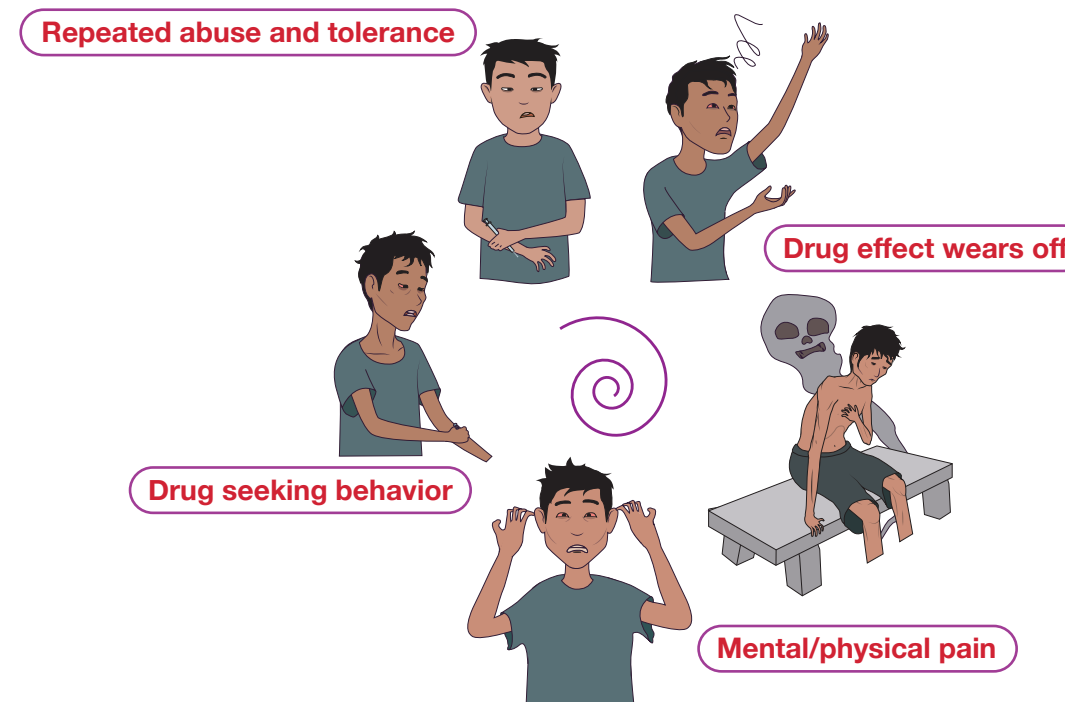


Figure 10.3 Cycle of drug dependence

has since spread to more than 130 countries around the world, proposes The Twelve Steps as a guide to recovering from alcohol dependence. The first step is a “powerless declaration” saying: We have admitted we are powerless over alcohol—that our lives have become unmanageable. Al-Anon has a base in Phnom Penh, while Alcoholics Anonymous (AA), a likeminded mutual self-help group, holds meetings in Phnom Penh, Siem Reap, and Battambang. Mutual self-help groups aiming for recovery from drug dependence are also expected to play an active role in Cambodia.

Column: What is drug tolerance?

Tolerance to a drug develops when the body gets used to the drug by taking it repeatedly, and thus the amount of the drug necessary to get the same effect increases. One of the physiological mechanisms that develops tolerance is a faster excretion of the drug from the body, as a result of increased metabolic efficiency of the drug or the creation of a new metabolic pathway (metabolism level). In addition, decreased sensitivity to the drug in the bodily tissues can also be raised (bodily tissue level).

3) Spread of drugs in the Western Pacific region¹²

The Golden Triangle, an area covering Myanmar, Thailand, and Laos, is known as a production/distribution area for opium (Figure 10.4). Myanmar in particular has become famous for its abundant poppy fields. In recent years, the types of **narcotic drugs** produced in this Golden Triangle have changed from opium and heroin, which are made from poppy, to stimulants (synthetic narcotics). Stimulants are

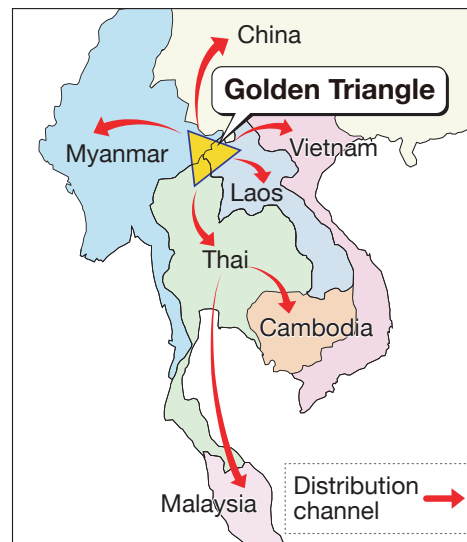


Figure 10.4 Golden Triangle

not only consumed in Myanmar, Thailand, and Laos, but also smuggled into the surrounding countries: Cambodia, Vietnam, Bangladesh, India, and China. Moreover, they spread to the entire Asia-Pacific region, including Japan, Korea, Taiwan, Indonesia, Malaysia, Singapore, the Philippines, Australia, and New Zealand. Besides the Golden Triangle, there are many areas where narcotic drugs are produced around the world. Drugs including narcotics, which are smuggled across borders, are threatening the health of people around the world.

Column: What are narcotic drugs?

Narcotic drugs originally referred to various substances that numb sensation to reduce pain. Today, opium, opium derivatives, and opioid medications synthesized from opium extracts are called narcotic drugs. However, because narcotic drugs can refer to other drugs, they are collectively called opioids for clarification. Opioids are a class of drugs that include heroin, morphine, and codeine¹³

5. Spread of tobacco use, alcohol consumption, and drugs in Cambodia

1) Tobacco use in Cambodia

The WHO's Report on the global tobacco epidemic 2019-Cambodia Country Report-¹⁴ states that the latest surveys of tobacco use in Cambodia are the National Adult Tobacco Survey of Cambodia (2014)¹⁵ and the Global Youth Tobacco Survey (2016).¹⁶ Described below is the present situation of tobacco use in Cambodia based on these reports.

According to the National Adult Tobacco Survey of Cambodia (2014), as of 2014, 22% (approx. 1.68 million) of Cambodian people aged 15 years and older use some form of tobacco product, with the

prevalence of **smoked tobacco** standing at 16.6% for the entire group, 32.9% for men, and 2.4% for women. Meanwhile, the use rate of **smokeless tobacco (chewing tobacco)** among people aged 15 years and older is 0.8% for men and as high as 8.6% for women.¹⁵ The material that is mainly used as smokeless tobacco is betel quid, which generally refers to a mixture of betel nut / Areca catechu and slaked lime wrapped in a betel leaf (**Figure 10.5**). It has been shown that one out of ten rural women uses this type of smokeless tobacco, with the use rate increasing with age.¹⁵ Although smokeless tobacco has been culturally/traditionally regarded as medicinal in some cases, it is considered to have an adverse effect (the risk of oral cancer) on the human body, like smoking.



Figure 10.5 Betel quid

Concerning the use of tobacco products by the younger age group, 6.4% of children aged 13 to 15 years old have used tobacco products (smoked and/or smokeless), with 2.4% presently using tobacco products.¹⁶ There are many advertisements in urban districts that encourage people to smoke, and the media report scenes in which tobacco is used. In addition, cheap tobacco prices may be another reason that the younger age group can easily begin using tobacco.

On the other hand, there are many adults who think tobacco use can cause heart disease and lung cancer, and support restricting tobacco use in public places and increasing the tobacco tax.¹⁵ Like adults, children also understand the impacts of tobacco on their health and the importance of restricting tobacco use in public places (**Table 10.2**).¹⁶

Table 10.2 Students' knowledge and attitudes toward smoking

Knowledge and Attitudes	%
Students who definitely thought other people's tobacco smoking is harmful to them	78.50%
Students who favored prohibiting smoking inside enclosed public places	60.70%
Students who favored prohibiting smoking at outdoor public places	60.80%

Source: WHO. Global Youth Tobacco Survey Cambodia 2016¹⁶

2) Alcohol consumption in Cambodia

As for Cambodian peoples' alcohol consumption, the annual per capita consumption of alcohol among drinkers aged 15 years and older is 21.7 liters (Table 10.3).¹⁷ This represents the consumption converted to pure alcohol; the annual consumption is equivalent to 434 liters in the case of beer with an alcohol content of 5%.

Table 10.3 Total alcohol per capita consumption, drinkers only (in liters of pure alcohol)

Cambodia	Japan	Thailand	Myanmar	Vietnam	Lao PDR
21.7	14.1	20.3	17.6	22.8	25.9

Source: WHO. Global Status Report on Alcohol and Health 2018¹⁷

According to the results of the 2013 Global School-based Student Health Survey (GSHS),¹⁸ among boys and girls aged 13 to 17 years old, the percentage of those who consumed at least one drink of alcohol in the last 30 days was 12.5% (N=1250) for boys and 4.4% (N=1526) for girls. The percentage of those who have ever consumed alcohol was 28.7% for boys and 12.7% for girls. The percentage of those who have had problems resulting from alcohol consumption, including problems with family members or friends, absence from school, and brawls, was 2.6% for boys and 1.6% for girls.

Currently, Cambodia has a minimum level of legal restrictions on alcohol without the established minimum age for alcohol consumption or restrictions on advertisements for alcohol. Although there are blood alcohol concentration limits for driving, it is unclear whether a crackdown on drunk driving is properly carried out on the basis of the limits. There are also cases in which unofficial manufacturers' tax payment is evaded because of lax restrictions (Table 10.4).¹⁹ To solve these challenges, there is a movement to revise the law. Restricting accessibility to alcohol leads to not only the prevention of health damage and dependence but also the prevention of incidents and accidents, including drunk driving, brawls, domestic violence, and sexual deviancy.

Table 10.4 Issues in legal restrictions on alcohol

1. Inadequate age restrictions
2. Inadequate restrictions on the hours for sales of alcohols
3. Emasculated blood alcohol concentration limits for driving
4. Inadequate restrictions on advertisements
5. Lack of laws regulating sponsors and sales promotion
6. Non-mandatory inclusion of warning messages in packages and advertisements

Source: The Asia Foundation (2016)¹⁹

Column: Most At Risk Young People (MARYP) Survey at Hot Spots²⁰

A survey of socially vulnerable young people aged 10 to 24 years who engage in high-risk behavior was conducted in 2010. The aim of the survey was not to understand the situation of general young people but to identify the behavior and consciousness of MARYP, who manifest high risk behavior related to alcohol, drugs, and sex and flock to "hot spots" (e.g., bars, karaoke places, massage salons, and game centers), in eight states where high-risk behaviors for HIV infection have spread.

Among those aged 10 to 19 years who were surveyed, 81.4% of men and 57.6% of women responded that they have experienced alcohol consumption. Of these people, 2.3% of men (1.9% of the total) and 18% of women (10.4% of the total) are aware that their alcohol consumption is high. The awareness of high alcohol consumption differs between the sexes, and the difference is even greater in the age group of 20 to 24 years old. This is probably because young women who work at karaoke bars and night clubs have many opportunities to consume alcohol with their customers.

The survey shows that reasons for alcohol consumption by MARYP include curiosity to experience something new; coping with stress and depression; coping with events that occurred at school (i.e., failure in the exam, pressure of deadlines, altercations with friends, and love relationships); alcohol consumption by family members; frequent encounters with alcohol consumption/drug use/tobacco use in the neighborhood or community; avoiding ostracism from friends; and psychosocial reasons such as peer pressure. It also indicates that they think, from their point of view, that education does not guarantee success in life, and stylish appearance is very important, with alcohol consumption seen as a stylish behavior.

3) Drug abuse in Cambodia

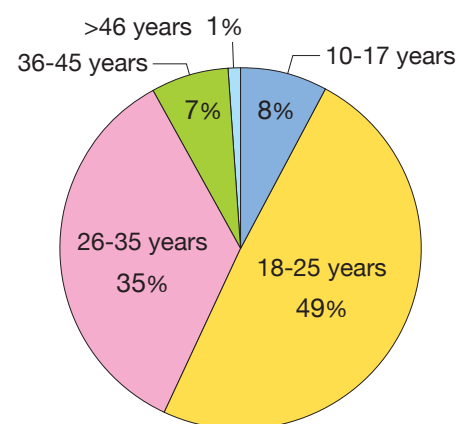
As described in "Spread of drugs in the Western Pacific region" in this Chapter, Cambodia is not included in the Golden Triangle, but drugs come into the country for trafficking from neighboring Thailand, Laos, and Vietnam. In Cambodia, stimulants (methamphetamine tablets and crystalline methamphetamine), Ecstasy, heroin, and ketamine are abused. Since 2017, because of the launch of the **anti-drugs campaign** by the government, a crackdown on drugs has been intensified and the amount seized has increased year by year (Table 10.5).²¹ However, drug dependence remains a challenge, and it is said that more than 20,000 people are in rehabilitation facilities under the control of the Ministry of Health. Drug abuse is spreading particularly among young people, and 49% of the people admitted to drug treatment centers are reported to be young people aged 18 to 25 years old (Figure 10.6).^{21,22}

Drugs pose a threat to children as well. A survey of children between 13 and 18 years of age²³ has shown that 15.9% of the children have seen the trading of drugs in the area where they live. The percentage of children who have seen someone abusing a drug was 18.9%, of which 70.2% said they saw it in the area where they live. The percentage of children who have been offered drugs by a friend or a neighbor was 4.9%. It has been reported that children who have seen the trading of drugs in the area where they live and those who have been offered drugs by their friends or neighbors tend to feel anxious when staying at home alone or dislike going to school or public places. For healthy growth and

Table 10.5 Seizures of selected drugs in Cambodia 2014-2019 -UNODC 2020

Drug type	Unit	2014	2015	2016	2017	2018	2019
Methamphetamine tablets	tablets	87,000	265,760	490,689	371,556	77,000	483,402
Crtstalline methamphetamine	kg	29	72.9	66.3	80.1	306.6	384.9
Ecstasy	tablets	10,533	70	5,509	83,533	599,200	382,728
Cannabis herb	kg	19.9	1,511.5	37	116.3	74.0	102.8
Cocaine	kg	7.9	5.3	14	12.8	5.4	61.1
Heroin	kg	1.8	2.5	6.2	22.5	1.3	47.9
Ketamine	kg	0.0	0.1	1.1	6.3	36.3	33.1

Source: United Nations Office on Drugs and Crime (UNODC) : Synthetic Drugs in East and South-East Asia: Latest developments and challenges. 2020



Source: UNODC: Synthetic Drugs in East and South-East Asia: Latest developments and challenges. 2020

Figure 10.6 Drug treatment center admission in Cambodia by age group -UNODC 2020

development of children, it is important to have a drug abuse prevention program aimed at **creating a safe community**, in which social norms are developed to enhance a sense of unity in the community and to **refuse drug use**. To achieve this, it is necessary to improve the community’s socioeconomic and cultural environments, such as addressing the community’s poverty, unemployment or lack of employment, social unrest, and high density of shops that sell alcohol and tobacco.

4) Psychological/social factors related to tobacco use, alcohol consumption, and drug abuse

Column: As touched on in the section on the Most At Risk Young People (MARYP) Survey at Hot Spots, triggers for high-risk young people to begin tobacco use, alcohol consumption, and drug abuse are casual curiosity such as “I just wanted to try something new,” or “I just gave it a try,” or the influence of family members/friends or advertisements such as “they looked cool,” “they looked tasty,” and “I saw advertisements.” Some young people began when they become depressed because of a problem with a friend, lover, or family member. In addition to these, offers or pressure from friends is another factor.

Many young people were worried that they might be excluded from a group if they refused such offers, and accepted the offers to maintain friendships. In all of these cases, they intended to try just once but came to use habitually.^{20,24}

It is thought that there is a relationship between alcohol consumption and tobacco use: men who smoke are more likely to consume alcohol than men who do not smoke. Although the relationship is not as clear as in men, women who use smokeless tobacco are said to be more likely to consume alcohol.²⁵

In order to change interrelated risk behaviors, that is, alcohol consumption, tobacco use, drug abuse, and unprotected sexual acts, it is necessary to reduce social stress as well as steadily carry out health education and social policy to change values.

Column: Global strategies regarding tobacco and alcohol (Figure 10.7)

As a global tobacco strategy, the **Framework Convention on Tobacco Control**⁵ was adopted at the 56th World Health Assembly in 2003 and entered into force on February 27, 2005. The objective of the Convention is to protect present and future generations from the harmful health effects of tobacco use, etc. To achieve this objective, the Convention includes “Protection from exposure to tobacco smoke,” “Ensuring that tobacco product packaging and labelling do not promote tobacco products by any means that are false, misleading, deceptive or likely to create an erroneous impression, and health warnings shall be no less than 30% of the principal display areas,” “A comprehensive ban or restrictions on all tobacco advertising, promotion and sponsorship,” “Taking measures to eliminate illicit trade in tobacco products, including requiring unit packets and packages of tobacco products to carry effective marking indicating the final destination,” “Implementing effective measures to prohibit the sales of tobacco products to minors,” “Establishing the Conference of the Parties that keeps under regular review the implementation of the Convention and takes decisions necessary to promote its effective implementation,” and “Each Party shall submit to the Conference of the Parties periodic reports on its implementation of this Convention.”⁵



Figure 10.7 Social measures (warning messages on tobacco packages)

Meanwhile, “the global strategy to reduce the harmful use of alcohol”²⁶ was unanimously adopted at the 63rd WHO general assembly in 2010. The objective of this global strategy is to reduce morbidity and mortality related to alcohol as well as the resulting social impacts, and to improve the health of individuals, families, and society, in order to significantly curb the use of alcohol, which is the third largest factor adversely affecting health and societies in the world. To achieve this objective, the strategy calls for a broad range of measures, including restrictions on advertisements, bans or restrictions on bargains and all-you-can-drink offers, and alcohol price increases through taxation and minimum price systems.²⁶

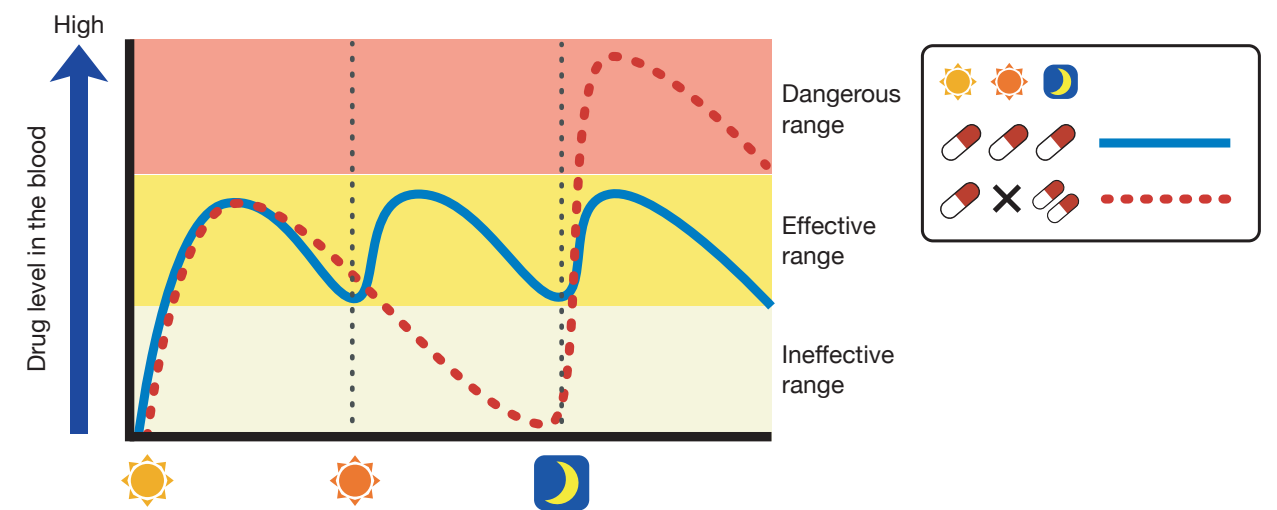
Column: How to use pharmaceuticals

Although pharmaceuticals are originally designed to alleviate or cure human diseases and disorders, they need to be properly used because even beneficial pharmaceuticals can have adverse effects on health if used in the wrong way. Pharmaceuticals have, by nature, “**main effects**,” which are to achieve the intended purposes of easing and curing the symptoms of disease, and “**side effects**,” which are adverse influences on the body resulting from the use of the pharmaceutical. Side effects can occur with any pharmaceutical as well as in people with certain predispositions or conditions.

Pharmaceuticals are drugs designed to be used for the diagnosis, treatment, or prevention of human and animal diseases. They have the components and forms (e.g., liquid, semisolid, and solid) that are suited for the effect and efficacy (e.g., easing pain). In addition, usage (dosage and administration, and timing) is established so that pharmaceuticals can properly exhibit effect and efficacy.²⁷ However, even pharmaceuticals can cause side effects if used in the wrong way. For example, if you miss a dose of a drug that needs to be taken three times a day and take a double dose of the drug at one time, drug levels in the blood can rise to a dangerous degree, possibly causing anaphylactic shock. Or, if you adjust the dose of a drug and take a subtherapeutic dose, drug levels in the blood will be too low to be efficacious (Figure 10.8). Therefore, in using drugs, it is important to carefully consult a physician, pharmacist, or pharmacy personnel about the usage of the drug, and to follow the dosage and administration stated on the package.²⁷

Low-quality pharmaceuticals and counterfeit medicines, which include those with false labeling of contents and ingredients, those not meeting quality standards or specifications, and those that have not been assessed or approved by regulatory authorities, are rapidly increasing mainly in Asia, South America, and Europe. The WHO’s survey²⁸ reports that low-quality pharmaceuticals and counterfeit medicines account for approximately 10.5% of available pharmaceuticals in low- and middle-income countries. It also reports that these pharmaceuticals particularly affect pneumonia and malaria in children. There is a concern that the spread of the internet may increase the online sales of low-quality pharmaceuticals and counterfeit medicines.

In Cambodia, the estimated percentage of these pharmaceuticals widely varies from 4% to 90%. Particular attention should be paid to drugs that community stores sell in loose form as they contain many low-quality pharmaceuticals, counterfeit medicines, or unapproved drugs.²⁹ Pharmaceuticals should be obtained at reliable places, such as hospitals and pharmacies.



Source: Risk/Benefit Assessment of Drugs - Analysis and Response. Kusuri Guidebook. Copyright ©RAD-AR Council, Japan. All rights Reserved. Translated with permission.

Figure 10.8 Drug levels in the blood and drug efficacy²⁷

Exercises for further thought and research

- [10-1] As restrictions on advertisements for alcohol consumption, there are “bans on advertising appealing to minors” in Canada, and “bans on advertising on television and movies” in France. Consider what kind of social measures can be taken in Cambodia to create an environment for preventing tobacco use and alcohol consumption among children.
- [10-2] Smokers say that they feel refreshed after smoking tobacco and that they cannot help smoking tobacco when they feel stressed. Present your counterarguments against these opinions.
- [10-3] Consider what you need to create a society in which drugs have no place.
- [10-4] Understand the relationships between risk behaviors related to tobacco, alcohol, and sex, and consider why young people display those behaviors.
- [10-5] Consider what should be done to encourage children to refuse drug offers.
- [10-6] Consider how a teacher should act if a child reports that he/she witnessed a person abusing alcohol or a drug, or trading drugs in the area where he/she lives.
- [10-7] Research cannabis restrictions in Cambodia. Study how cannabis has been historically and culturally used in Cambodia.

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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 adulthood¹

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 characteristics²

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**