



Federal Democratic Republic of Ethiopia  
Ministry of Health

## Family Planning

Blended Learning Module for  
the Health Extension Programme



# HEAT

Health Education and Training  
HEAT in Africa





## Federal Democratic Republic of Ethiopia Ministry of Health

The Ethiopian Federal Ministry of Health (FMOH) and the Regional Health Bureaus (RHBs) have developed this innovative Blended Learning Programme in partnership with the HEAT Team from The Open University UK and a range of medical experts and health science specialists within Ethiopia. Together, we are producing 13 Modules to upgrade the theoretical knowledge of the country's 33,000 rural Health Extension Workers to that of Health Extension Practitioners, and to train new entrants to the service. Every student learning from these Modules is supported by a Tutor and a series of Practical Training Mentors who deliver the parallel Practical Skills Training Programme. This blended approach to workplace learning ensures that students achieve all the required theoretical and practical competencies while they continue to provide health services for their communities.

These Blended Learning Modules cover the full range of health promotion, disease prevention, basic management and essential treatment protocols to improve and protect the health of rural communities in Ethiopia. A strong focus is on enabling Ethiopia to meet the Millennium Development Goals to reduce maternal mortality by three-quarters and under-5 child mortality by two-thirds by the year 2015. The Modules cover antenatal care, labour and delivery, postnatal care, the integrated management of newborn and childhood illness, communicable diseases (including HIV/AIDS, malaria, TB, leprosy and other common infectious diseases), family planning, adolescent and youth reproductive health, nutrition and food safety, hygiene and environmental health, non-communicable diseases, health education and community mobilisation, and health planning and professional ethics.

In time, all the Modules will be accessible from the Ethiopian Federal Ministry of Health website at [www.moh.gov.et](http://www.moh.gov.et); online versions will also be available to download from the HEAT (Health Education and Training) website at [www.open.ac.uk/africa/heat](http://www.open.ac.uk/africa/heat) as open educational resources, free to other countries across Africa and anywhere in the world to download and adapt for their own training programmes.

Dr Kesetebirhan Admasu  
State Minister of Health  
Ethiopian Federal Ministry of Health

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# Introduction to the *Family Planning* Module

In 1900, the world population was estimated to be about 1.7 billion. By 1999, it had risen to 6 billion (WHO estimate). Currently, 80% of the world population resides in less developed countries and this figure will rise to 90% by 2050.

Ethiopia leads sub-Saharan Africa with one of the highest population sizes in Africa. During the second Ethio-Italian war (1935–1941), the population size of Ethiopia was estimated to be only about 15 million people; 45 years later it had reached 41 million (1984 national census). The current Ethiopian population size in 2010 is 76 million and increasing by more than 2 million people annually. If the current rate of natural increment continues, the population size is estimated to double every 23 years.

Taking into account this rapid population growth, the Government of Ethiopia approved the National Population Policy in 1993. Their rationale in formulating and approving this policy was to harmonise the rate of population growth in parallel with socio-economic development. In the last decade, in our country, we have seen ongoing economic development, a factor which has been applauded by both local and international observers. However, this achievement in economic growth is far outstripped by the alarming increase in population. What this implies is that the objectives of the National Population Policy have not yet been met. Therefore, family planning and the family planning service have a huge contribution to make in fostering the economic development of this country through controlling population size, as well as improving the quality of life and health of individuals and families.

The role of health professionals in balancing population growth with socioeconomic development is immense and only possible by using family planning as a principle and different contraceptive methods as tools. As a Health Extension Practitioner, you can contribute to balanced population growth through mobilising the community at large. Community mobilisation for the purpose of improving family planning is possible with understanding and by encouraging ownership amongst the beneficiaries. To achieve this, both formal and informal education is important. In short, the three key areas of education, population size and development impact on one another and need to remain in balance.

In this Module, you will learn about family planning in detail. Beginning with the wider context of family planning programme management, promotion and counselling for family planning, you will move on to focus in detail on the different types of contraceptive methods, and finally touch briefly on the issue of male and female infertility. The Module is divided into 12 study sessions, and each session should take you about two hours to study.





# Study Session 1 | An Overview of Population and Family Planning

## Introduction

Family planning helps people have the desired number of children, which as a result improves the health of mothers and contributes to the nation's social and economic development. In most developing countries, including Ethiopia, it is common practice for women to have too many children, too close to one another. As a consequence, the population size of the country has grown dramatically but economic growth has not kept in parallel with it. Such an unbalanced population size will inevitably have a negative impact on the wellbeing of the nation. Family planning is one of the strategies which is proving to be effective in tackling these problems.

In this study session, you will learn about the problems resulting from having many children, the impact on the health of mothers and children, population size and growth and its social, economic and health consequences, population pressures on the environment, the benefits of family planning, and the current family planning programmes in Ethiopia.

## Learning Outcomes for Study Session 1

When you have studied this session, you should be able to:

- 1.1 Define and use correctly all of the key words printed in **bold**. (SAQs 1.2 and 1.5)
- 1.2 Describe uncontrolled fertility and its impact on the health of mothers and children. (SAQs 1.1 and 1.2)
- 1.3 Discuss population size and growth and its social, economic and health consequences. (SAQs 1.2 and 1.3)
- 1.4 Discuss population pressures on the environment. (SAQ 1.4)
- 1.5 Describe the social, economic and health benefits of family planning. (SAQs 1.3 and 1.6)
- 1.6 Explain the profile of current family planning programmes in Ethiopia. (SAQ 1.7)

### 1.1 Uncontrolled fertility

This session starts by highlighting the issue of uncontrolled fertility and its effect on the health of mothers and children. **Uncontrolled fertility** can be defined as when an individual or couple fail to plan their future family size to match the economic level of their family. As a result, fertility is often higher in developing countries than in developed ones, which means that women living in poorer countries, like Ethiopia, tend to have more children in their lifetime.

It is estimated that, on average, African women have 5.6 live births during their reproductive period, and the average number of live births per Ethiopian woman is currently 5.4. This average varies across rural and urban areas of the country. For instance, the fertility rate is as low as 1.4 in Addis Ababa, while it is as high as 7.4 in the Oromia Region.

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- From your own experience, what do you think are contributing factors for having too many children?
  - Some of the factors that contribute to high fertility are early marriage, low literacy, limited use of family planning methods, religious and cultural influences.

As a result of the high fertility rate, poor health conditions in general, and inadequate availability of medical care, the risks of pregnancy are higher in Africa than anywhere else. An African woman's chance of dying from pregnancy-related causes, such as obstructed labour, post-partum haemorrhage, hypertensive disorders of pregnancy, post-partum infections, and unsafe abortion, averages 900 per 100,000 live births.

In contrast, the risk of maternal death in the industrialised nations averages 27 per 100,000 live births. In Ethiopia, for instance, an average of 673 women per 100,000 live births die from pregnancy-related causes. Similarly, in developing countries, including Ethiopia, high fertility carries the highest risk of death in children under five years of age because it is usually difficult for African families to provide all their children with enough food and health care. Therefore, the children can be easily affected by severe malnutrition and infections, both of which are the most common causes of under five mortality. For every 1,000 live births, there are 140 deaths of children under five years in sub-Saharan Africa and 127 in Ethiopia.

In general, compared to countries with lower fertility rates, countries that have high fertility rates often have higher maternal, child, and infant death rates.

## 1.2 Population size and growth

In the previous section you learnt about uncontrolled fertility and its impact on maternal and child health. Here we will look at the difference between population size and growth, and the link between fertility and population size and growth. It is important to differentiate between population size and the population growth rate. **Population size** is a measurement of existing population at any point in time, while the **population growth rate** tells us what is happening to the population in terms of whether it is growing, getting smaller, or remaining constant.

- What will happen to population size if a country experiences a high birth rate with a corresponding high death rate?
  - This results in a slow increase in population size.
- What will happen to population size if a country experiences a high birth rate with disproportionately low death rates?
  - High birth rates and disproportionately low death rates result in rapid population growth.
- What will happen to population size if a country experiences both a low birth rate and a low death rate?
  - The population size will be well controlled and increase only slowly.

The main objective of family planning is to achieve this last scenario (a low birth rate, and a low death rate). Why? Because one of the factors that influences population growth is excess fertility. In countries where the fertility rate is higher than the death rate there will be fast population growth. This is typical of the current African population. Although the annual rate of increase varies from country to country, on average the world population is growing at 1.5% every year. If this growth rate continues (see Figure 1.1), the world population will be 12 billion by 2050. According to the 2007 Ethiopian census, this country's population is currently increasing by 2.6% (about two million) each year and should this rate of growth continue, it is estimated that the population of the country will double every 23 years.

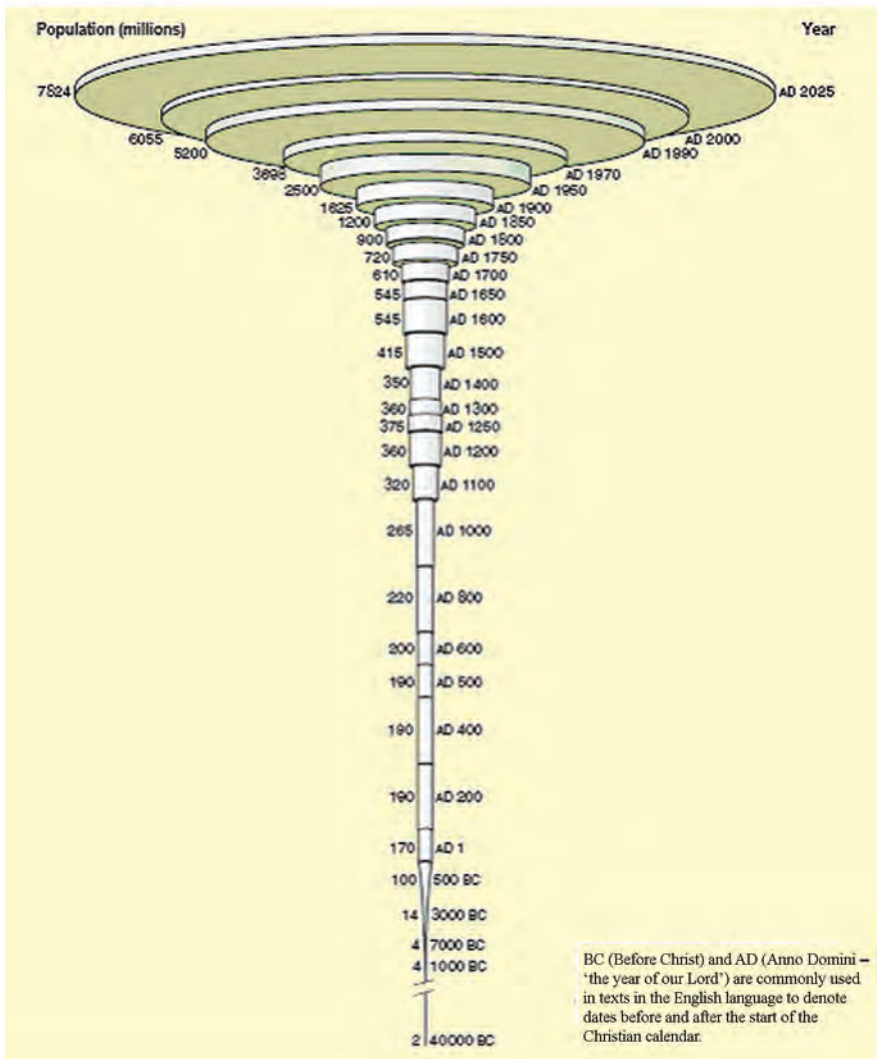


Figure 1.1 Expansion of the human population of the world from 40,000 BC to AD 2025. The diameter of each ring corresponds to the estimated population number at that date. (Source: data derived from McEvedy and Jones, 1978, SDK125, Book 1, p7)

As the population is growing very rapidly, the need for food, schools, jobs and health services is also increasing. Most of the countries in Africa already have high population growth rates estimated at 3% a year, and this is especially true of sub-Saharan Africa which includes Ethiopia. Therefore, it is becoming very difficult for these countries to provide enough food, schools, jobs and health services for everyone in the existing population.

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## 1.3 Population and the environment

Rapid population growth, low agricultural production and destruction of the environment are practices common to most of the sub-Saharan African countries, including Ethiopia. As people tend to live in crowded situations on small pieces of land, there has been an increase in demand for agricultural and grazing land, as well as woodland for fuel and construction, so that extensive and rapid deforestation and soil erosion has occurred. For example, Ethiopia has lost about 13.6% of its forest density since 1950. This situation in turn facilitates drought and hunger.

As a result of uncontrolled population growth in Ethiopia, population density has increased rapidly over the last 30–40 years, and it is projected that population density will be 166 people per square kilometre in 2050, compared with a figure of 72 people per square kilometre in 2005. This implies that the population will be forced to live in overcrowded areas with small pieces of land to cultivate and, as a result, will eventually end up in extreme poverty and even hunger.

Stop reading for a moment and think about this from your own experience. How might your own village population change?

- These figures suggest that your village could have twice as many people living in it in 2050. Would there be enough jobs and food for everyone? What would be the effect of such population growth?
- In view of the fact that 84% of the population lives in rural areas and is dependent on agriculture, unless population growth is controlled, pressure on scarce natural resources will increase in Ethiopia.

## 1.4 Family planning and its benefits

### 1.4.1 What is family planning?

**Family planning** is the decision-making process by couples, together or individually, on the number of children that they would like to have in their lifetime, and the age interval between children. This means that both halves of a couple have equal rights to decide on their future fertility. In planning their future children, partners need to have the right information on when and how to get and use methods of their choice without any form of coercion. Such planning therefore helps mothers and their children enjoy the benefits of birth spacing and having planned pregnancies.

Family planning is one of the leading strategies to improve family life and welfare, control unwanted population growth, and aid the development of the nation. This is the reason why Ethiopia has been developing its family planning programme since the 1960s (see Section 1.5).

### 1.4.2 Benefits of family planning

#### Social and economic benefits

Family planning reduces health risks to women and gives them more control over their reproductive lives. With better health and greater control over their lives, women can take advantage of education, employment and civic

opportunities. Families with fewer children are often able to send those children to school so girls get a chance to attain higher education, and as an outcome, the age of their first marriage is often later and their years of fertility reduced. They also benefit from being an employee.

In addition, it is not difficult for parents to clothe and feed their children if they can limit their family size. The expenses that they need to care for a small-sized family will be less, so they can save more and be self-sufficient. With regard to social services, both the government and the family invest less if the family and population size is small. This can help save essential resources and thereby contribute to the economic growth of the nation as a whole.

In general, having a larger proportion of well-educated, healthy, productive and self-sufficient families can (Figure 1.2) contribute a great deal to the sustainable development of a country. In this regard, the social and economic benefits of the family are essential.

### Health benefits to the mother

Contraceptive use reduces maternal mortality and improves women's health by preventing unwanted and high-risk pregnancies and reducing the need for unsafe abortions. Some contraceptives also improve women's health by reducing the likelihood of disease transmission and protecting against certain cancers and health problems.

*Avoiding too early and too late pregnancies:* Family planning helps mothers avoid pregnancy when they are vulnerable because of their youth or old age. The risk of having pregnancy-induced hypertension (high blood pressure) is much higher in younger mothers. On the other hand, older mothers, who have given birth to 5 or more children, have a tendency to uterine rupture during labour, which can cause severe vaginal bleeding and shock. In places where emergency obstetric care facilities are lacking, these two consequences of age have been leading causes of maternal deaths.

*Limiting the number of pregnancies:* Once the desired number of children has been achieved, a woman can avoid further pregnancy by using family planning methods. Any pregnancy and birth equal to, or higher than, five can have greater risks for the mother. The risk of dying from **multiparity** (giving birth more than once) increase for a woman who has given birth to five or more children; her risk is 1.5 to 3 times higher than those who have given birth to two to three children.

*Preventing abortion:* Most abortions result from unwanted pregnancy, and significant numbers of maternal deaths can be attributed to unsafe abortion induced by untrained practitioners. In Addis Ababa, abortion is one of the leading causes of maternal death. Family planning helps mothers prevent such unwanted pregnancies.

### Benefits to the children

Together with other health services, such as diarrhoea and pneumonia management, the nutrition programme and the expanded programme on immunization, family planning directly contributes to the improvement of children's health and growth. It also indirectly contributes to children's wellbeing and development by improving maternal health. Adequately spaced children can be wellfed and healthier than closely spaced children. Mothers can have ample time and good health to care for their children. Parents should be able to seek healthcare for them without being constrained.



Figure 1.2 A happy family.



## 1.5 Family planning programme in Ethiopia

The modern family planning service in Ethiopia started as The Family Guidance Association of Ethiopia (FGAE), established in 1966. FGAE's only family planning services were provided from a single-room clinic run by one nurse, at the former St Paul Hospital in Addis Ababa. FGAE's programme activities and services are now broadly spread all over the country, creating a vast network.

In the last 20 years, with the adoption of the population policy in 1993, numerous local and international partners in family planning have come together to assist the government in expanding family planning programmes and services. The National Population Office was established to implement and oversee the strategies and actions related to the population policy. In 1996, the Ministry of Health released *Guidelines for Family Planning Services in Ethiopia* to guide health providers and managers, as well as to expand and ensure quality family planning services in the country.

The Ministry of Health designed new outlets for family planning services in the form of community-based distribution, social marketing and work-based services, in addition to the pre-existing facility-based and outreach family planning services. **Social marketing** is about making available family planning methods at an affordable price using private retailers. **Work-based services** are services made available to users' at their place of work, such as factories, prisons and schools. Moreover, in the last decade, integration and linkage between family planning services and HIV/AIDS care, along with maternal and other reproductive health services, has been emphasised in guidelines and strategic documents with the aim of enhancing family planning utilisation.

Currently, the service has been provided to rural communities at household level through the Health Extension Programme (Figure 1.3). Access to these services has been almost universal for all urban and rural communities, so that every woman in the population can get any contraceptive method of her choice free of charge. This is covered in more detail in the next study session.

See Table 1.1 for a summary of these services.

Table 1.1 Types of family planning services provided at different service delivery points.

Service delivery levels			
Delivery points	Household/Health post	Health centre and rural hospital	Referral hospital
Type of service	Condoms, oral contraceptives, injections and single rod implants (Implanon), as well as counselling.	Condoms, oral contraceptives, injections, multiple rod implants (Jadelle and Norplants) and Intrauterine contraceptive devices (IUCDs), as well as counselling.	All types of services including Voluntary Surgical Procedures (VSG) and counselling.



Figure 1.3 Family planning service in a rural health post. (Photo: Ali Wylie)

## Summary of Study Session 1

In Study Session 1, you have learned that:

- 1 Uncontrolled fertility is when an individual or couple fails to plan their future family size and match it with their family-level economy. Fertility is often higher in developing countries, with women in poorer countries, like Africa, tending to have more children in their lifetime. It is estimated that, on average, African women have 5.6 live births during their reproductive period.
- 2 An African woman's chances of dying from pregnancy-related causes averages 900 per 100,000 live births. In contrast, the risk of maternal death in industrialised nations averages 27 per 100,000 live births. In Ethiopia, for instance, an average of 673 women per 100,000 live births die from pregnancy-related causes.
- 3 Population size is a measurement of existing population at any point of time, while the growth rate tells us what is happening to the population in terms of it growing, shrinking, or remaining constant.
- 4 In countries where the fertility rate is higher than the death rate there will be fast population growth, and as a population grows rapidly the need for more food, more schools, more jobs and more health services will also grow.
- 5 Rapid population growth, low agricultural production, and destruction of the environment are common to most of the sub-Saharan African countries, including Ethiopia.
- 6 As a result of uncontrolled population growth in Ethiopia, population density has been increasing rapidly for the last 30–40 years, and it is projected that the population density will be 166 people per square kilometre by 2050.
- 7 Family planning is the decision-making process by couples together, or individually, on the number of offspring that they would like to have in their lifetime, and how often to do so.
- 8 Family planning helps mothers avoid pregnancy when they are vulnerable because of their younger or older age, or when the desired number of children has been achieved. It can also help mothers space their children, so that they maintain good health and energy.
- 9 Family planning also helps mothers prevent unwanted pregnancy so and so avoid abortion and its consequences.
- 10 Modern family planning services in Ethiopia first started in 1966, led by the FGAE. The Ministry of Health designed new outlets for family planning services in the form of community-based distribution, and social marketing and work-based services, in addition to the pre-existing facility-based and outreach family planning services.

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## Self-Assessment Questions (SAQs) for Study Session 1

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 1.1 (tests Learning Outcome 1.2)**

Identify at least two possible reasons why a woman experiences high fertility in her lifetime.

### **SAQ 1.2 (tests Learning Outcomes 1.1 and 1.3)**

Discuss the difference between population size and population growth rate.

### **SAQ 1.3 (tests Learning Outcomes 1.2, 1.3 and 1.5)**

Explain how rapid population growth occurs and briefly state how to overcome this problem.

### **SAQ 1.4 (tests Learning Outcome 1.4)**

Which of the following statements is *false*? In each case, explain why it is incorrect.

A Rapid deforestation and soil degradation are mostly due to natural disasters.

B Traditional uses of land and fuel, in order to provide for an increasing number of people, have depleted soil and forests and contributed to low agricultural production.

C As population density increases, more grazing and agricultural lands will be available for the rural population.

D 84% of the Ethiopian population lives in rural areas and is dependent on agriculture. Unless population growth is controlled, pressure on natural resources will increase in Ethiopia.

E Rapid population growth, low agricultural production, and destruction of the environment are common to most of the sub-Saharan African countries, but not in Ethiopia.

### **SAQ 1.5 (tests Learning Outcomes 1.1 and 1.5)**

Define family planning.



**SAQ 1.6 (tests Learning Outcome 1.5)**

How can family planning help mothers? List at least three ways and discuss each of them.

**SAQ 1.7 (tests Learning Outcome 1.6)**

Discuss why a population policy was launched in Ethiopia in 1993, and explain the role of the National Population Office.



# Study Session 2 Family Planning Service Delivery and Programme Management

## Introduction

Providing effective family planning services which address the needs of the community is essential. Therefore, service delivery strategies need to be tailored to reach populations in different locations, such as urban areas, rural towns, villages and remote areas. The most common **family planning service delivery** approaches comprise health facilities, health posts, health centres, hospitals, and community-based distribution, which includes commercial retail sales, door-to-door service delivery, and workplace distribution.

**Family planning programme management** is about finding the most effective way to carry out activities related to family planning services, using appropriate human, material, financial and timely resources to reach set targets.

In this study session, you will learn about the most commonly used family planning service delivery strategies practised in Ethiopia, and fundamental aspects of family planning programme management, including planning, monitoring and evaluation.

## Learning Outcomes for Study Session 2

When you have studied this session, you should be able to:

- 2.1 Define and use correctly all of the key words printed in **bold**. (SAQ 2.2)
- 2.2 Describe the category and function of each service delivery approach. (SAQ 2.1)
- 2.3 Explain how you would exercise the planning, monitoring and evaluation processes of the family planning programme. (SAQs 2.2, 2.3, 2.4 and 2.5)
- 2.4 Describe the process of managing contraceptive supplies. (SAQ 2.6)
- 2.5 Explain how to promote the family planning programme in your community through good communication. (SAQ 2.7)

## 2.1 Family planning services and service delivery modes

### 2.1.1 Family planning services

- As a service provider you need to be able to describe family planning services. From your experience what are family planning services?
- Family planning services are educational and comprehensive medical or social activities which enable individuals and couples to determine freely the number and spacing of their children, and to select the means by which this may be achieved. The service includes education, information, counselling, provision of contraceptive methods and referrals.

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In Ethiopia, all categories of public health facilities provide family planning services on a daily basis by integrating them with other maternal and child health services. Generally, clients are not asked to pay for their contraceptives. They can get any service free of charge at public health institutions.

## 2.1.2 Service delivery modes

### Door-to-door service delivery

A **door-to-door service** providing family planning packages at household level is carried out by Health Extension Practitioners. The service includes education, counselling and the provision of contraceptive methods, such as oral pills, condoms and injectables. This approach started with the establishment of the Health Extension Programme and has been cost-effective, and the preferred way to reach the majority of people in their homes.

### Facility-based service delivery

A **facility-based service delivery** approach provides family planning services in Ethiopia through public health centres and hospitals. The major advantage of using this approach is that it can provide medically complex methods, such as IUCDs, hormonal implants and sterilisation. This approach works well for those living close to any of these health facilities.

### Community-based distribution (CBD)

In areas that do not have any type of health facility nearby, family planning services may be made available through **community-based distribution** or CBD programmes. In this approach, CBD workers, usually village women, are trained to educate their neighbours about family planning and to distribute certain contraceptives.

In their training, the CBD workers learn the basic concepts of family planning, how each method must be used, what the precautions and side effects are for each method, and how to keep simple records and report the information to their supervisors. CBD programmes usually distribute condoms; some also provide pills and spermicides. In Ethiopia, this programme has now been replaced by the Health Extension Programme.

### Commercial retail sales

In both urban and rural areas, if people are willing to obtain contraceptives from sources outside the healthcare system, **commercial retail sales** (sometimes called social marketing) can make some contraceptive methods very accessible. In these approaches, contraceptives, such as oral contraceptive pills, condoms and injectables, are sold at reduced, subsidised prices in pharmacies, from market stalls, and so on.

A good example of this is DKT-Ethiopia. When a commercial retail sales approach is used, the retailers are often the customers' only source of information about the products. These retailers should be given training in basic information about the products, and how to refer people who have problems with a contraceptive.

### Other delivery methods

A number of other service delivery methods have been used. Some companies provide family planning services during certain hours at the workplace. Although generally at a higher cost, family planning services are often

available from private for-profit healthcare providers. Other approaches involve training paramedics, pharmacists, traditional birth attendants, midwives, traditional healers and outreach workers to provide family planning services.

## 2.2 Family planning programme management

Family planning is not separate, but an important integral part of other health programmes. The planning, implementation, monitoring and evaluation processes of all health programmes, including family planning, are very similar and integrated. In this section, you will learn the general concepts of the planning, monitoring and evaluation processes, and their application to the family planning programme.

### 2.2.1 Developing and using work plans

A work plan is a document developed by the manager and staff, which lists all planned activities, the date on which they will occur or by which they will be accomplished, the resources they will require, and the person who is responsible for carrying them out. Such a document is a valuable tool for efficient and effective programme implementation, and should be used regularly and consistently as a monitoring tool at all levels.

Basically, there are two types of plans:

- (a) the strategic (long-term) plan
- (b) the annual (work) plan.

#### Strategic (long-term) plans

A **strategic plan** is a well-developed document that determines what an organisation intends to be in the future, and how it will get there. It is the process by which the organisation assesses its current situation and decides how to scale up to achieve its vision. Strategic planning is the way in which it directs its efforts and resources towards what is truly important for the sector. Strategic planning is carried out at all levels.

#### Annual (work) plans

**Work plans** (also known as operational plans) are distinguished from long-term plans in that they show how the broader objectives, priorities and targets of the strategic plan will be translated into practical activities, which will then be carried out over a much shorter time period (anywhere from a week to a year). However, there should be complete harmony between the strategic objectives and the annual targets.

The annual plan is sometimes divided into two: the core and the comprehensive plan. The core plan is the summarised form of a plan which mainly focuses on annual targets, major objectives, and major activities, while the comprehensive plan deals with detailed activities, including time of execution and cost. It can be cascaded to monthly, weekly and daily tasks. Note that, in the Ethiopian health sector context, currently all health services and programmes are integrated and harmonised, so there is no room for parallel or vertical plans. In the planning process, you need to ensure that family planning is integrated into other health programmes.

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Look at Box 2.1 for a better understanding of the work planning process; also refer to the *Health Management, Ethics and Research* Module.

### Box 2.1 Key points to remember in the work planning process

To get the greatest benefit from work plans and the work planning process, you need to understand:

- the steps in the work planning process and who should be involved
- how to develop an annual work plan
- how an integrated and aligned annual work plan should be linked with monitoring and evaluation
- techniques that can be used to design integrated work plans for individual service delivery sites or staff members
- the benefits of work planning, as well as the importance of keeping the process flexible to respond to changes throughout the course of the programme.

### Cascading objectives

One way to develop short-term work plans is to divide the yearly objectives into quarterly or monthly targets, so that detailed activities are identified and costed. To determine these targets, begin by looking at the yearly objectives.

- Your health post, in collaboration with the *woreda* Health Office, has set objectives to provide family planning information and education to 1,000 potential acceptors in your *kebele* during the first year of service delivery. How can you cascade this into short-term targets?
- In this case, first divide the 1,000 potential acceptors by 12 months to get a monthly target for that site. Next, divide the number of potential acceptors to be visited each month by the number of Health Extension Practitioners at the service site, so that each Health Extension Practitioner will know how many people she will need to visit each month. Then, list down all possible activities that can be executed during the period and who would be responsible for each activity.

Remember that this target can be further divided by the number of working days per month and put on a calendar, so that each Health Extension Practitioner will have a work plan to use on a daily basis.

In this way, you can break down large overall objectives into smaller, more manageable units that enable you to develop a monthly work plan more easily, and to distribute the workload more equitably.

### Definitions of objectives and targets

Although there are many definitions for objectives and targets, for the purposes of this discussion and the examples shown here, the distinction between objectives and targets is defined as follows.

An **objective** shows the anticipated results of the work conducted at one or more service delivery sites, and reflects the impact or changes that are expected in the population covered by this programme. Objectives should be

SMART (see Box 2.2). and refer to the measurable results that are expected in a designated population within a specified period of time. Usually there will be several objectives relating to one programme goal.

### Box 2.2 SMART objectives

An example of an objective: To recruit 5,000 new acceptors in 10 *kebeles* by the end of the first year.

SMART is not a word, but an acronym (or combination of initial letters) representing:

- S Specific
- M Measurable
- A Achievable
- R Reliable
- T Time bounded.

Accordingly, the above objective is SMART because it is specific to recruiting, measurable in terms of recruiting 5,000 new acceptors, achievable and reliable, as it can be executed within a given period of time, that is by the end of the first year.

### Targets

Targets restate programme objectives for service delivery workers in numerical terms. They state the expected results and/or the intended activities of each service delivery component of the programme over a short time period, such as a quarter (three months), one month, or a week. Look at Box 2.3 for some examples of set targets. Keep in mind that targets serve three major purposes:

- Planning a programme.
- Motivating staff towards achievement.
- Guiding the monitoring and evaluation process.

### Box 2.3 Examples of SMART targets

An example of an *annual target* for a specific service delivery site: To achieve an average of 83 new acceptors per month over the next 12 months in the *kebele*.

An example of an *annual target* for a supervisor: To conduct supervisory visits to 10 Health Extension Practitioners each month of the year.

An example of a *monthly target* for Health Extension Practitioners: To provide information and education to 400 couples in three communities over the next month.

An example of a *monthly target* for Health Extension Practitioners: To locate and interview 15 clients each month who have dropped out of the programme in order to find out the reason why they have dropped out.

## Developing monthly work plans

Monthly work plans should be developed and used at all levels of a programme or organisation. They are particularly useful for Health Extension Practitioners and supervisors. The activities in work plans are based on the annual plan, which has been developed at *woreda* level, but also includes more detailed information on activities, such as which villages and households are to be visited, the timing of these visits, and the dates of the supervisory visits, holidays, self-assessment sessions and training.

## Summarising activities in a Gantt chart

Once the work plan is completed, it is important to draw up a summary chart. This provides an important reference which can be used by all staff members, and communicates in a concise way what the project will do and when it will do it. This summary is called a Gantt chart and you can see an example in Table 2.1.

Table 2.1 Sample Gantt chart with months marked in the Ethiopian calendar (EFY is the Ethiopian Fiscal Year).

Family planning implementation schedule for EFY 2003, X health post, Y <i>woreda</i> .															
Target	Activity	Implementation Period												Responsible person	Remarks
Provide information and advice		Ham	Neh	Msk	Tikm	Hid	Tahs	Tir	Yek	Meg	Miaz	Gin	Sene		In collaboration with local NGOs
	a		X					X				X		Demeshi	
	b			X	X	X						X	X	Kolole	
	c	X							X	X				Feyise	

A Gantt chart typically includes the following components:

- A column that lists major activities.
- Columns that mark a fixed period of time (days, weeks, months, years), showing when the activities will occur.
- A column that lists the person or people responsible for completing the activity.

## 2.2.2 Monitoring and evaluation

### Monitoring

**Monitoring** is a process by which priority data and/or information is routinely collected, analysed, used and disseminated to see progress towards the achievement of planned targets. This helps the managers take timely corrective actions in order to improve performance. It includes monitoring of inputs, outputs, outcomes and impacts of health programmes, including family planning. The most common form of monitoring is often based on input and output indicators using routinely collected service data. Monitoring of outcomes and impacts, on the other hand, requires the collection of target population level data, and for this reason is done at a higher level and for fewer selected priority areas only.



Monitoring consists of these components:

**Routine data collection** and aggregation (combining data from different sources) is the means by which routine service data is collected, aggregated, analysed and made ready for further performance monitoring.

**Performance monitoring** is the continuous tracking of required information on conducted activities and its indicators of success, in order to identify achievement gaps and lessons learnt. At all levels, performance monitoring will be based on the developed annual plan. The routine data collection and aggregation process provides a summary of performance data. Based on agreed Health Management Information Systems (HMIS) performance indicators, the performance monitoring committee will review the adequacy of achievements against the annual targets on a regular basis.

At all levels, performance monitoring will be conducted regularly on a weekly, monthly, quarterly and annual basis, supplemented by semi-annual and annual review meetings. With regard to family planning, you need to know what has to be monitored and how — you can refer to national HMIS technical guidelines.

In Box 2.4 you will find generic performance indicators of family planning. These may be different in your locality, but you can compare these with your own.

### **Box 2.4 Common performance indicators for a family planning programme**

#### **Inputs** (resources, activities)

- Total commodities (supplies, equipment, contraceptives) received.
- Training and technical assistance received by the staff.
- Supplies and contraceptives expended (subtract inventory from amount received).
- Number of educational materials received, by type.

#### **Outputs** (services, training, information, education and communication)

- Number of new clients, given by choice of contraceptive method.
- Number of providers trained.
- Number of households covered.
- Number of community meetings and number of people informed at meetings.
- Number of referrals for clinical methods.
- Number of contraceptives distributed, by contraceptive method.

#### **Indicators of quality of care**

(Some of these indicators can only be measured through evaluation research, depending on the programme's Management Information System.)

- Providers' level of adherence to informed choice protocols.
- Method mix offered.
- Percentage of clients referred by other clients (an indicator of client satisfaction).

Box 2.4 continues on the next page.

- Continuation rates in programme.
- Percentage of clients expressing satisfaction with the service.

#### Indicators of effectiveness

- Indicators of knowledge of, attitudes towards, and practice of family planning in programme area.

#### Indicators of impact

- Contraceptive prevalence rate (CPR) in area.
- Crude birth rate in area.
- Induced abortion rates in area (if available).
- Total Fertility Rates (TFR) in area.
- Infant mortality rate.
- Maternal mortality rate.
- Rate of high-risk births (women over 35 years with 5+ births).

**Supportive supervision (SS)** is a process of guiding, helping, training and encouraging staff to improve their performance in order to provide high-quality health services through the use of integrated SS tools. A supervision session will include review of programme implementation at *kebele* level.

### Evaluation

**Programme evaluation** is the systematic process of data collection, analysis and interpretation of activities and the effects of a programme, or any of its components. Programme evaluations may be either process evaluation, which examines the appropriate execution of programme components, or outcome evaluation, which examines the benefits of implementing an intervention or any of its components.

## 2.2.3 Managing contraceptive supply

### Record keeping and reporting

**Record keeping and reporting** is one way that an organisation can keep track of patterns of contraceptive use amongst its clients. Keeping records and preparing and analysing reports are effective ways to determine clients' needs and their use patterns, without doing a formal programme evaluation. Good examples of this are stock on hand (by method and brand), and consumption/distribution (by method and brand), both of which can be easily collected and analysed on a routine basis. This information can be collected by using simple HMIS records, forms and reports (for details, refer to National HMIS technical guidelines).

### Types of recording forms

*Inventory control card (ICC)*: This form should be kept at all storage facilities that manage a significant number of inventory items. The purpose of the ICC is to have an up-to-date and continuous record, in one location, of all transactions for each item in the inventory (refer to HMIS forms).

*Daily activity register (DAR)*: The register is designed to be used when contraceptives are dispensed to family planning clients. It provides a daily log of the number of client visits, subdivided by the types and quantities of

contraceptives dispensed to each client on a monthly basis. When a new month begins, service providers should begin a new DAR. The DAR should be totalled on a monthly and quarterly basis (refer to HMIS forms).

*Quarterly report/requisition:* This form serves several purposes. It provides summary information from the DAR and ICC concerning the number and types of clients served, and quantities of each type of contraceptive received and dispensed over a three-month period (refer to HMIS forms).

### Inventory control system

The **average monthly consumption** (AMC) is equivalent to one month's supply. It is usually the monthly average of the quantity of that product that has been dispensed to users during the past three or six months. Information on the quantities dispensed is taken from the DAR or summary reports of dispensed-to-user data (see Figure 2.1).

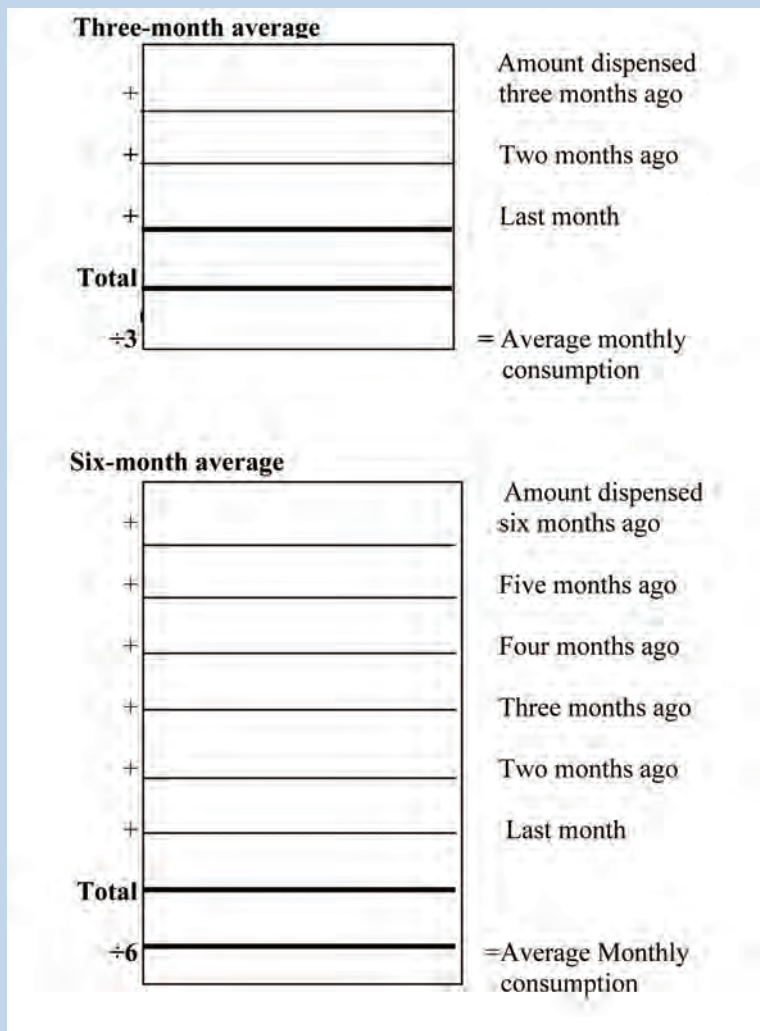


Figure 2.1 Worksheet for calculating average monthly consumption (AMC)

## Assessing your supply status

To make sure your supplies are adequate, do the following calculation for each of your contraceptive products:

$$\text{Stock in hand} \div \text{AMC (average monthly consumption)} = \text{Months of supply in stock}$$

This calculation will tell you how long your current supply will last if consumption stays at the current rate. If the months of supply in your stocks are less than the time remaining before your next delivery of supplies, then you may need to arrange for an emergency delivery (see Table 2.2).

Table 2.2 Example of a month's supply in stock for four contraceptive products.

Product	Stock in hand	÷ AMC	Months of supply
Lo-femenal combined oral contraceptive	470 cycles	180	2.6
Ovrette progestin-only oral contraceptive	320 cycles	45	7.1
Blue & Gold condoms	1,200 condoms	420	2.9
Depo-Provera (DMPA)	520 vials	92	5.7

- Look at Table 2.2. Your next delivery of supplies is in 3 months. Are there any contraceptive products you need to arrange an emergency delivery for?
- Lo-femenal combined oral contraceptive and Blue & Gold condoms may run out before your next delivery, so you need to place an order to replenish your stock of these two products as soon as possible.

## 2.3 Family planning programme communications

Communication activities are an integral part of virtually every family planning programme. They are used to promote the idea of family planning programmes, as well as specific contraceptive methods, and to highlight locations where services and products are available. Almost all media are used to promote family planning communications, including radio, television, billboards and brochures.

Stop reading for a moment and think about this from your own experience.

- The above paragraph indicates that there should be promotional activities in terms of communicating the family planning programme. How best can you reach all the people living in your area in this regard? Would there be enough local media to convey information and messages to everyone?
- There are a number of traditional forms of entertainment useful for transmitting information and messages on family planning methods in small towns and villages, where more advanced communication media are lacking. Such forms include role plays, folk songs, theatre and puppet shows. Posters can also carry educational messages (Figure 2.2).



Figure 2.2 On a billboard — ‘IUCD (intrauterine contraceptive device) is our preferred long-term contraceptive.’ (Photo: Ali Wyllie)

The importance of the family planning programme can also be communicated through interpersonal communication, for example by involving ‘satisfied users’ who are given materials to distribute to their friends and members of their communities. In the Ethiopian context, a successful model household can be used to communicate the message to their peers.

Part of your future role will be to identify all potential means of communication available in your localities, so that you will be able to make use of them in communicating aspects of the family planning programmes in your community. For more details, refer to your *Health Education, Advocacy and Community Mobilisation* Module.

## Summary of Study Session 2

In Study Session 2, you have learned that:

- 1 The family planning service includes educational and comprehensive medical or social activities which enable individuals and couples to determine freely the number and spacing of their children, and to select the means by which this may be achieved.
- 2 In family planning programme implementation, there are 4 major service delivery modes. These are door-to-door service delivery, facility-based service delivery, community-based distribution (CBD) and commercial retail sales.

- 
- 3 A work plan is a document developed by a manager and staff which lists all planned activities, the date on which they will occur, or by which they will be accomplished, the resources they will require, and the person who is responsible for carrying them out.
  - 4 As part of the planning process, you need to ensure that family planning is one of the health programmes to be planned in an integrated and harmonised manner.
  - 5 Objectives show the anticipated results of the work conducted at one or more service delivery sites, and reflect the impact or changes that are expected in the population covered by the programme.
  - 6 Targets restate programme objectives for service delivery workers in numerical terms. They state the expected results and/or the intended activities of each service delivery component of the programme over a short time period, such as a quarter, a month, or a week.
  - 7 Monitoring is a process by which all required data and/or information is routinely collected, analysed, used and disseminated, to check on progress towards the achievement of planned targets.
  - 8 Supportive supervision is a process of guiding, helping, training and encouraging staff to improve their performance in terms of providing high-quality health services.
  - 9 Programme evaluation is the systematic process of data collection, analysis and interpretation of activities and effects of a programme, or any of its components.
  - 10 Record keeping and reporting is one way that an organisation can track patterns in contraceptive use amongst its clients. Keeping records and preparing and analysing reports are effective ways to determine clients' needs and use patterns, without doing a formal programme evaluation.
  - 11 Communication activities are used to promote the idea of family planning programmes, as well as educate the community about specific contraceptive methods, and the locations where services and products are available. Media and traditional forms of entertainment can be useful for transmitting this information to the community.

## Self-Assessment Questions (SAQs) for Study Session 2

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 2.1 (tests Learning Outcome 2.2)**

Describe the most common family planning service delivery modes in Ethiopia and the services being given at each of them.

**SAQ 2.2 (tests Learning Outcomes 2.1 and 2.3)**

Read Case Study 2.1 about *kebele* Y and then answer the questions that follow.

**Case study 2.1 The demographic and health situation in *kebele* Y**

*Kebele* Y is one of the *kebeles* in *woreda* Z, having a total population of 5,000. The *kebele* is located 20 km away from the *woreda*'s health centre and town. There is one Health Post with two Health Extension Practitioners. According to a demographic and health survey (DHS), one major health problem of this *kebele* is a very high maternal and child mortality rate. In addition, women of the *kebele*, on average, are estimated to have seven live births in their lifetime. The DHS survey also reveals that 40% of couples in the *kebele* know only one method of contraceptive as a means of birth control, and very few, only 5% of respondents, have received orientation on using condoms to prevent pregnancy.

According to the Health Post's annual report (5 Hamle 2002 Ethiopia Fiscal Year (EFY)), the Contraceptive Acceptance Rate (CAR) for the fiscal year was 25%. For comparison, the national target is 65%.

Hint:

- Proportion of Women of Reproductive Age Group (WRAG) 15–49 years = 22%
- Proportion of currently pregnant women = 4%
- Proportion of eligible women for family planning = 18%.

Using the information in Case Study 2.1, answer the following questions. You will need to refer to Section 2.2.1 (Developing and using work plans), and the sample Gantt chart in Table 2.1.

- (a) Calculate the eligible population in *kebele* Y (showing the steps in your calculation).
- (b) In preparing your operational plan for the family planning programme, indicate the following:
  - Two to three possible objectives (using given baseline data).
  - List at least one major activity against each objective.
  - Suggest one or more indicators for monitoring performance.
- (c) Finally, have a go at organising your annual plan into a Gantt chart, using Table 2.1 as a guide.



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**SAQ 2.3 (tests Learning Outcome 2.3)**

Suppose you started implementing what you have planned in *kebele* Y. How do you monitor progress?

**SAQ 2.4 (tests Learning Outcome 2.3)**

What are good performance indicators to measure programme outputs?

**SAQ 2.5 (tests Learning Outcome 2.3)**

List impact indicators and describe how you measure programme impact.

**SAQ 2.6 (tests Learning Outcome 2.4)**

(a) Suppose you dispensed the following contraceptives over a period of six months. For each product, calculate the Average Monthly Consumption (AMC):

- 300 cycles of Lo-femenal
- 450 vials of Depo-Provera (DMPA)
- 1,500 male condoms.

(b) What would be your ‘months of supply’ if currently you had in hand:

- 500 cycles of Lo-femenal
- 750 vials Depo-Provera
- 5,000 male condoms.

The first one has been done for you as an example (see below).

Product = (a)	Amount dispensed during 6 months = (b)	AMC = (b) ÷ 6 months = (c)	Stock in hand = (d)	Months of supply = (d) ÷ (c)
Lo-femenal	300 cycles	50	500 cycles	10

Calculation:

- AMC of Lo-femenal is  $300/6 = 50$
- Stock in hand = 500
- Months of supply =  $500/50 = 10$

So, based on current stock in hand, the provider can safely provide Lo-femenal pills for 10 more months before running out of stock.

**SAQ 2.7 (tests Learning Outcome 2.5)**

Describe the best ways of communicating about the family planning programme in your locality.



# Study Session 3 Counselling for Family Planning

## Introduction

The primary objective of counselling in the context of family planning is to help people in your village decide on the number of children they wish to have, and when to have them. You can help them to choose a contraceptive method that is personally and medically appropriate. Through your counselling sessions with them, you will make sure that they understand how to use their chosen method correctly, to ensure safe and effective contraceptive protection.

In this study session, you will learn about the general concepts and principles of family planning counselling, the steps for conducting family planning counselling, and the factors affecting counselling outcomes.

## Learning Outcomes for Study Session 3

When you have studied this session, you should be able to:

- 3.1 Define and use correctly all of the key words printed in **bold**. (SAQ 3.1)
- 3.2 Discuss the general principles of counselling for family planning and describe the contexts in which counselling can take place. (SAQs 3.1 and 3.2)
- 3.3 Explain the special nature of family planning counselling. (SAQ 3.3)
- 3.4 Describe the steps of family planning counselling. (SAQ 3.4)
- 3.5 Describe the factors influencing family planning counselling outcomes. (SAQ 3.5)

### 3.1 Concepts of counselling

In Study Session 11 of the *Health Education, Advocacy and community Mobilisation* Module, you learnt that **counselling** is a face-to-face communication that you have with your client or couple in order to help them arrive at voluntary and informed decisions. It is somewhat different from **advice**, in which you try to solve a client's problem by giving information and your personal opinion.

- Who makes the decision: (a) when advice is given, and (b) after a counselling session?
  - (a) When giving advice, you are making the decision for the client who has come to see you.
  - (b) After a counselling session, the client, or couple should make their own informed decision.

**Family planning counselling** is defined as a continuous process that you as the counsellor provide to help clients and people in your village make and arrive at informed choices about the size of their family (i.e. the number of children they wish to have).

**Informed choice** is defined as a voluntary choice or decision, based on the knowledge of all available information relevant to the choice or decision. In order to allow people to make an informed choice about family planning, you must make them aware of all the available methods, and the advantages and disadvantages of each. They should know how to use the chosen method safely and effectively, as well as understanding possible side-effects.

Always remember that family planning counselling is not a type of lecture from you to those who have come to you for help. In the process of family planning counselling there should be mutual understanding. You should show respect to the client who has come to see you, and deal with their problems and concerns about contraception in a straightforward way. There are a variety of approaches for different types of family planning counselling. For example, the way you would approach a session with a group would be different from the way you would work with an individual. The most common settings in which family planning counselling can take place are described below.



Figure 3.1 A Health Extension Practitioner giving individual counselling.

### 3.1.1 Individual counselling

You will find that in most cases individuals prefer privacy and confidentiality during communication or counselling with you. It is important to respect the needs and interests of a client by finding a private room or place where you can talk with them (Figure 3.1).

- When do you think that individual counselling is important?
- When dealing with the confidential matters that relate to family planning and other reproductive health issues, individual counselling is best.

### 3.1.2 Couple counselling

**Couple counselling** is when you give a counselling service to a couple or partners together (Figure 3.2). This is particularly common when they are thinking of using irreversible family planning measures, such as voluntary surgical methods.



Figure 3.2 A Health Extension Practitioner counselling a couple.

### 3.1.3 Group information sharing

**Group information sharing** is used when individual counselling is not possible, or if there are people in your village who are more comfortable in a group (Figure 3.3). In this situation, after greeting everyone in a friendly manner, you would explain to them the benefits of family planning, discuss briefly common myths and mistaken beliefs about family planning, and then inform the group about how to obtain appropriate contraception. It is a cost-effective way of information sharing and answering general questions, but people are not likely to share their more personal concerns with you in this setting.



Figure 3.3 Group counselling and information sharing.

## 3.2 General principles of counselling and counsellor characteristics

You have already learnt about the general principles of counselling in the *Health Education, Advocacy and Community Mobilisation* Module, and about what characteristics and skills you need to display to ensure a successful outcome to your counselling sessions. In this section, you will check your understanding of these principles and characteristics before considering the additional requirements for successful family planning counselling.

### 3.2.1 General principles of counselling

Stop reading for a moment and think about the general guidelines for effective counselling that you learnt before.

- What are the general principles that you should follow for a successful outcome to a counselling session?
- These are the important principles and conditions necessary for effective counselling:
  - Privacy — find a quiet place to talk.
  - Take sufficient time.
  - Maintain confidentiality.
  - Conduct the discussion in a helpful atmosphere.
  - Keep it simple — use words people in your village will understand.
  - First things first — do not cause confusion by giving too much information.
  - Say it again — repeat the most important instructions again and again.
  - Use available visual aids like posters and flip charts, etc.

You need to remember these guidelines when you are counselling for family planning, but there are additional considerations because family planning is a particularly sensitive issue. You will learn about these in Section 3.3.

### 3.2.2 Skills and characteristics of a counsellor

Once again, remind yourself of the general skills and characteristics you need to be a successful counsellor.

- What are the most important characteristics you should bring to your counselling role?
- The most important characteristics are:
  - Respect the dignity of others.
  - Respect the client's concerns and ideas.
  - Be non-judgmental and open.
  - Show that you are being an active listener.
  - Be empathetic and caring.
  - Be honest and sensitive.

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## 3.3 The special nature of counselling for family planning

Many people have strong ideas about family planning, but some of the ideas they have may be based on myth or mis-information. You need to be respectful and welcoming when sharing ideas, and demonstrate commitment to the necessary values and principles of family planning.

Try to find out your clients' views by encouraging them to talk. Do not ask them direct and judgmental questions such as: 'Are you one of those people who believe that modern family planning is forbidden for religious people?' Such questions sound critical and can make people feel inferior, or may make them mistrust you because they may ask themselves, 'Why should I believe this person when all my relatives share my belief?'

Always try to understand, and be sensitive to, cultural and psychological factors that may affect clients in your village adopting and using family planning methods. For example, there may be opposition to the idea of controlling the size of the family from some cultures and religions. Some methods may be unpopular with clients, for example a woman might not like the idea of having to insert a contraceptive into her body before having sex, or a man may think that a condom will take away the pleasure of sex.

- Can you give clients contraceptives if they do not want to use them?
- There is no point in supplying a contraceptive if a client will not use it. So you must listen carefully to what you are being told, and be sure to answer all questions clearly and accurately when helping clients in their contraceptive choice.

This means that you should have good scientific knowledge of all the contraceptive methods, and understand the practical part of family planning methods. Also, you should be prepared to answer questions comfortably and without embarrassment in relation to contraceptive myths, rumours, sexuality, sexually transmitted infections (STIs), reproductive and personal concerns.

## 3.4 Overview of the stages of counselling for family planning

### 3.4.1 General counselling

The first contact usually involves counselling on general issues to address the client's needs and concerns. You will also give general information about methods, and clear up any mistaken beliefs or myths about specific family planning methods. All this will help the client in your village arrive at an informed decision on the best contraceptive method to use. During this session you would also give information on other sexual and reproductive health issues, like sexually transmitted infections (STIs), human immunodeficiency virus (HIV), acquired immunodeficiency syndrome (AIDS) and infertility.

### 3.4.2 Method-specific counselling

In **method-specific counselling**, you give more information about the chosen method. In this case, you can explain the examination for fitness (screening), and instruct on how and when to use the given method (see Box 3.1). You will also tell the client when to return for follow-up, and ask them to repeat what you have said on key information.

### Box 3.1 Family planning counselling — the BRAIDED approach

The acronym BRAIDED can help you remember what to talk about when you counsel clients on specific methods. It stands for:

- B Benefits of the method
- R Risks of the method, including consequences of method failure
- A Alternatives to the method (including abstinence and no method)
- I Inquiries about the method (individual's right and responsibility to ask)
- D Decision to withdraw from using the method, without penalty
- E Explanation of the method chosen
- D Documentation of the session for your own records.

### 3.4.3 Return/follow-up counselling

Follow-up counselling should always be arranged. The main aim of **follow-up counselling** is to discuss and manage any problems and side effects related to the given contraceptive method. This also gives you the opportunity to encourage the continued use of the chosen method, unless problems exist. Also use this opportunity to find out whether the client has other concerns and questions.

## 3.5 Steps in family planning counselling: the GATHER approach

When you counsel a new client in your village about family planning, you should follow a step-by-step process. **GATHER** is an acronym that will help you remember the 6 basic steps for family planning counselling (see Box 3.2). It is important to know that not every new client in your village needs all the steps — you need to use the GATHER approach sensitively so that it is appropriate to each client's need. Within your community you may need to give more attention to one step than another.

### Box 3.2 Family planning counselling — the GATHER approach

- G Greet the client respectfully.
- A Ask them about their family planning needs.
- T Tell them about different contraceptive options and methods.
- H Help them to make decisions about choices of methods.
- E Explain and demonstrate how to use the methods.
- R Return/refer; schedule and carry out a return visit and follow up.

It is important to give more emphasis to the points under each counselling step.

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### 3.5.1 G — Greet the client

- In the first case, give your full attention to your clients.
- Greet them in a respectful manner and introduce yourself after offering seats.
- Ask them how you can help them.
- Tell them that you will not tell others what they say.
- If the counselling is in a health institution, you have to explain what will happen during the visit, describing physical examinations and laboratory tests if necessary.
- Conduct counselling in a place where no-one can overhear your conversation.

### 3.5.2 A — Ask the clients about themselves

- Help them to talk about their needs, doubts, concerns and any questions they might have.
- If they are new, use a standard checklist or form from your Health Management Information system to write down their name and age, marital status, number of pregnancies, number of births, number of living children, current and past family planning use, and basic medical history.
- Explain that you are asking for this information in order to help you to provide appropriate information, so that they can choose the family planning method which is the best for them.
- Keep questions simple and brief, and look at her/them as you speak.
- Many people do not know the names of diseases or medical conditions. Ask them specific questions. Say, ‘Have you had any headaches in the past two weeks?’, or ‘Have you had any genital itching?’, or ‘Do you experience any pain when urinating?’ Do not say, ‘Have you had any diseases in the recent past’.
- If you have seen the client(s) previously, ask if anything has changed since the last visit.

### 3.5.3 T — Tell them all about family planning methods

- Tell them which methods are available.
- Ask which methods interest them and what they know about the methods.
- Briefly describe each method of interest and explain how it works, its advantages and disadvantages, and possible side-effects.

### 3.5.4 H — Help them to choose a method

- To help them choose a method of contraception, ask them about their plans and family situation. If they are uncertain about the future, begin with the present situation.
- Ask what the spouse/partner likes and wants to use.
- Ask if there is anything they cannot understand, and repeat information when necessary.
- When the chosen method is not safe for them, explain clearly why the method may not be appropriate and help them choose another method.
- Check whether they have made a clear decision and specifically ask, ‘What method have you decided to use?’



### 3.5.5 E — Explain how to use a method

After a method has been chosen:

- Give supplies if appropriate.
- If the method cannot be given immediately, explain how, when and where it will be provided.
- For methods like voluntary sterilisation the client will have to sign a consent form. The form says that they want the method, have been informed about it, and understand this information. You must help the individual understand the consent form.
- Explain how to use the method.
- Ask the client to repeat the instructions.
- Describe any possible side-effects and warning signs, and tell them what to do if they occur.
- Ask them to repeat this information back to you.
- Give them printed material about the method to take home if it is available.
- Tell them when to come back for a follow-up visit and to come back sooner if they wish, or if side-effects or warning signs occur.

### 3.5.6 R — Appoint a return visit for follow-up

At the follow-up visit:

- ask the client if she is, or they are, still using the method, and whether there have been any problems.
- ask if there have been any side-effects.
- reassure the client/s concerning minor side-effects. Explain that the side effects are not dangerous and suggest what can be done to relieve them.
- refer for treatment in the case of severe side-effects.
- ask the client if they have any questions.

If the clients want to use a different method, tell them about other methods and help in this choice. It is important to remember that changing methods is not bad. The main thing is that they can choose a method which is acceptable and appropriate. If the clients now want to have a child, help them to discontinue the use of their current method of family planning. Make sure the clients know when and where to go for prenatal care when the spouse becomes pregnant.

## 3.6 Factors influencing family planning counselling outcomes

There are different factors that affect the quality and effectiveness of communication in counselling. You should identify and address these factors in order to have successful family planning counselling sessions. These factors are divided into three broad categories.

### 3.6.1 Factors related to you

As a provider of family planning services, your ability to engage in effective communication, your technical knowledge, skills, attitudes and behaviours can influence the effectiveness of the counselling process. You will have your own values and beliefs on specific methods, and you must try not to let this show or you can affect the other person's choice.

Stop reading for a moment and think about this from your own experience.

- Sometimes you will be communicating with someone who differs from you in terms of their social status, gender or education. How will this affect the counselling process?
- Irrespective of gender, social and educational status, you have to show every client respect, help them feel at ease, and encourage them to explain their needs, express their concerns and ask questions.

Respecting the rights of the client is essential to the quality and continuity of family planning services, including counselling. Box 3.3 below summarises the principles of the client's rights in all aspects of family planning services.

#### Box 3.3 Summary of the rights of the client

Every client has the right to:

- 1 **Information** — to learn about their reproductive health, contraception and abortion options.
- 2 **Access** — to obtain services regardless of religion, ethnicity, age, and marital or economic status.
- 3 **Choice** — to decide freely whether to use contraception and, if so, which method.
- 4 **Safety** — to have a safe abortion and to practise safe, effective contraception.
- 5 **Privacy** — to have a private environment during counselling and services.
- 6 **Confidentiality** — to be assured that any personal information will remain confidential.
- 7 **Dignity** — to be treated with courtesy, consideration and attentiveness.
- 8 **Comfort** — to feel comfortable when receiving services.
- 9 **Continuity** — to receive follow-up care and contraceptive services and supplies for as long as needed.
- 10 **Opinion** — to express views on the services offered.

(Adapted from Huezo and Diaz, 1993)



### 3.6.2 Factors related to the client

The client's level of knowledge and understanding may affect their choice. What they choose to do may also be affected by the extent to which they trust and respect you (Figure 3.4). Their personal situation may make it difficult for them to choose some methods, for example if their spouse or another family member has a different preference to them.



Figure 3.4 Handing out contraceptives in a village; success depends on trust between clients and the provider. (Photo: Marie Stopes International)

### 3.6.3 External/programmatic factors

In most developing countries like Ethiopia, reproductive health services in general, and family planning programmes in particular, are limited and cannot be accessed by everyone. You may learn about some methods that you cannot offer to people in your community because of its unavailability. Moreover, the supplies of the family planning materials may not be regular and reliable.

In most health facilities the space or room for the provision of family planning is integrated with other reproductive health programmes. This can make it really difficult for you to find a place where privacy and confidentiality can be maintained.

You may have to work hard to overcome these various difficulties and provide an effective family planning service for your community, but the benefits of success will have a huge impact on future generations.

## Summary of Study Session 3

In Study Session 3, you have learned that:

- 1 Family planning counselling is the process whereby you help clients and people in your village to make informed and voluntary choices about the number of children and the spacing of the children within their family.
- 2 There are different ways of providing effective family planning counselling. You may work with individuals, couples or with a group. Usually working with an individual works best.
- 3 At the first contact meeting, focus on general counselling to establish trust, and address the needs and concerns of reproductive health and family planning.
- 4 Method-specific counselling is provided once a person has chosen a specific family planning method. Use the BRAIDED approach to help you remember what to say when you counsel clients on specific methods.

- 
- 5 Follow-up counselling is given to discuss and manage any problems or side-effects, and to discuss alternatives if the original method has not been satisfactory.
  - 6 GATHER is an acronym to help remember the 6 basic steps in the counselling process:
    - G Greet
    - A Ask
    - T Tell
    - H Help
    - E Explain
    - R Return.
  - 7 Factors which can affect counselling outcomes can be viewed from different perspectives: yours, your clients, and the reproductive health services in your country. Thinking about potential problems can help you to work around them to deliver an effective service.

## Self-Assessment Questions (SAQs) for Study Session 3

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### SAQ 3.1 (tests Learning Outcomes 3.1 and 3.2)

Which of the following statements is *false*? In each case, explain what is incorrect.

The family planning counselling process may be described as a:

- A Two-way communication process actively involving both people.
- B One-way communication process in which you ask the questions.
- C One-time process in which a person in your village learns everything about the family planning method.
- D Process that enables a person to be informed about different methods, ask questions, make an informed choice about a method, and leave the clinic feeling confident about how to use the method correctly.
- E Ongoing communication process that takes place at every health and family planning service encounter.

### SAQ 3.2 (tests Learning Outcome 3.2)

Why is counselling an important part of family planning?

**SAQ 3.3 (tests Learning Outcome 3.3)**

What are the most important principles when counselling members of your community?

**SAQ 3.4 (tests Learning Outcome 3.4)**

Wozero Misgane, a married woman who has one child, wants to space her second pregnancy, and comes to you for the first time to have family planning. You want to counsel her effectively, using the appropriate steps of counselling for family planning.

How would you counsel Wozero Misgane using the GATHER approach?

**SAQ 3.5 (tests Learning Outcome 3.5)**

What are the factors that can affect family planning counselling outcomes?



# Study Session 4 Natural Family Planning (NFP) Methods

## Introduction

In your community you have an important role to play, helping people choose a contraceptive method that is personally and medically appropriate for them. To do this effectively, it's important to understand the various ways and methods by which unwanted or unplanned pregnancy can be prevented. These contraceptive methods are generally classified into natural and artificial (modern) methods. Natural family planning uses changes in the body to identify when a woman is fertile and could become pregnant. This is also known as a fertility-based awareness method.

In this study session, you will learn about the concepts, types, mechanism of actions, the advantages and disadvantages of each natural family planning method. These include the temperature method, calendar method, cervical mucus method, lactational amenorrhoea method (LAM) and coitus interruptus, or the withdrawal method.

## Learning Outcomes for Study Session 4

When you have studied this session, you should be able to:

- 4.1 Define and use correctly all of the key words printed in **bold**. (SAQs 4.1 and 4.2)
- 4.2 Describe the concepts and types of natural family planning methods. (SAQs 4.1, 4.2 and 4.3)
- 4.3 Describe the mechanism of action of natural family planning methods. (SAQ 4.3)
- 4.4 Describe the advantages, disadvantages and effectiveness of natural family planning methods. (SAQs 4.1, 4.3 and 4.4)
- 4.5 Explain the procedures for using each natural family planning method to the people in your community. (SAQ 4.4)

## 4.1 The concepts of natural family planning methods

**Natural family planning (NFP)** is the method that uses the body's natural physiological changes and symptoms to identify the fertile and infertile phases of the menstrual cycle. Such methods are also known as fertility-based awareness methods.

In Study Session 5 of the *Antenatal Care* Module, you learnt about the physiological processes and observable changes during the menstrual cycle. Once a month an egg is released from one of a woman's ovaries (ovulation); it can stay alive in the uterus for about 24 hours. Men can always produce sperm cells, and these can stay alive in the female reproductive system for about two to five days after being deposited in the vagina during sexual intercourse. What this means is that from a fertility point of view, women have periods of time during their cycle when they are unlikely to conceive, whereas men have no 'safe period'.

- 
- How is it possible to identify when the woman is in the ‘safe period’ (when pregnancy is not possible) and when she is in the ‘unsafe period’ (when she could get pregnant)?
  - There are physiological changes during the menstrual period that help to distinguish between the ‘unsafe period’ (when pregnancy is possible) and the ‘safe period’ (when pregnancy is not possible).
  - In what way can natural family planning methods prevent pregnancy?
  - Natural family planning methods prevent pregnancy by making it impossible for the egg and sperm to meet.

However, these methods depend on the awareness and ability of the couple to identify the fertile and infertile phase of each menstrual cycle, and also require cooperation between the couple to abstain from, or to have, sexual intercourse, depending on whether they are trying to avoid or achieve pregnancy.

#### 4.1.1 Advantages

Natural family planning methods are generally the preferred contraceptive method for women who do not wish to use artificial methods of contraception for reasons of religion, or who, due to rumours and myths, fear other methods.

#### 4.1.2 Disadvantages

Natural family planning methods are unreliable in preventing unwanted pregnancy. It takes time to practise and use them properly, which adds to their unreliability. Additionally, natural family planning methods do not protect against sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV). You should advise couples to use condoms to protect against STIs.

#### 4.1.3 Effectiveness

The effectiveness of any method of natural family planning can vary from couple to couple, and all these methods are less effective for couples who do not follow the method carefully.

### 4.2 Types of natural family planning methods

In order to understand the ways that natural family planning methods can prevent pregnancy, it is important for you to know each type and its techniques of use. There are three major classifications of natural family planning methods:

- 1 Periodic abstinence (fertility awareness) method
- 2 Use of breastfeeding or lactational amenorrhoea method (LAM)
- 3 Coitus interruptus (withdrawal or pulling out) method.

#### 4.2.1 Periodic abstinence (fertility awareness) methods

During the menstrual cycle, the female hormones oestrogen and progesterone cause some observable effects and symptoms:

- Oestrogen produces alterations in the cervical mucus, which changes from thick, opaque and sticky to thin, clear and slippery as ovulation approaches.

- Progesterone produces a slight rise in basal body temperature (temperature at rest) after ovulation. Otherwise, the function of progesterone on the cervical mucus is just the opposite effect of oestrogen — it makes the cervical mucus thick, opaque and sticky.

Observation of these changes provides a basis for periodic abstinence methods. There are three common techniques used in periodic abstinence methods, namely:

- 1 Rhythm (calendar) method
- 2 Basal body temperature (BBT) method
- 3 Cervical mucus (ovulation) method.

### Calendar or rhythm method

This method is the most widely used of the periodic abstinence techniques. The **calendar method** is a calculation-based approach where previous menstrual cycles are used to predict the first and the last fertile day in future menstrual cycles. This method requires a good understanding of the fertile and infertile phases of the woman's menstrual cycle. It is based on the regularity of the menstrual cycle and the fact that an ovum (egg) can only be fertilised within 24 hours of ovulation.

- What do you know about the regular and irregular menstrual cycle of a woman?
- A **regular menstrual cycle** is when monthly bleeding happens every month or 28 days.

An **irregular menstrual cycle** is when monthly bleeding is variable from month to month, for example it can vary from 25 to 32 days in some women.

It is important for you to know that before relying on this method a woman needs to record the number of days in each of her menstrual cycles for a period of at least 6–8 months (remembering that the first day of menstrual bleeding is always counted as day 1). See Box 4.1 on how to advise women using the calendar method.

#### Box 4.1 Advice to women using the calendar method

For irregular cycles, identify the longest and the shortest cycles recorded over six to eight cycles.

- Subtract 18 from the shortest cycle (gives the first day of the fertile phase).
- Subtract 11 from the longest cycle (gives the last day of her fertile time).
- Avoid sex, use a barrier method, or use withdrawal during the fertile phase calculated.



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### Example 1

A woman's last six menstrual cycles were 28, 26, 29, 27, 29 and 27 days. Using this information, calculate and instruct her about how to use the calendar method to prevent pregnancy.

### Answer

- Her shortest cycle is 26 days.
- Her longest cycle is 29 days.
- First day of her fertile phase is  $26 - 18 = 8$ .
- Last day of her fertile phase is  $29 - 11 = 18$ .

Therefore, the fertile period of this client is between the 8th–18th days, so she should avoid sex during this period to prevent pregnancy.

However, if the client's menstrual cycle is regular and comes every 28 days or close to it, ovulation should occur about 14 days before the next period. For this reason, the woman should count backwards 14 days from her next period to calculate the day she will ovulate. Consequently, she should avoid sex from about seven days before that day until about two days after ovulation is expected.

### Example 2

A client comes to you and asks about using the calendar method to prevent pregnancy. When you ask her about the history of her menstrual cycle over the last six months, she tells you it comes regularly every 30 days. Calculate the fertile period of your client and advise her when to avoid sex in order to prevent pregnancy.

### Answer

Regular cycle	$30 - 14 = 16$
First day of fertile phase	$16 - 7 = 9$
Last day of fertile phase	$16 + 2 = 18$

Therefore, her fertile period is between the 9th and 18th days, and she should avoid sex between these days of the cycle.

### Advantages of the calendar or rhythm method

This method does not require daily monitoring of fertility indicators.

### Disadvantages of the calendar or rhythm method

It is associated with a high failure rate and can be difficult to use in the case of irregular menstrual cycles. It also takes a long time to learn and use it properly.

### Effectiveness of the calendar or rhythm method

This method is about 95% effective if a woman uses it correctly (*Family Planning: A Global Handbook for Providers*, World Health Organization (WHO), 2007).

- What can a couple do if they are not confident about using this method?
- The couple should be advised to use additional methods, like condoms or other barrier methods, to prevent unwanted pregnancy. You should provide them with the necessary resources.

### Basal body temperature (BBT) method

The **basal body temperature method** is based on the slight increase in the body temperature of women at rest by about 0.3–0.5°C during and after ovulation, due to the action of an increased level of progesterone secreted by the corpus luteum. The rise in body temperature sustained for three consecutive days indicates that ovulation has occurred, and it remains at this increased level until the start of the next menstrual cycle. In this section you will learn about when the rise in body temperature occurs, and what women need to know in order to use this method properly.

This natural family planning method may be selected if the woman is not willing to touch her genitalia to check her cervical secretions (as in the cervical mucus method), but is willing to abstain from sexual intercourse with her spouse for long periods of time. It is difficult for a woman to use natural family planning methods if her menstrual cycle is irregular, as it may disturb the subtle changes in body temperature and cervical secretions, as a result of hormonal effects.

### Advantages and disadvantages of BBT

The advantages and disadvantages of BBT are summarised in Table 4.1 below.

Table 4.1 Advantages and disadvantages of BBT.

Advantages	Disadvantages
No side-effects for this method. Encourages discussion about family planning between couples.	High failure rate if the couple do not clearly understand the method.  Requires several days of abstinence.  Needs a longer duration to practice, understand and use properly.  False interpretation or indications in the case of fever, as this may mislead the result of BBT.  A special thermometer may be required.

### Effectiveness of BBT

BBT is about 98% effective if the woman uses the method correctly (*Family Planning: A Global Handbook for Providers*, WHO, 2007). But it's still important to realise that of 100 women using this method in any one year, two will become pregnant. Its effectiveness will decrease dramatically to 80% if the woman does not use the method correctly. Effectiveness is greatest when the couple limits unprotected sexual intercourse to the period after ovulation.

## Method of BBT

To use the basal body temperature method effectively, you need to know and teach women how to read a thermometer and record the results on a special chart or graph paper. Figure 4.1 shows the period of time when a couple must avoid sexual intercourse or use other protective methods.

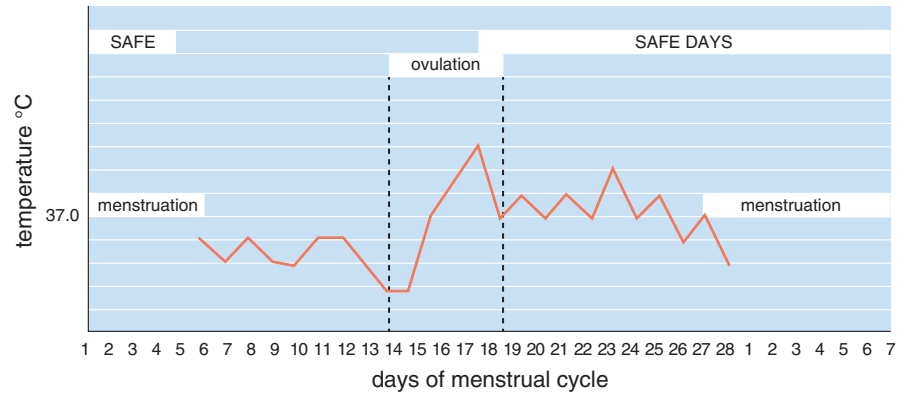


Figure 4.1 An example of basal body temperature variations during a menstrual cycle. Note that the pattern varies in different women.

- In Figure 4.1, on which days of the woman's menstrual cycle does her temperature show a three-day rise?
- It rises on days 15, 16 and 17. This indicates that ovulation has happened and passed.

If the temperature falls on or below the woman's normal basal temperature during the three day count, that may indicate ovulation has not yet occurred. To avoid pregnancy, wait until three consecutive temperatures are recorded above the normal basal temperature.

After the beginning of the infertile phase (the third day of a rise in temperature or 'peak day'), it is not necessary to take the temperature and it is possible to continue sexual intercourse until the first day of the next menstrual cycle.

In this regard, you should explain that the women needs to do the following:

- Place the temperature chart and thermometer at her bedside and decide initially whether to take her temperature either orally, vaginally or rectally, and use that same method all the time.
- Take the temperature immediately after waking up and before getting up from the bed in the morning, and before doing anything like drinking tea or coffee.
- Shake the thermometer to lower the mercury below 35°C and place it either rectally or vaginally for about three minutes, or orally for four to five minutes to measure her body temperature. The rectal and vaginal routes are more consistent, but the oral route is adequate if it is used consistently.
- Read the thermometer after the required time and record the temperature; interpret whether there has been a rise in the temperature. Near ovulation, she will notice a rise of 0.3°C–0.5°C.

- Abstain from (avoid) sexual intercourse from the first day of menstrual bleeding until the temperature has risen above the regular temperature and stays up for three full days.
  - Know that after the third day (peak day) it is safe to have unprotected sexual intercourse, until the next menstrual bleeding begins.
- How long does the ovum remain viable?
    - The ovum remains viable for at least 24 hours. It is important to note that because the woman cannot be sure exactly when she ovulated, she should be cautious about resuming sexual intercourse.

There is a lot of information in this section. You may wish to go through the basal body temperature method several times so that you are confident that you can explain it to couples who wish to practise this method. They will be more likely to follow the procedure carefully if they understand what is happening in the woman's body.

### Cervical mucus method (CMM)

The **cervical mucus method** (or Billings method) is based on the recognition and interpretation of changes in cervical mucus and sensations in the vagina, due to the effect of changes in oestrogen levels during the menstrual cycle. This method is also an ovulation method used by women trying to get pregnant and have a child.

### Mechanism of action of CMM

You may remember from the description of natural family planning methods, that the rise in the level of oestrogen during the menstrual cycle influences the cervical gland to secrete mucus that changes from a sensation of dryness in the vagina (characterised by thick, viscous and sticky mucus), to a sensation of wetness in the vulva (characterised by thin, white, slippery and stretchy thread-like, transparent strands — similar to uncooked egg white), during ovulation.

Using this method, these are the times when it is safe to have sexual intercourse:

- After menstruation ends the dry days (absence of cervical secretions) will start, and during these days it is safe to have sexual intercourse every other night until a woman starts to feel wet in her vagina. Every other night is suggested, as it will help women from confusing semen with cervical mucus.
- It is also safe from the evening of the fourth day after the peak day, to the beginning of the next menstruation. Once a woman has ovulated, her cervical mucus will begin to dry up, so the **peak day** is the last day of cervical or vaginal wetness.

## Effectiveness of CMM

The effectiveness of the cervical mucus method is about 97% if women use it correctly (*Family Planning: A Global Handbook for Providers*, WHO, 2007). The conditions which can affect correct use are summarised in Box 4.2.

### Box 4.2 Conditions affecting the cervical mucus pattern in women

- If a woman has a vaginal or cervical infection.
- If a woman has recently had sexual stimulation (which will increase vaginal secretions).
- If a woman is currently taking drugs for colds or sinusitis, which may dry up mucus secretions.
- If a woman is in physical or emotional stress.
- If a woman is currently breastfeeding.

## Advantages of CMM

The advantages of this method are similar to those associated with the use of the basal body temperature method.

## Disadvantages of CMM

CMM has a high failure rate because it needs several days of abstinence and a lot of experience in using the method to be effective. It is also difficult to use this method in the case of vaginal infections, as the cervical mucus secretions may be misleading.

## Method of CMM

You will need to carefully instruct women to be able to:

- Use a chart to record their mucus pattern.
- Look at their cervical mucus in the morning, and every time after using the toilet, using a clean cloth or tissue paper to determine the colour and consistency of the mucus.
- Touch the secretion to determine its stretchiness and slipperiness (see Figure 4.2).
- Feel how wet the sensation is in their genitalia when they are walking.
- Abstain from sexual intercourse on the day when mucus appears, regardless of its consistency, until the third evening after the ‘peak day’ (see Table 4.2).

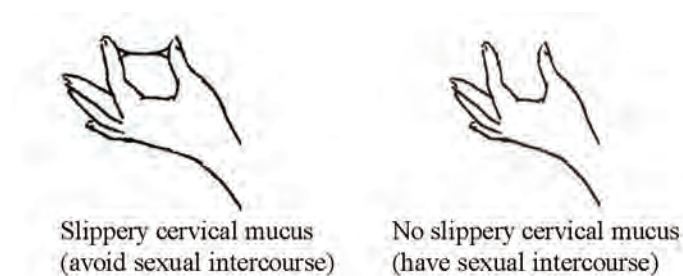


Figure 4.2 Diagrammatic illustration of slippery and non-elastic cervical mucus.

Table 4.2 Observations of cervical mucus, and how to interpret when sexual intercourse is allowed. (Source: Family Planning Methods and Practices: Africa, Second Edition, 1999, p.485)

Approximate day of menstrual cycle (phase)	How to identify	Intercourse allowed?
1–5: Menstruation*	Bleeding	No
6–9: Dry days	Absence of cervical mucus	On alternate nights only, to avoid confusion between mucus and sperm
10: Fertile day	Onset of sticky mucus secretions (gradually becoming slippery over the following days)	No
16: Peak fertile day	Last day on which slippery mucus (resembling raw egg white) is observed	No
20: Fertile period ends	Evening of the fourth day after the peak day	After fertile period ends
21–29: Safe period (dry days)	From end of fertile period until onset of bleeding	Yes

\*The cycle begins on the day of menstruation.

#### 4.2.2 Lactational amenorrhoea method (LAM)

The **lactational amenorrhoea method (LAM)** is the use of breastfeeding as a contraceptive method. *Lactational* means breastfeeding and *amenorrhoea* means not having monthly bleeding. In this case, there is a delay in ovulation caused by the action of prolactin hormone from the effect of lactation or breastfeeding. An infant's suckling of the nipple sends neural signals to the mother's hypothalamus (part of the brain), which influences the anterior pituitary gland to secrete prolactin to stimulate the breast for milk production. This, in turn, inhibits the secretion of follicle stimulating hormone (FSH) and luteinizing hormone (LH), and as a result ovulation does not occur. While women are exclusively breastfeeding, prolactin continues to be secreted and pregnancy is unlikely. When prolactin levels decrease, the woman's monthly bleeding may return, and if she continues to have unprotected sexual intercourse she may get pregnant.

All of these hormones were introduced, with their functions, in the *Antenatal Care Module*.

But the duration of suppression of ovulation is quite variable, depending on the breastfeeding status of the mother and the condition of the infant. To be fully effective the following three conditions must be met:

- 1 The woman's menstrual period must not have returned.
- 2 The baby must be exclusively breastfed frequently, day and night.  
**Exclusive breastfeeding**, means the infant receives no food or fluids other than breastmilk.
- 3 The baby must be less than six months old. This is because from six months onwards the baby needs to begin receiving complementary foods while continuing to be breastfed. The reduction in the amount of suckling at the breast may affect the hormonal mechanism, resulting in ovulation and menstruation returning, indicating a return of the woman's fertility.

If any one of these three criteria changes, another contraceptive must be started immediately to prevent an unwanted pregnancy, and to ensure healthy birth spacing of at least three years.

### Factors affecting LAM

Any factor that causes a decrease in suckling can result in the return of ovulation and decreased milk production. These factors include supplemental feeding of the infant, reduction in the number of breastfeeds or long intervals between breastfeeds, maternal stress and maternal/child illness. In these cases, the client should not rely on LAM.

### Advantages and disadvantages of LAM

The advantages and disadvantages of LAM are summarised in Table 4.3.

Table 4.3 Advantages and disadvantages of LAM.

Advantages	Disadvantages
Effectively prevents pregnancy for at least six months.	Not a suitable method if the mother is working outside the home.
Encourages the best breastfeeding pattern.	No protection against STIs including HIV.
Can be used immediately after birth.	If the mother has HIV, there is a small chance she may pass it to her baby in breastmilk.
Does not interfere with sexual intercourse.	Not effective after six months.
No hormonal side-effects.	

### Effectiveness of LAM

If the woman follows the method correctly — it is 98–99% effective (*Family Planning: A Global Handbook for Providers*, WHO, 2007).

### Important points about LAM

Women should use both breasts to breastfeed their babies on demand, with no more than a four hour interval between breastfeeds during the daytime, and no more than a six hour interval between breastfeeds during the night-time. If they are unable to fulfil these conditions, you should advise and provide them with a complementary family planning method. If a woman has any risk of STI/HIV infection, you should advise her to use condoms.

If a woman wants to continue using LAM as a contraceptive method, but she fails to fulfill the LAM criteria, you should offer her advice on a complementary contraceptive method. In this case, the best choice would be a non-hormonal contraceptive (condoms, spermicides, diaphragms, IUCDs, and voluntary surgical contraception), because they don't enter into the blood stream and interfere with breastmilk. If these non-hormonal contraceptives are not available, the next best choice would be to provide a progestin-only method, such as progestin-only pills, a DMPA injectable, or implants, as these do not interfere with breastmilk production. Note that contraceptive methods containing oestrogen reduce the production of breastmilk and generally are not recommended for lactating women.

All these contraceptive methods are fully described in later study sessions in this Module.



### 4.2.3 Coitus interruptus (withdrawal or pulling out) method

**Coitus interruptus** or **withdrawal** is a traditional family planning method in which the man withdraws or pulls out his penis from his partner's vagina and ejaculates outside, keeping his semen away from her genitalia.

#### Mechanism of action of withdrawal method

Coitus interruptus prevents fertilisation by stopping contact between spermatozoa in the sperm and the ovum or egg.

#### Advantages of withdrawal method

It is important for you to teach this method as part of natural family planning methods. It costs nothing and requires no devices or chemicals. It is available in any situation and can be used as a back-up method of contraception.

#### Disadvantages of withdrawal method

It has several disadvantages. Interruption of the excitement of sexual intercourse may result in the incorrect or inconsistent use of this method, as well as decreasing sexual pleasure for both partners. A high failure rate may be due to a lack of self-control, and semen containing sperm may leak into the vagina before the person ejaculates. There is a further possibility of premature ejaculation by the man. In addition, the couple is not protected from STIs, including HIV.

#### Effectiveness of withdrawal method

It is the least effective method because it depends on the man's ability to withdraw before he ejaculates. However, it is about 73% effective if used correctly (*Family Planning: A Global Handbook for Providers*, WHO, 2007).

## Summary of Study Session 4

In Study Session 4, you have learned that:

- 1 To understand natural family planning methods it is important to remember that the egg is released from the ovary once a month and can stay alive in the uterus for about 24 hours. Men produce sperm cells which can stay alive in the female reproductive system for about 2–5 days after being deposited in the vagina during sexual intercourse.
- 2 Knowledge of physiological changes during the menstrual period help to distinguish between the 'unsafe period' (when pregnancy is possible) and 'safe period' (when pregnancy is not possible).
- 3 Natural family planning methods depend on the awareness and ability of the couple to identify the fertile and infertile phases of each menstrual cycle.
- 4 The basal body temperature method is based on a slight three-day increase in the body temperature of women at rest by about 0.3–0.5 °C during and after ovulation, which is caused by the action of a rise in the level of progesterone.
- 5 The cervical mucus method is based on the recognition of changes in cervical mucus and on sensations in the vagina, due to the effect of oestrogen which changes the cervical mucus from dry or thick, viscous and sticky, to wet and thin, white, slippery and stretchy (similar to raw egg white) during ovulation.

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- 6 The calendar or rhythm method is based on calculations to predict the first and the last fertile day in future menstrual cycles.
  - 7 The lactational amenorrhoea method (LAM) is the traditional and most widely used method, based on the use of breastfeeding as a contraceptive method. To be effective as a method of contraception, three criteria should be fulfilled: menstruation should not have returned, the infant should not be more than 6 months old, and the baby should be exclusively breastfed.
  - 8 Coitus interruptus or withdrawal is another traditional family planning method in which the man withdraws or pulls out his penis and ejaculates outside the vagina, thus preventing his sperm reaching the woman's egg and fertilising it.

## Self-Assessment Questions (SAQs) for Study Session 4

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 4.1 (tests Learning Outcomes 4.1, 4.2 and 4.4)**

Give reasons why natural family planning methods may be preferred by some women. What should couples be prepared to do in order to use natural family planning methods effectively?

### **SAQ 4.2 (tests Learning Outcome 4.2)**

How reliable are natural family planning or fertility awareness-based methods of contraception?

### **SAQ 4.3 (tests Learning Outcomes (4.2, 4.3, and 4.4)**

List the criteria that have to be fulfilled for the effectiveness of LAM in preventing pregnancy.

### **SAQ 4.4 (tests Learning Outcomes 4.4 and 4.5)**

W/ro Abebech is three months postpartum and using LAM for contraception. Her baby has just started sleeping for more than six hours during the night.

- (a) Can she continue using LAM as a reliable contraception? State your reasons.
- (b) If not, what would be her first choice of contraceptive method?
- (c) What would be her second best choice of contraceptive method?

# Study Session 5 Oral Contraceptive Methods

## Introduction

Oral contraceptives are pills that a woman takes by mouth to prevent the occurrence of pregnancy. The pills contain hormones which are similar to the natural female reproductive hormones, oestrogen and progesterone. Oral contraceptives are commonly known as ‘the pill’, ‘combined pill’, ‘birth control’ or ‘mini-pill’. The pill works mainly by changing the body’s hormone balance so that the woman does not ovulate. It is more effective if taken correctly and consistently. Most women can take the pill without developing any side-effects. However, a small number of women develop mild side-effects, which usually go away within days or weeks of starting the pill.

In this study session, you will learn about the concept, types and mechanism of action of oral contraceptive pills, their effectiveness, advantages and disadvantages, common side-effects, and the management of the side-effects of this method.

## Learning Outcomes for Study Session 5

When you have studied this session, you should be able to:

- 5.1 Define and use correctly all of the key words printed in **bold**. (SAQ 5.4)
- 5.2 Discuss common myths and rumours about oral contraceptives. (SAQ 5.1)
- 5.3 Describe the types and mechanism of action of oral contraceptives. (SAQ 5.2)
- 5.4 Discuss the effectiveness and use of oral contraceptives. (SAQs 5.3, 5.4 and 5.5)
- 5.5 Explain the advantages and disadvantages of oral contraceptives. (SAQ 5.6)
- 5.6 Explain common side-effects and their management for oral contraceptives. (SAQ 5.7)

## 5.1 Misconceptions and facts about oral contraceptives

There are many myths, rumours and misconceptions associated with taking oral contraceptives. You may be aware of some yourself. The most common ones are listed in Box 5.1 (on the next page). Do your best to ensure that your clients know the truth about these myths.

### Box 5.1 Myths and facts about contraceptive pills

	Myth:	Women who stop taking the pill may not be able to get pregnant. They become infertile.
✓	Fact:	Most women who use a method of contraception, including the pill, can later get pregnant if they wish. The pill will not cause women to be infertile.
	Myth:	The pill causes cancer.
✓	Fact:	The pill does not cause cancer. In fact, the pill actually reduces the risk of getting certain cancers, such as endometrial and ovarian cancers.
	Rumour:	Oral pills build up in a woman's body.
✓	Fact:	Oral pills do not build up in a woman's body.
	Rumour:	Women need to rest from taking oral contraceptives on sex-free days.
✓	Fact:	Women do not need a rest from oral contraceptives. They have to take them every day, whether or not they have had sex that day.
	Rumour:	Oral contraceptives cause birth defects or multiple births.
✓	Fact:	Oral contraceptives do not cause birth defects or multiple births.
	Rumour:	Oral contraceptives change women's sexual behaviour.
✓	Fact:	Oral contraceptives do not change women's sexual behaviour.
	Rumour:	Oral contraceptives accumulate in a woman's stomach.
✓	Fact:	Oral contraceptives do not collect in the stomach. Instead, the pill dissolves each day.

## 5.2 Oral contraceptives and how they work

Based on their hormone content, oral contraceptives are divided into two types:

- combined oral contraceptives (COCs), which contain the hormones oestrogen and progesterone
- oral contraceptives with a single hormone, known as progestin-only oral contraceptives.

**Combined oral contraceptives** (COCs, OCs, and often just called the pill) are the most popular type of birth control. The term *combined* is used because they contain both oestrogen and progesterone hormones. There are many

different brands, and they come in packs of 21 or 28 pills. Two brands, microgynon and Leo-femenal, both in packs of 28 pills, are the most popular ones in Ethiopia. One pill is taken every day. The first 21 pills have a combination of synthetic oestrogen and progesterone hormones. The last seven pills of a 28-day pack have no hormones and are called spacer pills. They are usually different in colour, and some brands contain iron. The iron in the pill can be taken as a supplement to avoid iron deficiency (Figure 5.1).

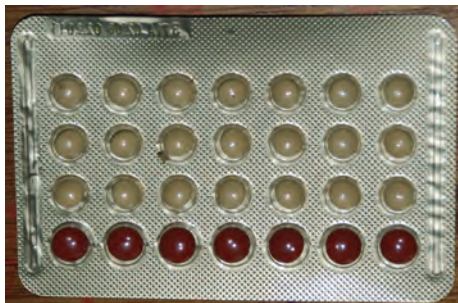


Figure 5.1 Combined oral contraceptive with spacer pills in bottom row. (Photo: Ali Wyllie)

**Progesterone-only (or progestin-only) oral birth control pills (or mini-pills)** come in packs of 28 pills and women take one every day. They contain a synthetic form of the progesterone hormone called progestin, and no oestrogen (Figure 5.2).

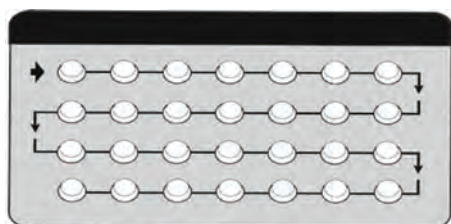


Figure 5.2 Progestin-only contraceptive. (Source: *Family Planning: A Global Handbook for Providers*, World Health Organization (WHO), 2007, p.26)

Neither combined, nor progesterone-only oral contraceptives, protect against sexually transmitted infections (STIs), including HIV/AIDS. If your client has or might get an STI, they should be given condoms to use regularly.

The pill works mainly by changing the body's hormonal balance so that the woman does not ovulate. That is, she does not release an egg (or ovum) each month from one of her ovaries. In addition, the pill causes the mucus made by the cervix to thicken and form a 'mucus plug' in the cervix which makes it difficult for sperm to get through to the uterus (womb) to fertilise an egg. The pill also makes the lining of the uterus thinner, which makes it unlikely that a fertilised egg will be able to attach to the uterus.



Remember oral contraceptives do not protect against STIs or HIV/AIDS.

## 5.3 Effectiveness of oral contraceptive methods

### 5.3.1 Combined oral contraceptive (COC)

Effectiveness depends on the user. It is 99.9% effective if used correctly and consistently. This means that less than one woman in 1,000 using combined oral contraceptives correctly and consistently will become pregnant in the first year of use. Correct use means not missing any pills, and taking extra contraceptive precautions if that happens. Risk of pregnancy is greatest when a woman starts a new pill pack three or more days late, or misses three or more pills near the beginning or end of a pill pack.

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### 5.3.2 Progesterone-only oral contraceptive or mini-pill

The mini-pill is more effective for lactating mothers. It is 99% effective if used consistently and correctly by breastfeeding mothers, because breastfeeding itself provides protection against pregnancy. For all women, it is very effective when used correctly and consistently, with an incidence of less than 0.5 pregnancies per 100 women in the first year of use.

- In this context, what does correct use mean?
- It means taking the pill every day, at about the same time, not missing any pills, and taking extra contraceptive precautions when necessary.

Mistakes in pill taking lead to pregnancy more often with the mini-pill than with combined oral contraceptives.

## 5.4 Use of oral contraceptives

- What makes using oral contraceptives attractive to many women?
- Pills are a particularly attractive contraceptive option for women who like to be in control of their method, and can take a daily dose in a consistent way.

Oral contraceptives are particularly popular with young, sexually active, *nulliparous* women (those who have never given birth), and those who are not at risk from STIs. Lactating and non-lactating mothers can also use oral contraceptives. They can be used in the post-abortion and post-partum period, and they are preferred by women who desire a fast return to fertility when stopping birth control. Finally, they are known to reduce pre-menstrual pain.

### 5.4.1 How to use COCs

As part of your role as a health practitioner you need to know how to help clients use their contraceptive method(s) of choice. In Box 5.2, you will find a summary of the procedure for using COCs.

#### **Box 5.2 Procedure for using COCs**

- 1 Give your female client at least one packet of the same pills that she will use, even if she will be getting her pills elsewhere later.
- 2 Show her:
  - which kind of pill packet you are giving her (21 pills or 28 pills). If the pack has 28 pills, point out that the last seven ‘remainder’ pills are a different colour and do not contain hormones.
  - how to follow the direction of the arrows on the packet to take the rest of the pills, one each day (including the remainder pills).
- 3 Give her instructions on starting the first packet, starting the next packet, and what to do if she misses a pill.
- 4 Ask her to repeat the most important instructions, and show you how she will take her pills, using the pill packet.
- 5 Ask her if she has any questions, fears or concerns, and answer her concerns clearly and respectfully.

## Starting COCs

There are several ways to begin taking the pill. One common way is to start on the first day of menstruation (or period), or the first day after an abortion.

## Continuing COCs

The client has to take her pill on a daily basis, one pill every day until she finishes an entire pack. In order to remember this, she needs to link taking the pill with a regular activity that she does at the same time every day, like eating a meal or brushing her teeth.

## Women who cannot take the pill

Some women may not be able to take the pill because of the risk of serious health problems. If they display any of the following symptoms, which could be due to a blood clot, they must see a health officer or doctor straight away:

- Severe headache
- Bad pains in the chest
- Leg swelling
- Breathing difficulty
- Coughing up blood
- Sudden problems with sight or speech
- Weakness or numbness in an arm or leg
- Collapse.

Women who are under 35 years and have migraines, gall bladder disease, hypertension, diabetes, epilepsy, sickle cell disease, and/or have had elective surgery, have a history of blood clots, or liver or heart disease, may not be able to take the pill.

Women who are over 35 years and have a history of heart attacks, or strokes, blood clots, unexplained vaginal bleeding, known or suspected cancer, known or suspected pregnancy or liver disease, should not take the pill at all.

## Instructions for missed pills

You will need to instruct women on how to continue taking pills after they have missed one or more pills from the pack. See Box 5.3 for some useful rules for missed pills.

### Box 5.3 Rules for missed pills

#### ALWAYS:

- 1 Take a pill as soon as you remember.
- 2 Take the next pill at the usual time. This may mean taking two pills on the same day or even at the same time.
- 3 Continue taking active pills (see Figure 5.1) as usual, one each day.

You should also advise your clients to follow the steps in Table 5.1 (on the next page) when they have missed a pill or started the pack late.



Table 5.1 Instructions for missed pills.

When pills are missed	How pills are missed	Follow the three rules in Box 5.3 and instructions below
In the first seven days	Started the pack two or more days late, OR Missed any two to four pills	Avoid sex, or use additional contraception for the next seven days.
Days 8–14	Missed any two to four pills	Follow the three ‘Always’ rules in Box 5.3.
Days 15–21	Missed any two to four pills	Go straight to the next pack. Throw away inactive pills from 28-day pack (days 22–28); don’t wait seven days before starting a 21-pill pack.
In the first three weeks (days 1–21)	Missed five or more days in a row	Avoid sex, or use additional contraception for the next seven days.  Go straight to the next pack. Throw away inactive pills from a 28-day pack (days 22–28); don’t wait seven days before starting a 21-pill pack.

## 5.4.2 How to use the mini-pill

### Starting mini-pills

With mini-pills there are hormones in each pill, and there are no spacer pills. It is important for women to take a pill every day, preferably at the same time each day. Forgetting a mini-pill, or taking it late, increases the chance of pregnancy more than missing a COC pill.

The client can improve the effectiveness of mini-pills by adding a back-up method, for example condoms or **spermicides** (chemicals that kill sperm cells). This is most important during the first three months, and for days 8–18 of your menstrual cycle after that. The client should take the first pill on the first day of her period. She also needs to take one pill daily, at the same time of day, even during her period.

### Continuing mini-pills

As soon as she finishes one pack the woman has to begin the next one, and start her next pack even if she is still bleeding, or has not started her period. She should continue taking one pill every day. If she has problems with the mini-pill, she needs to visit the health centre or hospital. She should not stop taking the mini-pill unless she wants to get pregnant or use another method of birth control.

### Women who cannot use mini-pills

Every woman is different, and mini-pills are not recommended for all women. Due to the risk of serious health problems, women with the following conditions should not use mini-pills:

- Unexplained vaginal bleeding
- Known or suspected pregnancy
- Breast cancer.

Mini-pills are also not recommended for women who are concerned about weight gain, have liver disease, gall bladder disease, heart disease, diabetes, or a history of depression.

## 5.5 Advantages and disadvantages of oral contraceptive methods

Here you will learn about the common advantages and disadvantages of oral contraceptives (OCs). By the end of this study session, you should be able to explain to your family planning clients the advantages and disadvantages of COCs and mini-pills.

### 5.5.1 Advantages of COCs

Combined oral contraceptives have a number of advantages. The main one is when taken consistently and correctly, COCs are very effective contraceptives that give women control over their own fertility. Most women can safely use COC pills throughout their reproductive years, as long as they want to prevent pregnancy. Thus, they can be used at any age from adolescence to menopause. More importantly, women's fertility returns soon after stopping taking the pills. COCs can also prevent or decrease iron deficiency anaemia because the pills decrease menstrual flow significantly in women with a normal uterus, meaning they are less likely to develop iron deficiency anaemia.

Most women can safely use COC pills throughout their reproductive years.

COCs decrease menstrual cramps and pain. Some women consider this to be their most desirable effect. They also help prevent ectopic pregnancies, endometrial cancer, ovarian cancer, ovarian cysts, pelvic inflammatory disease and benign breast disease. Furthermore, combined oral contraceptives can increase a woman's sexual enjoyment because she does not have to worry about getting pregnant. In addition, they can be used as an emergency contraceptive after unprotected sex (refer to Study Session 10 on *Emergency Contraception*). See Box 5.4 (on the next page) for a summary of the advantages of combined oral contraceptives.

#### Box 5.4 Key points about oral contraceptives

- COCs are very effective contraceptives, giving women control over their own fertility when taken consistently and correctly.
- Fertility returns soon after stopping COC pills, which makes them an excellent option for women who want to become pregnant in the near future.
- Combined oral contraceptive pills decrease menstrual flow significantly in women with a normal uterus. Therefore, pill users are less likely to develop iron deficiency anaemia. Pills also decrease menstrual cramps and pain.

### 5.5.2 Advantages of mini-pills

The major advantage of the mini-pill is that it can be used by nursing mothers six weeks after giving birth, and does not affect the quality and quantity of breastmilk. In contrast, COCs can slightly reduce milk production. As the mini-pill is free of oestrogen it avoids oestrogen-related side effects, such as heart attacks or strokes. It is also easier to understand how to take the mini-

The mini-pill can be used by nursing mothers, as it does not affect breastmilk.

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pill since women take one pill every day without a break. The mini-pill may also help prevent benign breast disease, endometrial and ovarian cancer, and pelvic inflammatory disease.

### 5.5.3 Disadvantages of COCs

Although they are advantageous in many cases, COCs have some disadvantages, and you should inform your clients about these disadvantages in order to help them choose from all available methods.

One of the main disadvantages of COCs is that they are not recommended for breastfeeding women, because they affect the quality and quantity of milk. Very rarely, COCs can also cause strokes, blood clots in deep veins of the legs, or heart attacks. Those at highest risk are women with high blood pressure and women who are aged 35 years or older. Also bear in mind that the pills do not protect against STIs, including AIDS.

### 5.5.4 Disadvantages of mini-pills

For women who are *not breastfeeding*, the most common side-effects are: changes in menstrual bleeding including irregular periods, spotting or bleeding between periods (which is common), and amenorrhoea or missed periods (which is less common, but may continue for several months). Note that some women see amenorrhoea as an advantage. A few women may have prolonged or heavy menstrual bleeding.

Breastfeeding women normally do not have regular periods for some months, whether or not they are using progestin-only oral contraceptives. Therefore, menstrual changes due to progestin-only oral contraceptives generally are not noticed or bothersome. Progestin-only oral contraceptives may lengthen amenorrhoea during breastfeeding. For women who are not breastfeeding, even taking a pill more than a few hours late can increase the risk of pregnancy, and missing two or more pills increases the risk greatly.

## 5.6 Side-effects and drug interactions

### 5.6.1 Common side-effects

Most women who take the pill do not develop any side-effects. However, a small number of women develop nausea, headaches, sore breasts, mood changes, spotting between periods, or irregular bleeding. These side-effects usually go away within days or weeks of starting the pill. If they persist, a different brand of pill may suit better.

Other side-effects are less common and include tiredness, changes in sex drive, skin changes and mood changes. Although these are unusual, if the user experiences such problems for a prolonged period you should advise them to see a doctor or health officer.

- The pill sometimes causes an increase in blood pressure (hypertension). In this case, how would you best advise the user?
- The best advice to give is that those who are using oral contraceptives and complain about having hypertension need to have their blood pressure checked every six months. The pill may need to be stopped if their blood pressure becomes too high.

### 5.6.2 Management of common side effects

If a client experiences common side-effects, such as nausea, mild headaches, mood changes, tender breasts, spotting between periods and irregular bleeding, you should advise the woman to keep taking her pills. Skipping pills may make these side-effects worse. Also, skipping pills risks pregnancy. For spotting or irregular bleeding, she can try taking each pill at the same time of day. You should reassure her that these are not signs of more serious problems and they usually go away within three months. Urge her to keep taking her pill every day.

If she is not satisfied with your counselling, however, you may need to help her choose another method. If she vomits for any reason within two hours after taking a hormonal pill, she should be advised to take another hormonal pill from a separate packet. (Give her extra pills to take if she vomits.) If she has had severe diarrhoea or vomiting for more than 24 hours, which is not caused by low-dose combined oral contraceptives, she should follow the instructions for missed pills in section 5.4.1. Diarrhoea or vomiting may reduce effectiveness in the same way as missing pills.

- Do you need to see your client again after giving them oral contraceptives (both COCs and mini-pills)?
- You should invite your client to return if she needs help with any problems, or if she has any concerns. Let her know that she can switch to another method any time she wishes, and explain the specific reasons for seeing a health officer or doctor. Refer back to Section 5.6.1 for problems that require medical attention.

### 5.6.3 Drug interactions

The effectiveness of oral contraceptives, both COCs and mini-pills, are lowered when taken with certain medications, including antibiotics, anti-seizure, anti-tuberculosis, and migraine medications. If a woman is taking any of these medications that could interfere with the pill, she needs to tell you so that you can advise her to consider adding a back-up method of birth control, like condoms and/or spermicide. As with all drugs, it is useful to all clients who are using hormonal birth control to inform their medical providers when they seek any other medical care.

## Summary of Study Session 5

In Study Session 5, you have learned that:

- 1 The combined oral contraceptive (COC) pill, oral contraceptive (OC) pill, and often just called the pill, is the most popular type of birth control. There are many different brands, and they come in packs of 21 or 28 pills. Two brands, Microgynon and Leo-femenal, both in packs of 28 pills, are the most popular ones in Ethiopia. Progesterone-only oral birth control pills, or mini-pills, come in packs of 28 pills, and users take one every day. They contain a synthetic form of the progesterone hormone called progestin and no oestrogen.

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- 2 The pill works mainly by changing the body's hormonal balance so that the woman does not ovulate. It works by stopping an egg (ovum) from being released each month from an ovary, and by forming a mucus plug so that sperm cannot get into the uterus to fertilise the egg. The pill also makes the lining of the uterus thinner, which makes it unlikely that a fertilised egg will be able to attach to the uterus.
  - 3 If used correctly and consistently, the combined oral contraceptive pill is 99.9% effective. In lactating mothers, the progestin-only pill is more effective than the combined oral contraceptive pill, because breastfeeding itself provides some protection against pregnancy.
  - 4 Pills are a particularly attractive contraceptive option for women who are happy to take a daily dose and be in control of their own bodies.
  - 5 Women who are over 35 years should not take the pill if they have a history of heart attacks or strokes, blood clots, unexplained vaginal bleeding, known or suspected cancer, known or suspected pregnancy, or liver disease.
  - 6 In the mini-pill, there are hormones in all 28 pills, and no spacer pills. It is important to take a pill every day, preferably at the same time each day. Forgetting a mini-pill or taking it late increases the chance of pregnancy more than missing a COC pill. Therefore, a woman should not stop taking the mini-pill unless she wants to get pregnant or to use another method of birth control.
  - 7 One of the advantages of COCs is that when taken consistently and correctly, they are very effective contraceptives that give women control over their own fertility. Most women can safely use pills throughout their reproductive years as long as they want to prevent pregnancy.
  - 8 The major advantage of the mini-pill is that it can be used by nursing mothers, beginning six weeks after childbirth, and the quality and quantity of breastmilk is not affected.
  - 9 One of the disadvantages of COCs is that they are *not* recommended for breastfeeding women, because they *do* affect the quality and quantity of breastmilk.
  - 10 Most women who take the pill do not develop any side-effects. However, a small number of women develop nausea, headaches, sore breasts, mood changes, spotting between periods or irregular bleeding.
  - 11 If a woman who takes the pill experiences common side-effects, such as nausea, mild headaches, mood changes, tender breasts, spotting between periods or irregular bleeding, you should reassure her that these are not signs of more serious problems and they usually go away within three months.
  - 12 The effectiveness of oral contraceptives, both COCs and mini-pills, are lowered when taken with certain medications, including antibiotics, anti-seizure, anti-tuberculosis, and migraine medications.

## Self-Assessment Questions (SAQs) for Study Session 5

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module

### **SAQ 5.1 (tests Learning Outcome 5.2)**

There are a lot of misconceptions about the use of oral contraceptives. List all the myths and rumours common in your community, and describe what you will do to overcome such problems.

### **SAQ 5.2 (tests Learning Outcome 5.3)**

Explain how oral contraceptives work.

### **SAQ 5.3 (tests Learning Outcome 5.4)**

A woman who has forgotten to take three COC pills in the second week of her last menstrual period comes to your health post for help. What would you advise?

### **SAQ 5.4 (tests Learning Outcomes 5.1 and 5.4)**

Suppose one of your clients who is using COCs complains of a severe headache, vomiting and blurred vision. She is worried about becoming pregnant if she stops taking her pills. What would you tell her to help her?

### **SAQ 5.5 (tests Learning Outcomes 5.4)**

What is the major difference between COCs and mini-pills? Who would be eligible to use the mini-pill?

### **SAQ 5.6 (tests Learning Outcome 5.5)**

Compare the main advantages and disadvantages of COCs and mini-pills. Organise your comparison into a table.

### **SAQ 5.7 (tests Learning Outcome 5.6)**

A client using COCs develops pulmonary tuberculosis. What do you think would be important to tell her with regard to her contraception?





# Study Session 6 Injectable Contraceptives and Contraceptive Implants

## Introduction

This study session introduces the types of long-acting hormonal contraceptives which are injectable, or take the form of implants inserted under the skin of the upper arm. Once given to clients, a constant dose of hormonal contraceptives is released slowly into the body, making them very effective over long periods of time. In this study session, you will learn about these methods, their mechanism of action, effectiveness, advantages and disadvantages, and the most common side-effects. You will also learn about the management of side-effects related to these long-acting hormonal contraceptives.

## Learning Outcomes for Study Session 6

When you have studied this session, you should be able to:

- 6.1 Define and use correctly all of the key words printed in **bold**. (SAQs 6.1, 6.2, 6.4 and 6.5)
- 6.2 Describe the main types of injectable contraceptives, their mechanism of action, effectiveness, advantages and disadvantages, mode of injection, and management of common side-effects. (SAQs 6.2, 6.4 and 6.6)
- 6.3 Describe the main types of contraceptive implants, their mechanism of action, effectiveness, advantages and disadvantages, insertion procedures, and management of common side effects. (SAQs 6.3 and 6.6)
- 6.4 Discuss common infection prevention precautions for injections and implant insertion. (SAQ 6.7)

## 6.1 Injectable contraceptives

**Injectable contraceptives** are artificial hormonal preparations administered by a deep intramuscular injection into the muscle of the arm or buttock, to be effective immediately. From the injection site they are slowly absorbed into the bloodstream and the body gets sufficient levels of hormone to provide contraception for one to three months, depending on the type of injectable contraceptive used. Injectable contraceptives can consist of progesterone-only preparations, or combined oestrogen and progesterone preparations (Figure 6.1).



Figure 6.1 Sample injectable contraception and syringe with needle.

## 6.1.1 Progesterone-only injectable contraceptives (POIs)

### DMPA (Depo-Provera)

**DMPA** (Depot Medroxy Progesterone Acetate, or **Depo-Provera**) is an artificial progestin preparation which resembles the naturally occurring female hormone progesterone. It is usually given in doses of 150 mg, which gives three months' protection following injection. It is the most widely available and commonly used injectable contraceptive in Ethiopia.

- In what situations would you advise a client to choose an injectable contraceptive over an oral contraceptive?
- When the client wants to prevent pregnancy for a long period of time, and is having difficulty remembering to take an oral contraceptive pill on a daily basis, then having an injectable contraceptive every month is preferred (Figure 6.2).

### Mechanism of action of DMPA

In Study Session 5 of this Module, you learnt the mechanism of action of progesterone-only oral contraceptives. Progesterone-only injectable contraceptives have the same mechanism of action as that of the progesterone-only oral contraceptives, except that injectable contraceptives have a longer duration of action.

- Can you explain how progesterone-only contraceptives prevent pregnancy?
- Progesterone-only contraceptives, including progesterone-only injectables (POIs), prevent pregnancy in the following ways:
  - Inhibition of ovulation (the primary mechanism of action)
  - Thickening of cervical mucus to stop sperm penetration
  - Thinning of the endometrium of the uterus to make it unfavourable for implantation of the fertilised egg
  - Slowing of sperm and ovum transport through reduced fallopian tube peristalsis (wave-like muscular contractions of the fallopian tube by which contents are forced onward towards the uterus).

### How effective is DMPA?

DMPA is very effective. In the first year of use only about 0.3 pregnancies per 100 women occur, that is, one pregnancy for every 333 clients who do not get pregnant, providing the injection is given every three months (Figure 6.3).



Figure 6.3 The DMPA injectable contraceptive is very effective if given every three months. (Photo Ali Wyllie)



Figure 6.2 DMPA injection at a health post. (Photo: Ali Wyllie)

- Why do you think injectable contraceptives are more effective when compared to oral contraceptive pills?
- Injectable contraceptives avoid passage through the gastrointestinal tract, and metabolism in the liver.

### Advantages of DMPA

DMPA is very effective, and has the advantage for the client that it can be used privately without the knowledge of any other person, including their partner. It also has the advantage of being long acting, but reversible if the client later decides to have a child. Moreover, it does not interfere with sexual intercourse. It is also suitable for breastfeeding women (after six weeks post-partum) because it has no oestrogen side-effects.

DMPA has proved to protect against ectopic pregnancy, since ovulation does not occur. However, if ovulation does occur, the chance of ectopic pregnancy is higher than for women not using DMPA. Why does this happen? This is because DMPA reduces fallopian tube peristalsis, which in turn slows the transportation of fertilised eggs from the fallopian tube to the endometrium and, as a result, there is a high chance of implantation in the fallopian tube.

It is important for you to know some of the other contraceptive benefits of DMPA. Scientific research has shown that it helps prevent uterine tumours, may protect against pelvic inflammatory disease by making the cervical mucus thick and impenetrable for microorganisms, and finally it reduces the chance of seizures in women with epilepsy. The advantages and disadvantages of DMPA are summarised in Table 6.1 (on the next page).

### Disadvantages of DMPA

In most women, the use of DMPA is associated with disturbance of the menstrual cycle. This can include absence of menstrual periods or monthly bleeding (amenorrhoea) for an unspecified period of time. Also, there can be prolonged menstrual flow, light vaginal bleeding at any time other than during the menstrual period (spotting between periods), or heavy bleeding, which usually occurs during the first two to six months of use. It can increase the appetite of some women, resulting in weight gain. It does not protect couples against sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV).

There can be a delayed return to fertility after stopping DMPA. Most women take an average of four to six months longer than usual to get pregnant, but this may extend to one year in some women. This is because residual levels of DMPA exist for several months in the body after the end of contraceptive protection following the final injection.

- Do DMPA injectable contraceptives cause infertility?
- No, DMPA does not cause infertility. It is a completely reversible contraceptive, but after stopping DMPA there can be a delayed return to fertility of four to six months.

Table 6.1 Summary of the advantages and disadvantages of DMPA

Advantages	Disadvantages
Very effective.	Disturbance of menstrual cycle.
Maintains privacy.	Delayed return of fertility.
Reversible.	No protection against STIs.
Suitable for breastfeeding women; no oestrogen side-effects.	Increased appetite causing weight gain for some women.
Best choice for those with gastritis or peptic ulcer diseases (ulcer of stomach or duodenum). Protects against ectopic pregnancy.	Other side-effects include headache and dizziness, breast tenderness, nausea, hair loss, acne and loss of sexual feeling.  If ovulation occurs, the chance of ectopic pregnancy increases.

### Management of side-effects and problems of injectable contraceptives

DMPA cannot be given to all women. In particular, it is not recommended for pregnant women, or those with breast cancer, or where a client has a history of diabetes (increased blood glucose level), advanced heart or liver disease, severe hypertension (increased blood pressure), or frequent severe headaches.

If a woman comes to you with concerns associated with this injection, do not underestimate or ignore her. Reassure her that the side-effects are not dangerous. Remember that counselling after side-effects have occurred is still useful, but not best practice. The best time to counsel a client about side-effects is when they make their contraceptive method choice. This is because many women encountering side-effects may not come to you at all, so it is important that you have given them the information beforehand.

First, you should advise her to wait until the effective days of the injection have passed. Then, if she is concerned about not having her monthly period, for example, she may want to change to another method. With irregular bleeding, reassure her that it is not harmful and usually reduces or stops after the first few months of use. On the other hand, if the bleeding is profuse and continuous, you should refer her for further investigation and management at the health post or hospital, as there may be another cause.

If she is suffering from headaches, suggest she takes Aspirin (500 mg), Ibuprofen (400 mg) or Paracetamol (500 mg), as needed, and provide her with the pain killer of her choice. Be aware that Aspirin and Ibuprofen may not be tolerated by a woman with gastritis or peptic ulcer diseases. In general, if her condition is severe, or if she is unhappy with your advice, refer her to the nearest health centre or hospital.

## Timing of, and techniques for, DMPA injections

Box 6.1 summarises the most appropriate times to start DMPA injectable contraceptives.

### Box 6.1 When to start DMPA injections

- In the first seven days after menstrual bleeding starts.
- Six weeks after childbirth, or at any time once menstruation has returned, indicating the woman is not pregnant.
- Immediately, or on the seventh day after childbirth, if your client is not breastfeeding.
- Immediately, or on the seventh day after a miscarriage or abortion.
- Immediately after stopping another method.



Figure 6.4 A trained Health Extension Practitioner administering a DMPA injection.

Injectable hormonal contraceptives are different from other injections because they are administered using deep intramuscular injection techniques (Figure 6.4). The vial must be *shaken strongly* before it is drawn into the syringe, to ensure the active ingredient is in suspension and not in the bottom of the vial. Following the procedure, *the injection site should not be massaged* or pressurised, because this may accelerate absorption of the drug. Infection prevention procedures are important (see Section 6.3 of this session).

### Reinjection schedule

When the client comes to you to have her next or subsequent injection, you should check your records to see when you last gave her an injection. If it is the correct appointment date, give her the injection. If she comes to you up to two weeks *before* her appointment, or up to one month *after* her scheduled appointment, you can still give her the injection. But if she is more than one month late, she can get another injection that day *only* if you can be sure that she is not pregnant.

She is unlikely to be pregnant if:

- she has had no sex since the day of her last injection
- she has used condoms or another method every time she has had sex since the end of her last injection
- she had a baby less than six months ago, is fully, or nearly fully, breastfeeding, and has not had her period since
- she has taken emergency contraceptive pills after every sex act since her last injection.

### Noristerat

**Noristerat** (NET-EN or norethisterone enanthate) is another artificial progestin preparation which resembles the natural female hormone progesterone. It is usually given in doses of 200 mg which gives two months' protection after injection. It suits clients who want to prevent pregnancy for a relatively shorter period than DMPA users. Although this method is not available in Ethiopia, it is important to understand that all the mechanisms, effectiveness, advantages and disadvantages are similar to DMPA, except that its duration of action is shorter.



The injection site should not be massaged or pressurised, as this may accelerate absorption of the drug.



### 6.1.2 Combined injectable contraceptives (Mesigyna)

Mesigyna is a combination of a short-acting oestrogen and long-acting progesterone that is administered by intramuscular injection to give protection for one month. It is not available in Ethiopia at the moment; however it may come in the future. Note that all of its actions and effectiveness are similar to combined oral contraceptives.

## 6.2 Contraceptive implants

A **contraceptive implant** is a reversible, long-acting progestin which resembles the natural hormone progesterone in a woman's body. It consists of flexible tubes or rods, each about the size of a match stick, inserted under the skin of a woman's upper arm by a trained professional. Implants can give continuous protection for three to seven years, depending on the number of rods inserted. This method of contraception has been used for more than 25 years. There are four types of contraceptive implants used today. These are Norplant, Jadelle, Implanon and Sino-implant, according to their sequence of discovery. In this section, you will learn about their mechanisms of action, effectiveness, advantages and disadvantages, side effects, and how to manage the side effects.

### 6.2.1 Norplant

**Norplant** is a progestin-only contraceptive implant that consists of six rods inserted into the upper arm of the client to give five to seven years of protection (see Figure 6.5). Its effectiveness decreases from five years onwards so women are advised to have it removed five years after insertion. It was the first implant to be introduced (25 years ago), and its manufacture was phased out in 2004. Although it is no longer available, it is important for you to know about it, so that you can advise those who have had Norplant implants inserted previously.

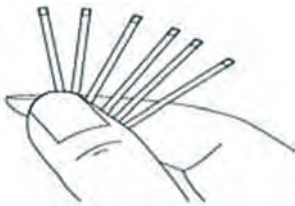


Figure 6.5 Six Norplant rods.

### 6.2.2 Jadelle

**Jadelle** is a progesterone-only contraceptive implant consisting of two rods implanted (instead of 6 rods in Norplant) to give effective protection for five years. Each rod contains 75 mg Levonorgestrel (150 mg in total). It is a new product, manufactured to replace the Norplant implant. By reducing the number of rods from six to two (Figure 6.6), it has made it easier to insert and remove. This method is in use in Ethiopia, and is provided by many trained health professionals in health centres and hospitals. After appropriate training, you may be able to insert Jadelle.



Figure 6.6 Sample Jadelle or Sino-implant.

### 6.2.3 Sino-implant

**Sino-implant** is another contraceptive implant of two rods prepared from progestin, and is similar to Jadelle. It is effective for five years. It was introduced after Implanon and is available in Ethiopia, but at the time of writing it has not been approved by the Ministry of Health for use in Ethiopia.

## 6.2.4 Implanon

**Implanon** is a single-rod contraceptive implant prepared from another type of progestin, which gives effective protection for three years (Figure 6.7). It looks like a small flexible plastic matchstick. It can be inserted into the arm following a simple procedure, similar to an injection, and you do not need to make an incision as with other implants. Implanon is the best option for women who have had one or more children, or who may want children in the future. It has been introduced for use in Ethiopia, and has been approved by the Ministry of Health to be provided by you at health post level, once you have been given proper training.



Figure 6.7 Sample implanon. (Source: *Family Planning: A Global Handbook for Providers*, WHO, 2007 p.119)

- Wozero Misgane has two children and works hard on her land. She recently asked you for advice on the most suitable contraceptive method for her. She explained to you that she is worried about the side-effects, that she might want more children again in the future, and that she works hard on her farm, so she needs a contraceptive that does not make her weak.

What would you advise for Wozero Misgane?

- You may recommend Implanon for her as it is used by many women like her in Ethiopia and tell her that once it is removed she will be able to become pregnant.

W/ro Misgane decided to have the Implanon rod insertion. Six months later she told other women in her neighbourhood that it was the right contraceptive method for a rural hard-working woman like herself because she has had no side-effects and she has continued working hard without any ill effect.

### How implants work

The mechanism of action of implants is similar to progesterone-only oral contraceptive pills and injectables, regardless of their route and duration of effectiveness.

- How do implants prevent pregnancy?
- Implants have the following effects:
  - They stop the release of the egg from the ovary by slowly releasing progestin (an artificial progesterone) into the client's body.
  - The progestin in implants causes thickening of the cervical mucus, which makes it harder for sperm to move through the cervix.
  - The progestin also causes thinning of the endometrial lining, making it less likely that a fertilised egg will implant in the uterus.
  - Progestin slows the transportation of eggs along the fallopian tube by reducing peristalsis.



## Effectiveness of contraceptive implants

Implants are more than 99.9% effective when they are inserted correctly (WHO, 2007). This means that less than one woman in 1,000 will get pregnant in the first year of use. There is no reported difference in contraceptive effectiveness or continuation rates among users of the various types of contraceptive implants. However, the effectiveness of contraceptive implants quickly reduces if women weigh more than 70 kg. In this case the implant needs early replacement, as early as one year before the intended year.

## Advantages

Implants are very effective when compared to other contraceptive methods, and are particularly useful for women who know they do not want to get pregnant for a while. Once the implant is in place, the client does not have to think about contraception for the period of the implant. It is also a good choice of method for women who can't use any contraceptive that contains oestrogen, and for women who find it difficult to regularly take a pill at the same time every day. For these reasons, its continuation rate is high.

## Disadvantages

Implants require a trained provider (Figure 6.8) to insert and remove the rods. When the implant is first inserted into the upper arm, the woman may feel some bruising, tenderness or swelling at the insertion site. For most women, during the first year of implant, their menstrual cycle may become irregular, lighter, heavier or longer. This usually settles down after the first year. In some clients, periods stop completely (amenorrhoea), but this is not harmful. Your client should be aware of these issues before deciding to have the implant. As with other contraceptives, this method does not protect couples from STIs. In this case, the client is advised to use condoms, as well as having an implant.

In addition to the disadvantages listed above, side effects which are associated with the use of contraceptive implants include weight gain, nervousness, anxiety, nausea, vomiting, dizziness, dermatitis/rashes, abnormal or heavy growth of hair over the body (hirsutism), hair loss, headaches, depression and acne. Sometimes pain, itching, or infection at the site of the implant will occur.

## Managing side-effects and problems with implants

Listen to your client's worries and complaints and treat her concerns accordingly, referring her for further help if needed. If the client wishes, it is always possible to change to another method. Side-effects are similar to those of progesterone-only injectable contraceptives (see Box 6.2), and can be managed as instructed in the earlier part of this study session.

### Box 6.2 When implants should not be given

Implants should not be given to women who have:

- serious liver disease
- problems of blood clots
- unexplained vaginal bleeding
- and/or had breast cancer.



Figure 6.8 A trained Health Extension Practitioner inserting Implanon.

### Timing of contraceptive implant insertion and removal

Implants can be inserted at any time during the menstrual cycle, preferably within seven days of menstruation or post-abortion. It can also be inserted six weeks after delivery if the mother is fully breastfeeding. Generally, it can be inserted at any time, providing it is possible to confirm that the woman is *not* pregnant.

Implants can be removed:

- at any time during the menstrual cycle.
- at the end of five years of use for Norplant or Jadelle, or three years of use for Implanon, when their effectiveness drops after the intended years of use, and the risk of intrauterine and ectopic pregnancy may increase.
- if the client wishes, at any time it is possible to remove an implant after providing the necessary counselling.

The removal of an implant is not a very complicated procedure, but it does require special training and practice under direct supervision. Following removal of any implants, the level of hormonal prevention drops quickly, and the women's fertility returns within two to six months.



Contraceptive implant insertion and removal requires special training and should only be practiced under direct supervision.

### 6.3 Infection prevention procedure

When carrying out any procedure, it is important to prevent the spread of infection by using proper infection prevention procedures. Microorganisms live everywhere in our environment. We normally carry them on our skin and in our bodies. Microorganisms are also found in animals, plants, soil, air and water. Some of these microorganisms can cause infections. Therefore, when you perform any procedure, it is very important to follow the principles of infection prevention precautions detailed in Box 6.3.

#### Box 6.3 Infection prevention precautions

- Create an infection-free environment by making it very clean, and avoiding the use of unclean materials.
- Handle all items from all clients as if they are contaminated.
- Use barriers such as gloves that serve to break the disease transmission cycle (see your *Communicable Diseases* Module).
- All disposable materials, such as gloves, syringes and needles, should be discarded into a safety box (Figure 6.9).



Figure 6.9 Disposing of syringe and needle into a safety box. (Source: *Family Planning: A Global Handbook for Providers*, WHO, 2007, p.72)

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When you carry out any invasive procedure, you have to wash your hands thoroughly using water and ordinary soap. You must wear gloves during implant insertion to prevent the transmission of infection. It is mandatory to use an antiseptic, for example Savlon, alcohol or iodine solution, for cleaning wounds or the skin prior to the implant insertion procedure.

## Summary of Study Session 6

In Study Session 6, you have learned that:

- 1 Long-acting hormonal contraceptives include injectable contraceptives and contraceptive implants, in which hormones are released slowly to be absorbed into the bloodstream so that the body maintains a constant hormonal level sufficient to provide contraception safely and effectively.
- 2 Injectable contraceptives are administered by a deep intramuscular injection into the muscle of the upper arm or buttock, to be effective immediately.
- 3 DMPA (Depo-Provera) is an artificial progestin preparation (150 mg only) which resembles the female hormone progesterone and gives three month's protection after injection.
- 4 Noristerat (NET-EN) is an artificial progesterone preparation (200 mg only) which gives two months' protection after injection.
- 5 Mesigyna is a combined injectable contraceptive, which is a combination of short-acting oestrogen and long-acting progesterone. It gives one month's protection. For the moment it is not available in Ethiopia.
- 6 Contraceptive implants consist of flexible tubes or rods which are inserted under the skin of a women's upper arm by a trained professional. They contain long-acting progestin, which is similar to the natural hormone progesterone, and their effects are reversible.
- 7 The Norplant implant gives five to seven years of protection. It has been phased out from use and replaced by Jadelle.
- 8 Jadelle is a contraceptive implant consisting of two rods, which give five years' effective protection.
- 9 Implanon is a single-rod contraceptive implant that gives three years' protection. It has been introduced for use in Ethiopia, and has been approved by the Ministry of Health to be provided by Health Extension Practitioners at health post level after appropriate training has been given.
- 10 When you are carrying out any invasive procedure, you must be careful to prevent the spread of infection by using proper infection prevention procedures.

## Self-Assessment Questions (SAQs) for Study Session 6

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

**SAQ 6.1 (tests Learning Outcome 6.1)**

What kind of contraceptive method is good for lactating (breastfeeding) women?

**SAQ 6.2 (tests Learning Outcomes 6.1 and 6.2)**

Match each of the hormonal injectables and contraceptive implants (in column **A**) with the correct protective period (in column **B**).

<b>A</b>	<b>B</b>
DMPA	5 years
Noristerat	3 years
Norplant	3 months
Jadelle	5 years
Implanon	5–7 years
Sino-implant	2 months

**SAQ 6.3 (tests Learning Outcome 6.3)**

How long does it take to become pregnant after the implants are removed? Why?

**SAQ 6.4 (tests Learning Outcomes 6.1 and 6.2)**

How do progesterone-only contraceptive injectables and implants prevent the occurrence of pregnancy?

**SAQ 6.5 (tests Learning Outcome 6.1)**

Describe the best times to start DMPA to prevent pregnancy.

**SAQ 6.6 (tests Learning Outcomes 6.2 and 6.3)**

W/ro Marta had her Implanon inserted three months ago. She complains that she has been having irregular bleeding since insertion and wants to know what can be done to stop it. Aside from the spotting, she is happy about the method.

Why has she developed this side effect?

How can you help her manage it?

**SAQ 6.7 (tests Learning Outcome 6.4)**

What are the most important infection prevention precautions you should take when doing any invasive procedure?



# Study Session 7 Intrauterine Contraceptive Devices (IUCD)

## Introduction

Intrauterine devices (IUDs) have a long history. The first IUD, developed and marketed around 1900, was designed to occupy both the vagina and the uterus. By 1928 it had been modified to occupy only the uterus, which is the design in use today. An **intrauterine device (IUD)** is an effective, safe, long-acting, cost-effective contraceptive method used in many countries, including Ethiopia. It consists of a small, flexible plastic device inserted into a woman's uterus and is left in place for long periods of time, providing continuous protection against pregnancy for a minimum of 10 years. It is also known as an **intrauterine contraceptive device (IUCD)**, and we commonly use this term in the rest of the session. The copper-bearing IUCD brand TCu-380A is widely available in Ethiopia, and is the subject of this session.

In this study session, you will learn about the definitions, types, and mechanism of actions, the advantages and disadvantages, precautions, and the common side effects of IUCDs.

## Learning Outcomes for Study Session 7

When you have studied this session, you should be able to:

- 7.1 Define and use correctly all of the key words printed in **bold**. (SAQs 7.1 and 7.3)
- 7.2 Explain the mechanism of action of IUCDs. (SAQs 7.1 and 7.3)
- 7.3 Discuss the effectiveness of IUCDs. (SAQs 7.2 and 7.3)
- 7.4 Describe the insertion and removal of IUCDs. (SAQ 7.3)
- 7.5 Discuss the advantages and disadvantages of IUCDs. (SAQs 7.3, 7.4 and 7.5)
- 7.6 Explain absolute and relative precautions for IUCDs. (SAQs 7.5 and 7.6)
- 7.7 Identify common side-effects and their management for IUCDs. (SAQs 7.3 and 7.5)

## 7.1 Types of IUCD

There are three different types of IUCD. These are:

- **copper-bearing IUCDs**, which are made of plastic with copper sleeves and/or copper wire on the plastic, such as TCu-380A and MLCu-375 (see Figures 7.1 and 7.2 on the next page).
- **hormone-releasing IUCDs**, which are made of plastic and steadily release small amounts of progesterone or other progestin hormones, such as LNG-20 and Progestasert.
- **inert or unmedicated IUCDs**, which are made of plastic or stainless steel only, such as Lippes Loop and Chinese stainless steel rings.

Copper T 380A is one of the three which is most commonly available and widely used in many countries, including Ethiopia. In this study session, you will learn about the Copper T IUCD in detail.

## Copper T 380A

The **Copper T 380A IUCD** is a T-shaped device made of polyethylene (plastic) and filled with barium sulfate so that it is visible on an X-ray. It is 3.6 cm in length and 3.2 cm in width (see Figures 7.1 and 7.2). There are small copper bands on each horizontal arm of the T, which is placed high in the fundus or highest point of the uterus. The vertical stem is also wound with copper wire, and a thin polyethylene string or thread is attached to the bottom of the stem for easy removal.

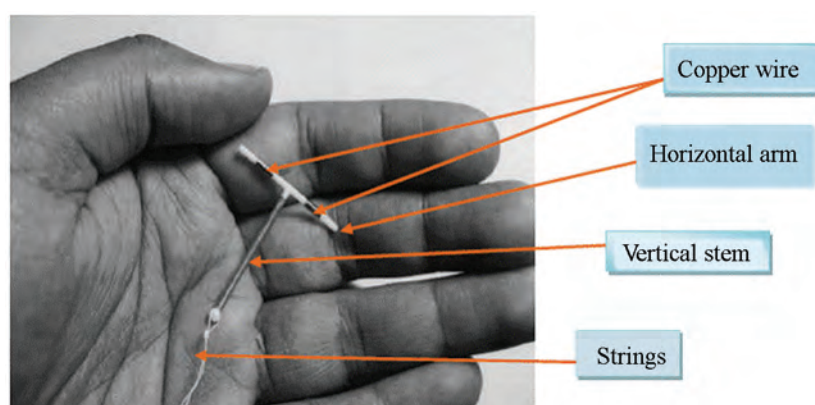


Figure 7.1 Copper T IUCD (TCu-380A). (Source: *Family Planning, A Global Handbook for Providers*, WHO, 2007, p.133)

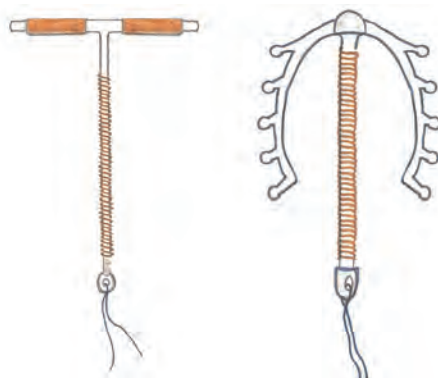


Figure 7.2 Copper-bearing IUCDs (left) TCu-380A, (right) MLCu-375.

## 7.2 How copper-bearing IUCDs work

Copper-bearing IUCDs act primarily by stopping fertilisation. The copper slows down the movement of sperm within the woman's uterus and so prevents them from reaching the fallopian tubes and fertilising the egg. The device also stimulates a strong reaction in the wall of the uterus, which prevents implantation of the egg (even if it is fertilised).



## 7.3 Effectiveness of IUCDs

An IUCD is a highly effective, long-term, reversible contraception. Using an IUCD can be as effective as female surgical sterilisation in preventing pregnancy, but unlike sterilisation it is a completely reversible contraceptive method. Among women who use the Copper T 380A IUCD, less than 1% become pregnant (0.6 to 0.8 per 100 women) during the first year of use. Additionally, the cumulative risk of pregnancy over the ten-year service life of an IUCD is less than 3%. In addition, fertility returns soon after removal.

The Copper T 380A can prevent a woman from becoming pregnant for up to 12 years. However, its effect is reduced after seven years of use, after which the likelihood of becoming pregnant increases. Some countries advocate its use for up to ten years, and it should be replaced or removed no later than ten years from the date of insertion. In the case of Ethiopia, you should refer to the *National Family Planning Guidelines* on recommended years of use.

An important point is that a woman's fertility returns promptly after an IUCD is removed. You should make this very clear to women having an IUCD removed, i.e. they should have another IUCD inserted immediately after removal (if desired and appropriate), or immediately start another contraceptive method unless they want to get pregnant.

## 7.4 Insertion and removal

You will not be expected to insert or remove IUCDs. These procedures should be performed only by service providers who have been trained, such as physicians, nurses and midwives. However, it is important to understand the problems associated with IUCDs, such as IUCD expulsion, infection, and uterine perforation. These are not common, but when they do occur they are often due to improper insertion techniques.

Although IUCD insertion and removal procedures are relatively simple, there are several separate steps to be performed in a specific sequence. These steps must be integrated with the appropriate infection prevention and counselling measures, to help ensure the safety and wellbeing of the woman. At your level and setting it may be difficult to perform these procedures, but you need to tell women where to go and when to have such services.

### 7.4.1 When to start using an IUCD

An IUCD is usually inserted during a menstrual period, when the cervix is slightly open and pregnancy is least likely. There is, however, a greater chance of expulsion if a device is introduced early in the cycle, because the uterus can squeeze the device back out. Therefore, the best time for insertion is just after a period. However, an IUCD may be inserted at any time. Table 7.1 (on the next page) shows the best timing for IUCD insertion for women in different situations.

Table 7.1 Time of IUCD insertion.

Woman's situation	When to start
Having menstrual cycles	<ul style="list-style-type: none"> <li>• Any time within the first 12 days after the start of menstrual bleeding, preferably after bleeding has stopped, at the woman's convenience.</li> <li>• Any other time during the menstrual cycle (not just during menstruation) if the woman is not pregnant and has a healthy uterus.</li> <li>• If a woman has been using a reliable contraceptive, or has not been having sex, the best time to insert her IUCD is when she asks for it.</li> </ul>
After childbirth	<ul style="list-style-type: none"> <li>• During a hospital or health centre stay following childbirth, if she has decided voluntarily in advance. The IUCD is best inserted within ten minutes of delivery of the placenta.</li> <li>• It can be inserted at any time within 48 hours after childbirth (special training is required).</li> <li>• If not immediately after childbirth, then as early as four weeks after childbirth for Copper T IUCDs, such as TCU-380A. At least six weeks after childbirth for other IUCDs.</li> </ul>
After miscarriage or abortion	<ul style="list-style-type: none"> <li>• Immediately, if no infection is present.</li> <li>• If an infection is present, treat it and help the client choose another effective method.</li> <li>• The IUCD can be inserted after three months, if no infection remains and re-infection is not likely, and the woman is not pregnant.</li> </ul>
Lactating mothers with lactational amenorrhoea (LAM)	<ul style="list-style-type: none"> <li>• Any time, providing the mother is not pregnant.</li> </ul>
When stopping another method	<ul style="list-style-type: none"> <li>• Immediately.</li> </ul>

## 7.4.2 Checking the IUCD

You should advise women that they can keep track of an IUCD by checking for its strings, and they can feel for the strings by putting a finger into their vagina. Some women prefer to look for the string with a mirror and flashlight. It is generally recommended that women check their IUCD after each period. A shorter than normal string can be a warning sign of a misplaced IUCD. Missing strings may mean that the IUCD has been expelled. If the string is missing, you should advise the woman to visit the health post or health centre in order to have a back-up method of birth control. If the woman misses a period while on an IUCD, she may need to take a pregnancy test.

## 7.5 Advantages and disadvantages

### 7.5.1 Advantages of the Copper T 380A IUCD

IUCDs are a highly effective, safe, long-acting contraceptive method. Women need to make only a single decision to use it, whereas the pill requires daily decisions, and condoms and spermicides require decisions with each act of intercourse. Although it is more expensive initially than other contraceptives, the IUCD is less costly over its years of use. Therefore, it is a cost-effective method that can be appropriate in poor countries like Ethiopia.

In addition, the IUCD is a good option for those who have to take medical precautions using hormonal methods, as there are no hormonal side effects with copper-bearing or inert IUDs. It does not interact with any medicine the client may be taking, so it is ideal for those who are taking antiepileptic or antituberculosis medications.

The IUCD is best used by those wanting a long-acting and prompt reversible method. A new device can be inserted without any gap as many times as a woman desires during her reproductive life. The Copper T 380A IUCD also helps prevent ectopic pregnancies (there is less risk of ectopic pregnancy than for women not using any family planning method).

When inserted within five to seven days of unprotected intercourse, the Copper T 380A gives good protection against unintended pregnancy (see Study Session 10, *Emergency Contraception*). Furthermore, since Copper T 380A IUCD does not affect the quantity and quality of breastmilk, it can be used by lactating women.

- What are the main advantages of using IUCDs?
  - The main advantages are as follows:
    - IUCDs are highly cost-effective long-acting contraceptives.
    - IUCDs can be used by those who are not able to use hormonal methods.
    - IUCDs do not interact with any medicines the client may be taking.
    - IUCDs are appropriate for lactating mothers as they do not affect breastmilk.

### 7.5.2 Disadvantages of the Copper T 380A IUCD

IUCDs are not suitable for all women. Using them carries the following risks:

- *Pelvic inflammatory disease (PID)*: One of the main concerns about using IUCDs is the possibility of developing PID. Both using an IUCD and being at high risk of acquiring sexually transmitted infections (STIs) make women more likely to develop PID. The greatest risk of pelvic infection associated with the use of IUCDs occurs at insertion. This increased risk of infection may be associated with a microbiological contamination of the endometrial cavity at that time.
- *Human immunodeficiency virus (HIV)*: Whether IUCDs increase the risk of acquiring HIV is not known. The effect of IUCDs on the uterine lining may create an environment favourable to HIV transmission. It is possible that the increased bleeding associated with the use of some IUCDs may increase the transmission of the virus from HIV-positive women to their partners.
- *Menstrual problems*: Increased menstrual pain (dysmenorrhoea) may accompany IUCD use. Between 10%–15% of IUCD users have their IUCD removed because of symptoms or signs associated with bleeding or spotting. However, the amount of blood is usually minor and of little consequence.
- *Expulsions*: An IUCD may come out of the uterus, possibly without the woman knowing. This is more common when the IUCD is inserted soon after childbirth, or when there are abnormal amounts of menstrual flow or severe dysmenorrhoea (painful cramps during menstruation).

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- *Pregnancy*: Half of intrauterine pregnancies that occur with the IUCD in place end in spontaneous abortion. If the IUCD is removed early in pregnancy, the spontaneous abortion rate drops to about 25%. Leaving the IUCD in place during pregnancy increases the risk that the mother will have severe pelvic infection that could lead to her death. About 5% of women who become pregnant with an IUCD in place will have an ectopic pregnancy.

## 7.6 Precautions when using IUCDs

### 7.6.1 Absolute contraindication

**Contraindication** is a term used to indicate that the administration of a drug, or the carrying out of a medical procedure, is inadvisable. Some women in your community will not be able to use IUCDs because of a medical or health condition, and you will need to advise them accordingly. Women with the following conditions are advised not to use IUCDs.

- *Current pelvic inflammatory disease (PID)*: IUCDs can worsen pelvic infections as a result of microbiological contamination during insertion. A woman having such problems should be advised to use another method.
- *Known or suspected pregnancy*: Because of its toxic effect on the fetus, IUCDs can cause abortion in pregnant women. So, if you suspect a woman is pregnant, you should not recommend an IUCD.
- *Undiagnosed irregular genital tract bleeding*: This can be due to uterine cancers. So you should refer the woman to hospital for further investigation.
- *Known allergy to any constituent of the device*: You should advise a woman with any history of allergy to IUCDs not to use the device. Help her choose a different contraceptive method.

### 7.6.2 Relative contraindication

Some clients can use IUCDs with caution. If a woman comes to you for an IUCD and she has diagnosed valvular heart disease, a past history of PID (not active PID), abnormalities of the uterus resulting in a distorted cavity, a history of ectopic pregnancy, or a lowered immune response, you should advise her to first see a doctor for further examination.

## 7.7 Side-effects and managing side-effects

IUCDs cause very few side-effects. The most common are pelvic cramping and menstrual problems, including heavy and prolonged menstrual bleeding, and intermenstrual spotting. Although abnormal bleeding and spotting are the leading reasons for women to discontinue the method, these side-effects do not usually affect their health, and generally decrease in the first few months after insertion.

One potential, though uncommon, complication of IUCD use is device expulsion, which occurs in 2–8% of women. Expulsion occurs most often in the first few months after insertion, and it is most common in young women, and women who have never given birth. The IUCD can only be expelled outward into the vagina or cervix. It cannot travel to any other part of the body. Expulsion is not dangerous for the user; however, if the IUCD is expelled, the woman is no longer protected against pregnancy because the IUCD's contraceptive effect is immediately reversible.

Although it is a rare event, uterine perforation during IUCD insertion is one of the complications which occurs in 0.5 to 1.5 per 1,000 insertions, and is associated with the level of the provider's skill and experience.

Several additional IUCD-related complications include PID and ectopic pregnancy, but a woman's risk of these is minimal, especially if she is free of STIs.

- What are two of the key disadvantages of using IUCDs? How can they be overcome?
- Uterine perforation during IUCD insertion is one of the complications which occurs in 0.5 to 1.5 per 1,000 insertions, and is associated with the level of the provider's skill and experience.

The second complication is spontaneous expulsion.

These problems can be overcome through (1) mandatory skill training for the provider to minimise the risks and (2) effective counselling to reassure the woman.

Counselling women about side-effects and their possible complications, either at the time of insertion or at subsequent follow-up visits, is essential to ensure women's satisfaction with this method.

## Summary of Study Session 7

In Study Session 7, you have learned that:

- 1 Three different types of common IUCDs are copper-bearing IUCDs (TCu-380A and MLCu-375), hormone-releasing IUDs (LNG-20 and Progestasert), and inert, or unmediated IUCDs (Lippes Loop). Copper T 380A is one of the most widely available IUCDs in many countries, including Ethiopia.
- 2 Using an IUCD can be as effective as female surgical sterilisation in preventing pregnancy, but unlike sterilisation, it is a completely reversible family planning method.
- 3 Although IUCD insertion and removal procedures are relatively straightforward, there are several separate steps to be performed in a specific sequence by a trained practitioner. These steps must be integrated with the appropriate infection prevention and counselling measures, to help ensure the safety and wellbeing of the woman.
- 4 It is recommended that women check their IUCD after each period. A shorter than normal string can be a warning sign of an embedded IUCD. Missing strings may mean that the IUCD has been expelled.
- 5 The main advantage of IUCDs is that they are a highly effective, long-acting, safe and cost-effective contraceptive method, and the client need make only a single decision to use an IUCD, compared with the daily decisions needed to take oral contraceptives.
- 6 An IUCD is also a good option for those who have medical precautions in response to hormonal methods, as there are no hormonal side effects with copper-bearing or inert IUCDs. They do not interact with any medicine the client may be taking.
- 7 Common disadvantages of IUCDs are that they require trained health personnel to insert and remove them. Also, the client needs to have a number of laboratory tests and pelvic examinations to rule out STIs, including an HIV test and a test for PID.

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- 8 IUCDs are absolutely not recommended for women who have the following health problems:
    - Current pelvic inflammatory disease
    - Known or suspected pregnancy
    - Undiagnosed irregular genital tract bleeding
    - Known allergy to any constituent of the device.
  - 9 One potential, though uncommon, complication of IUCD use is device expulsion. Expulsion occurs most often in the first few months after insertion, and it is most common in young women and women who have never given birth.
  - 10 Counselling women about common side-effects and possible complications of IUCD, either at the time of insertion or at subsequent follow-up visits, can ensure client satisfaction with the method.

## Self-Assessment Questions (SAQs) for Study Session 7

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 7.1 (tests Learning Outcomes 7.1 and 7.2)**

It is important to understand the parts of an IUCD. Make your own drawing of a Copper T IUCD, correctly labelling its parts and explaining its location in the uterus.

### **SAQ 7.2 (tests Learning Outcome 7.3)**

You have learnt that IUCDs are very effective in preventing pregnancies. Note down at least two ways in which a copper-bearing IUCD can interfere with fertilisation.

### **SAQ 7.3 (tests Learning Outcomes 7.1, 7.2, 7.3, 7.4, 7.5 and 7.7)**

Which of the following statements are *false*? In each case explain why it is incorrect.

- A Loops and Copper T IUCDs are quite different in shape and size. Moreover, when compared with T IUCDs, loops are not widely used nowadays.
- B The main purpose of the impregnated barium sulfate in an IUCD is that it interferes with fertilisation.
- C Copper-bearing IUCDs can lose their effect when inserted into a woman who is taking anti-tuberculosis medication.
- D The Copper T is a U-shaped, highly flexible device that any health professional can insert.
- E If inserted and placed appropriately, expulsion of the Copper T IUCD is rare.

**SAQ 7.4 (tests Learning Outcome 7.5)**

A woman who is currently on oral contraceptives but wants to change her method to an IUCD comes to your health post and asks for information about the advantages of using IUCDs compared with oral contraceptives. What is your response?

**SAQ 7.5 (tests Learning Outcomes 7.5, 7.6, 7.7)**

What are the advantages of IUCDs compared with oral contraceptives? You may find it helpful to refer back to Study Session 5, which covers the disadvantages and common side-effects of oral contraceptives for comparison.

Draw a table and list the disadvantages and side-effects of oral contraceptives in the left column, and try to match them against the relative advantages of IUCDs in the right column. This will help you to remember them.

**SAQ 7.6 (tests Learning Outcome 7.6)**

There are several groups of women who cannot use IUCDs at all. List them and explain why.





# Study Session 8 Barrier Contraceptive Methods

## Introduction

Barrier contraceptive methods are another type of contraceptive method used for preventing pregnancy and certain sexually transmitted infections. Various male and female barrier methods of contraception have been in use for centuries, and they are one of the oldest methods in use. They are designed to prevent the passage of sperm into the uterus during the sexual act. The success of such methods depends on the quality of the barriers, and the motivation and willingness of the couple to use the method. The male condom is the only male barrier known, while a number of different female barriers exist, such as the diaphragm, female condom and cervical cap, all of which are widely available. Spermicides are often used in conjunction with barrier methods. They are chemical barriers which can also be used on their own.

In this study session, you will learn about the various barrier methods, their types and mechanism of actions, their effectiveness of use, and the advantages and disadvantages of each.

## Learning Outcomes for Study Session 8

When you have studied this session, you should be able to:

- 8.1 Define and use correctly all of the key words printed in **bold**. (SAQs 8.1 and 8.6)
- 8.2 Describe the types of barrier contraceptives. (SAQs 8.2 and 8.6)
- 8.3 Describe the mechanism of action, use, effectiveness, advantages and disadvantages of the male condom. (SAQs 8.2, 8.3, 8.4 and 8.6)
- 8.4 Explain the use, advantages and disadvantages of the female condom. (SAQs 8.5 and 8.6)
- 8.5 Discuss the use, advantages and disadvantages of using diaphragms. (SAQ 8.6)
- 8.6 Describe the mechanism of action, effectiveness and advantages of spermicides. (SAQ 8.6)

## 8.1 Types of barriers

Barrier contraceptives are broadly classified into two main types: mechanical barriers and chemical barriers.

### 8.1.1 Mechanical barriers

**Mechanical barriers** are devices that provide a physical barrier between the sperm and the egg. Examples of mechanical barriers include the male condom, female condom, diaphragm, cervical cap, and sponge. The condom is the only contraceptive method that helps prevent sexually transmitted infections (STIs).

## 8.1.2 Chemical barriers

**Chemical barriers** or **spermicides** are sperm-killing substances, available as foams, creams, gels, films or suppositories, which are often used in female contraception in conjunction with mechanical barriers and other devices. Spermicides are usually available without a prescription or medical examination.

## 8.2 The male condom

The male condom is one of the most widely used barrier methods in the world. In Ethiopia, it has perhaps been the only barrier method ever known and used. Thus, in this study session, more emphasis will be given to the male condom than to any other barrier method and you will learn about it in detail.



Figure 8.1 ‘Use condoms correctly and consistently.’ (Photo: Ali Wyllie)

### 8.2.1 Mechanism of action

A **male condom** is a covering made to fit over a man’s erect penis. It can also be called a rubber, sheath or skin, and is known by many different brand names. It works by providing a barrier between partners during sexual intercourse, so that bodily fluids, such as semen and blood, are not shared. As a result, pregnancy and reproductive tract infections (RTIs), including human immunodeficiency virus (HIV), and acquired immunodeficiency syndrome (AIDS), can be prevented. Most condoms are made of thin latex rubber. Some condoms are coated with a dry lubricant or with spermicide. Different sizes, shapes, colours and textures are common.

### 8.2.2 Effectiveness






Condoms can be very effective in preventing pregnancy when used consistently *and* correctly. The pregnancy rate for couples who use condoms every time they have intercourse is estimated to be 3% per first year of use.

Condoms also help prevent sexually transmitted diseases (STDs or STIs). During sexual intercourse, condoms can stop the sexual transmission of many diseases, including gonorrhoea, syphilis, chlamydia, HIV/AIDS and trichomoniasis (refer to your *Communicable Diseases* Module).

### 8.2.3 How to use a male condom

In this section, you will learn how a male condom is used. Table 8.1 shows you the basic steps. You can learn how to demonstrate it using wooden models or toys. You need to practise it on your own, or aided by your mentor, so that you can demonstrate it to any client in your community. Eventually, you will need to ask your client to demonstrate it back to check that the process has been understood.

Table 8.1 Five basic steps when using a male condom. (Source: *Family Planning: A Global Handbook for Providers*, WHO, 2007, p.203)

Steps	Description	Illustration
1 Use a new condom for each sex act.	Check the condom package. Do not use the condom if it is torn or damaged. Avoid using an expired condom. Do so only if a newer condom is not available. Tear and open the package carefully. Do not use fingernails, teeth, or anything that can damage the condom.	
2 Before any physical contact, place the condom on the tip of the erect penis with the rolled side out.	For the best protection, put the condom on before the penis makes any genital contact.	
3 Unroll the condom all the way to the base of the erect penis.	The condom should unroll easily. Forcing it on could cause it to break during use. If the condom does not unroll easily, it may be on backwards, be damaged, or be too old. Throw it away and use a new condom. If the condom is on backwards and another one is not available, turn it over and unroll it onto the penis.	
4 Immediately after ejaculation, hold the rim of the condom in place and withdraw the penis while it is still erect.	Withdraw the penis. Slide the condom off, avoiding spilling semen. If having sex again, use a new condom.	
5 Dispose of the used condom safely.	Wrap the condom in its packaging and put it in the rubbish or latrine. Keep it away from the reach of children.	

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## Condom failure

Condoms are used around the world by unmarried and married couples. All users are not equally expert in handling condoms. Therefore, do not assume that the client knows how to correctly use a condom, regardless of past experience. There is always a chance that male condoms could break or slip during sex. The most common causes of **condom failure** are breakage and slipping. To prevent a condom from breaking due to dryness, the user has to make sure there is enough lubrication from natural secretions, or use a **water-based lubricant**. A water-based lubricant is a jelly-like lubricant made of water, e.g. KY jelly. Oil-based lubricants can cause condoms to break.

To keep a condom from slipping off, the user should be certain that the rim stays near the base of the penis during intercourse. This is especially important at the end of intercourse as the penis is withdrawn. See Box 8.1 for mistakes commonly made by condom users, and what important messages to tell your clients about handling condoms.

### Box 8.1 Common mistakes and important messages for condom users

The five most common mistakes are:

- 1 Not having a condom when needed.
- 2 Starting intercourse without a condom on the penis, then interrupting intercourse to put on the condom (or deciding not to use the condom at all).
- 3 Tearing the condom with a fingernail.
- 4 Not holding the rim of the condom when withdrawing the penis from the vagina, causing condom slippage and leakage.
- 5 Forgetting to use the condom altogether.

#### IMPORTANT

Clients need to be informed that:

- 1 They should not use two condoms at once. Placing two male condoms on a penis can raise the chance of tearing.
- 2 Used condoms should be thrown away after each sex act.
- 3 Male condoms and female condoms should not be used at the same time.
- 4 The condom must be used from ‘start to finish’ with *every* act of intercourse.

## 8.2.4 Advantages and disadvantages of male condoms

### Advantages

When used consistently and correctly with every act of sexual intercourse, male condoms can prevent pregnancy and STDs, including HIV/ AIDS. They are safe, and have no hormonal side-effects. They can be stopped at any time, and fertility returns shortly after each use. They are very easy to find and use without seeing a healthcare provider first. Moreover, men of any age can use

them, and using a condom enables a man to take responsibility for preventing pregnancy and sexually transmitted infections.

### Disadvantages and side-effects

Condoms do have some disadvantages. The common ones are as follows:

- Women have to rely on the man's cooperation to protect themselves from pregnancy and disease.
- Some people connect condoms with immoral sex, sex outside marriage, or sex with prostitutes, and do not want to use them.
- Some people are too embarrassed to buy, ask a partner to use, put on, take off, or throw away condoms.
- Latex condoms may cause itching for a few people who are allergic to latex and/or lubricants.
- There is a small possibility that a condom will slip off during sex.
- Condoms can weaken and may break during use if stored for too long or in too much heat, sunlight or humidity, or if used with oil-based lubricants, such as vaseline or edible oils.

## 8.3 The female condom

### 8.3.1 Mechanism of action

A **female condom** is a thin, loose-fitting and flexible plastic tube worn inside the vagina. It has inner and outer rings (Figure 8.2). A soft ring at the closed end of the tube covers the cervix during intercourse and holds it inside the vagina. Another ring at the open end of the tube stays outside the vagina and partly covers the lip area. The female condom helps protect partners from pregnancy and STIs, including HIV/AIDS. It is the only female-controlled device offering this protection. Like the male condom, the female condom provides a barrier between partners during sexual intercourse, to prevent the sharing of bodily fluids, like semen and blood. This ensures that pregnancy does not occur, and STIs are not transmitted.



Figure 8.2 Female condom. (Source: *Family Planning: A Global Handbook for Providers*, WHO, 2007, p.212)

### 8.3.2 How to use a female condom

Female condoms can be inserted up to 8 hours before intercourse, and are only effective when placed prior to intercourse. At first, female condoms can be uncomfortable to use, but they become easier with practice. Note that a female condom and a male condom should not be used at the same time,



Male and female condoms should not be used at the same time, as the resulting friction may lead to slipping or tearing.

because this can cause friction that may lead to slipping or tearing of the condoms.

To insert the condom (Figure 8.3), the woman has to squeeze the ring at the closed end of the tube. She can use her other hand to spread the outer lips, and insert the squeezed condom into the vaginal canal. The inner ring should be pushed just past the pubic bone and over the cervix.

After insertion, she has to make sure the condom is not twisted. About one inch of the open end will stay outside the body. The outer ring of the female condom needs to be held in place during intercourse. After intercourse, she has to squeeze and twist the outer ring to keep all fluids, including sperm, inside the condom, and gently pull it out and throw it away.



Figure 8.3 How to insert a female condom. (Source: *Family Planning: A Global Handbook for Providers*, WHO, 2007, p.214)

### 8.3.3 Advantages and disadvantages of female condoms

#### Advantages

Female and male condoms have many advantages in common. However, the following advantages are specific to female condoms:

- Unlike the male condom, erection is not necessary to keep the condom in place.
- Female condoms do not reduce a male partner's stimulation.
- Female condoms can be used by people who are known to be sensitive to latex because, while most male condoms are made of latex, female condoms are made of plastic, which rarely causes an allergic reaction.

#### Disadvantages

These are the most common disadvantages of the female condom:

- Female condoms make a noticeable sound during sexual intercourse.
- It is sometimes difficult to insert or use, and some women can have difficulty on the first attempt at self-insertion.



- It can break or leak.
- It is much more expensive than a male condom.

## 8.4 The diaphragm

### 8.4.1 Mechanism of use

Although this barrier method is not common in Ethiopia, it is helpful for you to learn about some of the basics of the diaphragm. The **diaphragm** is a small dome-shaped latex cup with a flexible ring that fits over the cervix. The cup acts as a physical barrier against the entry of sperm into the uterus. A diaphragm is usually used along with spermicide.

### 8.4.2 Effectiveness

The diaphragm has a relatively high failure rate, about 16% over the first year of use. However, it is considered a good choice by women whose health or lifestyle prevents them from using more effective hormonal contraceptives.

### 8.4.3 How to insert a diaphragm

During the fitting process, a fitting ring is inserted into the vagina. The largest ring that fits comfortably is usually the size chosen. Diaphragms can be inserted up to two hours before sex, because spermicide is only effective for two hours. If the woman inserts her diaphragm more than two hours before intercourse, she will have to insert more spermicide into her vagina later (see Box 8.2 for guidelines). As a general rule, diaphragms should be replaced every one to two years.

#### Box 8.2 Guidelines for diaphragm insertion

- Before or after each use, the woman should hold the diaphragm up to the light, or fill it with water, to check for holes, tears or leaks.
- A small amount of spermicide (about one tablespoon) is usually placed inside the cup, and some is smeared around the lip of the cup.
- The device is then folded in half and inserted into the vagina by hand, or with the assistance of a plastic inserter.
- The diaphragm should fit over the cervix, blocking entry to the uterus.
- If more than six hours pass before repeat intercourse occurs, the diaphragm can be left in place, and extra spermicide inserted into the vagina using an applicator.
- The diaphragm must remain in the vagina for six to eight hours after the final act of intercourse, and can safely stay there up to 24 hours after insertion.
- The diaphragm should be washed with soap and warm water after each use, and then dried and stored in its original container, which should be kept in a cool dry place.

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## 8.4.4 Advantages and disadvantages of the diaphragm

### Advantages

The diaphragm can be carried in a purse, can be inserted up to two hours before intercourse begins, and usually cannot be felt by either partner. It also does not interfere with a woman's hormones.

### Disadvantages and complications

Common complications when using a diaphragm are that some women dislike having to insert the device every time they have intercourse, or have trouble mastering the insertion and removal process. The diaphragm can also be dislodged during sex and the failure rate is high, about 16%. Additionally, the diaphragm does not protect against STIs. Frequent urinary tract infections and vaginal infections can be a problem for some women when using a diaphragm.

## 8.5 Spermicides

### 8.5.1 Mechanism of use

**Spermicides** are sperm-killing chemicals inserted deep into the vagina, near the cervix, before sex. They are available in foaming tablets, melting or foaming suppositories, melting film, jelly and cream. Jellies, creams and foam from cans can be used on their own, with a diaphragm, or with condoms. Films, suppositories, foaming tablets or foaming suppositories can be used on their own or with condoms.

### 8.5.2 Effectiveness of spermicides

They work by causing the membrane of the sperm cells to break, killing them or slowing their movement. This keeps the sperm from meeting the egg.

Spermicides are one of the least effective family planning methods, with a 29% chance of pregnancy, and as with other methods effectiveness depends on the user. Risk of pregnancy is greatest when spermicides are not used with every act of sex. In general, spermicides may be an appropriate choice for women who need back-up protection against pregnancy (for instance, if they forget to take their birth control pills). Spermicides should not be used alone as the primary method of birth control.

### 8.5.3 Advantages and disadvantages of spermicides

Spermicides are safe to use. They are a female-controlled method that almost every woman can use without the need to consult a healthcare provider first. They can increase vaginal lubrication, so that vaginal dryness and friction will be minimised. They are much easier to use with a little practice and can be stopped at any time. They have no hormonal side effects. Unfortunately they are one of the least effective methods on their own.



Spermicides should not be used alone as the primary method of birth control.

## Summary of Study Session 8

In Study Session 8, you have learned that:

- 1 Barrier contraceptives are broadly classified into two types: mechanical barriers and chemical barriers. Mechanical barriers are devices that provide a physical barrier between the sperm and the egg while chemical barriers are known as sperm-killing substances or spermicides.
- 2 The male condom is the main barrier method for men. It is a sheath that fits over the penis. It works by creating a barrier between partners so that bodily fluids, such as semen and blood, are not shared.
- 3 Condoms can be very effective in preventing pregnancy and STDs when used consistently *and* correctly.
- 4 The most important message to tell your client is that the condom must be used from 'start to finish' with *every* act of intercourse to effectively prevent pregnancy and STIs.
- 5 One of the advantages of male condoms is that men of any age can use them, and using condoms enables a man to take responsibility for preventing pregnancy and diseases.
- 6 The disadvantage of using male condoms is that a man's cooperation is needed for a woman to protect herself from pregnancy.
- 7 A female condom provides a barrier between partners to prevent sharing bodily fluids like semen and blood. This ensures that STIs are not passed on, and that pregnancy does not occur. It is also the only female-controlled device offering this protection.
- 8 The female condom is useful because, unlike the male condom, erection is not necessary to keep the condom in place.
- 9 The diaphragm is a small dome-shaped latex cup with a flexible ring that fits over the cervix. The cup acts as a physical barrier against the entry of sperm into the uterus. A diaphragm is usually used along with a spermicide.
- 10 Spermicides are sperm-killing substances which work by causing the membrane of sperm cells to break, killing them or slowing their movement. This keeps the sperm from meeting an egg.

## Self-Assessment Questions (SAQs) for Study Session 8

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

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**SAQ 8.1 (tests Learning Outcome 8.1)**

What is the major difference between mechanical barriers and chemical barriers? In what circumstances is each most effective?

**SAQ 8.2 (tests Learning Outcomes 8.2, 8.3)**

You have already learnt that condoms have a number of advantages. Discuss the unique advantage that they have over other contraceptive methods.

**SAQ 8.3 (tests Learning Outcome 8.3)**

Counselling on the use of contraceptives is one of the services that you need to provide. During counselling, a client asks whether a male condom can be used more than once. She also asks if it can be used with the female condom, and if using two male condoms (one of top of the other) gives better protection. What are the key messages you should pass on?

**SAQ 8.4 (tests Learning Outcome 8.3)**

What is the most common reason for breakage of a male condom? What can a couple do about it?

**SAQ 8.5 (tests Learning Outcome 8.4)**

Sometimes, using a female condom is more advantageous for the woman than relying on a male partner to wear a condom. Why? Give your reasons.

**SAQ 8.6 (tests Learning Outcomes 8.1, 8.2, 8.3, 8.4, 8.5 and 8.6)**

Which of the following statements is *false*? In each case explain why it is incorrect.

- A Using male and female condoms at the same time gives more protection against pregnancy and STIs.
- B Wearing two condoms at a time can't prevent breakage.
- C In order to prevent dryness and friction during sexual intercourse, you have to put on edible oil and vaseline.
- D The diaphragm is one of the least effective birth control methods. Besides, it cannot protect against STIs.
- E Spermicides can be used alone as a primary protection against pregnancy.
- F The mechanisms of action of both male and female condoms are the same, in that both provide a physical barrier between partners so that body fluids, such as semen and blood, are not shared.
- G Men should wait for the penis to become erect before they can safely wear a condom. This is not necessary for women, however.

# Study Session 9 Permanent Family Planning Methods or Voluntary Surgical Contraception (VSC)

## Introduction

Sterilisation is the most effective, and one of the most widely used contraceptive methods available worldwide. It is often the best contraceptive choice when desired family size has been achieved. Both tubal ligation in women, and vasectomy in men, are one-time procedures that are safe, inexpensive and relatively straightforward to do for a trained person. Sterilisation does not require constant use of a contraceptive method, regular visits to health facilities or repeated expenditure on contraceptive supplies. Although sterilisation procedures usually demand a greater investment in skill, training and equipment than temporary methods of contraception, they provide lifelong protection against pregnancy, and are therefore more cost-effective. Since voluntary surgical contraception (VSC) procedures are almost always irreversible, clients require effective counselling before making any decision.

In this study session, you will learn about the definitions, mechanism of action of VSC, techniques of sterilisation, and the advantages and disadvantages of female and male sterilisation.

## Learning Outcomes for Study Session 9

When you have studied this session, you should be able to:

- 9.1 Define and use correctly all of the key words printed in **bold**. (SAQ 9.7)
- 9.2 Describe how to counsel on VSC methods. (SAQs 9.1, 9.6 and 9.7)
- 9.3 Explain the mechanism of action of VSC methods. (SAQs 9.2, 9.3, 9.4 9.5 and 9.7)
- 9.4 List and discuss the types of VSC methods. (SAQs 9.4 and 9.5)
- 9.5 Describe the techniques of sterilisation. (SAQ 9.7)
- 9.6 Explain the advantages and disadvantages of sterilisation for both sexes. (SAQs 9.5 and 9.7)

### 9.1 Mechanism of action

**Voluntary surgical contraception (VSC)** is a permanent family planning method, which involves female sterilisation or male sterilisation. In women, the process is called fallopian tube ligation or **tubal ligation**, and involves mechanically blocking the fallopian tubes by cutting them to prevent the sperm from reaching the egg. In men, **vasectomy** involves blocking the *vasa deferentia*, or sperm ducts, to prevent the passage of sperm into the semen, so that fertilisation and pregnancy during sexual intercourse cannot occur. You will see diagrams illustrating these procedures later in this study session.

## 9.2 Counselling for sterilisation

Sterilisation is a permanent method of contraception. Once the surgery has been performed, the individual cannot simply change his or her mind. A number of circumstances, usually hard to predict, may lead users to regret that the sterilisation procedure was performed, for example losing their children, getting divorced or remarried, or wishing for additional children.

Make certain that your client(s) correctly understand the procedure and its consequences. You must tell the client that VSC is irreversible. Once the client has undergone VSC it is extremely difficult for him/her to reverse the procedure and have more children. You can use the 'BRAIDED' concept for successful counselling, which you covered in Study Session 3.

The main questions you should ask during a VSC counselling session are covered in Study Session 3, Box 3.1. Be sure to question your client sensitively to find out their concerns about VSC (see Figure 9.1).



Figure 9.1 Take time and think twice before deciding on VSC. (Source: *Family Planning: A Global Handbook for Providers*, WHO, 2007, p.173)

## 9.3 Techniques of sterilisation

There are a number of simple and safe techniques for male and female sterilisation (see Figure 9.2) that can be carried out usually as outpatient procedures in hospitals. Most clients will be able to go home on the same day, as post-operative problems are not common. Pre-operative preparation, which includes counselling, is extremely important to ensure the willingness of the client, and to minimise fears and regret.

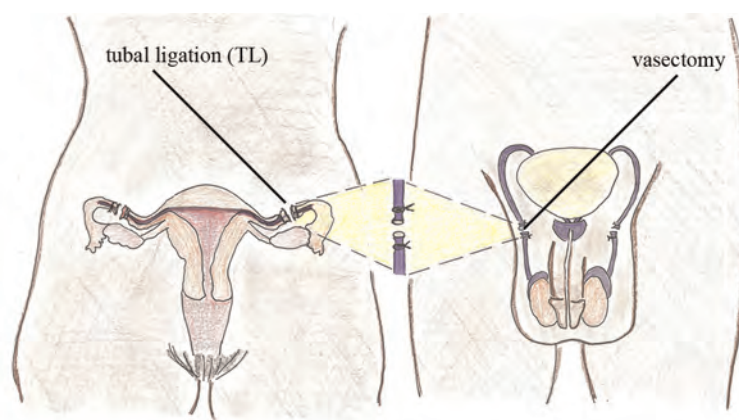


Figure 9.2 Female and male sterilisation.



## 9.4 Female sterilisation

Female sterilisation is a surgical intervention that provides permanent contraception for women who do not want any more children. It is a safe and simple surgical procedure. Female sterilisation is also known as Tubal Ligation (TL), or ‘tying the tubes’, as well as VSC. TL is the procedure most commonly done in Ethiopia.

### 9.4.1 Procedure

**Tubal ligation** (TL) is a surgical sterilisation technique for women, where the fallopian tubes are cut, or blocked with rings, bands or clips. This procedure closes the fallopian tubes, and stops the egg from travelling to the fallopian tubes where fertilisation takes place. It also prevents sperm from travelling up the fallopian tube to fertilise an egg (see Figure 9.3 for details). Sterilisation is effective immediately after the procedure. Tubal ligations are 99.5% effective as a birth control method.

- When is it most appropriate for women to choose a permanent contraceptive method?
- Female sterilisation is ideal for women who are certain that they wish to have no further children, and who need a reliable contraceptive method. It is also an appropriate choice for those for whom subsequent pregnancy may have an undesirable effect on their maternal or child health.

In Ethiopia, tubal ligation is a relatively simple outpatient procedure that has to be done in a hospital. It can be performed under local or general anaesthetic. Minilaparotomy, which involves making small incisions in the lower abdomen, is one of the techniques used in female sterilisation.

After surgery, it is recommended that women take two to three days off and only perform light activities for a week. Sexual activity can start again when a woman feels comfortable, usually after a week. With regard to future fertility, tubal ligation is considered a permanent method of birth control. Surgery to reverse a tubal ligation is not always effective. In addition, reversals are both difficult and expensive.

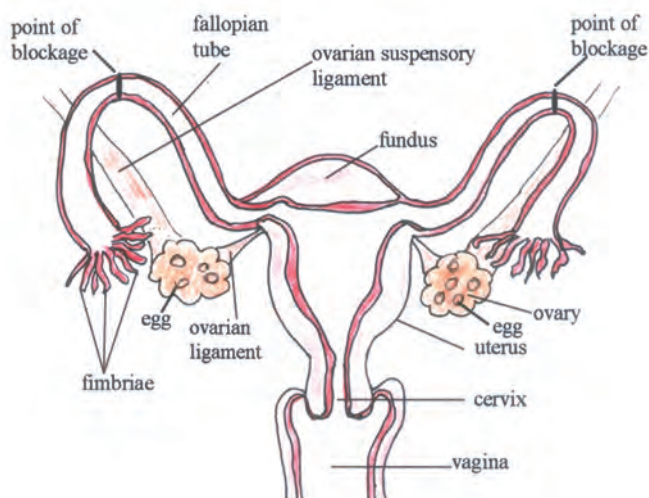


Figure 9.3 Tubal ligation.



## 9.4.2 Sexuality

Women are fully able to enjoy sex after a tubal ligation. Usually, hormone levels and a woman's menstrual cycle are not affected by sterilisation. The ovaries continue to release eggs, but they remain in the fallopian tubes and are re-absorbed by the body. Some women experience improved sexual pleasure, because they are less worried about becoming pregnant.

## 9.4.3 Advantages and disadvantages

The advantages and disadvantages of sterilisation for women are summarised in Table 9.1. Being aware of these can help you provide effective counselling to your clients.

Table 9.1 Key advantages and disadvantages of female sterilisation.

Advantages	Disadvantages
<ul style="list-style-type: none"><li>• Permanent birth control.</li><li>• Immediately effective.</li><li>• Requires no daily attention.</li><li>• Cost-effective in the long term.</li><li>• Does not affect sexual pleasure.</li></ul>	<ul style="list-style-type: none"><li>• Requires surgery and has risks associated with surgery.</li><li>• More complicated than male sterilisation.</li><li>• May not be reversible, resulting in possible regret</li><li>• Does not protect against sexually-transmitted infections (STIs), including HIV/AIDS.</li></ul>

## 9.5 Male sterilisation

**Vasectomy** is a permanent method of contraception for men, involving a minor surgical procedure where the *vasa deferentia* (singular: *vas deferens*), or sperm ducts, are cut and then tied or sealed (see Figure 9.4 on the next page). This operation keeps sperm from mixing into the semen when men ejaculate. Without sperm, fertilisation of an egg cannot occur, and so pregnancy is prevented. In Ethiopia, vasectomies are usually done in hospital settings under aseptic (surgically clean) conditions. They are much simpler procedures than female sterilisation, and as a birth control method vasectomies are 99.9% effective.

- Is vasectomy the same as castration? How would you explain this to your clients?
- No. As you have already learnt, vasectomy is a surgical intervention to the sperm ducts that prevents sperm from reaching and mixing with the seminal fluid ejaculated during sexual intercourse. The procedure does not remove the testicles, and should not be confused with castration. In any discussion with clients, you might want to use appropriate and socially acceptable words in the local language, to best explain what is happening technically.

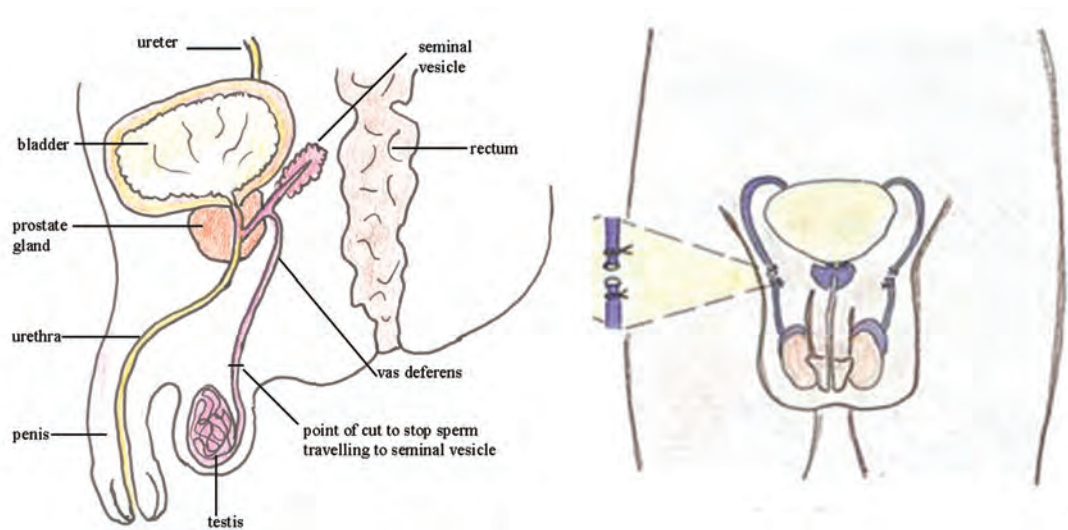


Figure 9.4 Male sterilisation.

### 9.5.1 Procedure

During a vasectomy local anaesthetic is used. The healthcare provider makes a small opening in the skin of the scrotum. This allows the sperm tubes, or *vasa deferentia*, to be seen and cut. The procedure itself takes about 15 minutes.

Men usually rest at the hospital after the procedure. When they return home, ice packs and painkillers can ease swelling and discomfort. It is recommended that men take two days' rest, and perform only light activities for a week. For two days, it is helpful to wear scrotal supports and not take a bath. It may take a week for men to feel comfortable and ready for sexual activity.

Vasectomies are not immediately effective after the operation. The sperm which was in the tubes before the operation still needs to be ejaculated. This may take about a month, or 10–30 ejaculations. Therefore, it is important to use other forms of birth control until the remaining sperm are cleared from the tubes.

Similar to tubal ligation, vasectomy is a permanent sterilisation technique. In developed countries, reversal surgery is available, but not always effective. The reversal procedure rejoins the cut ends of the *vas deferens*, but it is not always successful.



Vasectomies are not immediately effective. The sperm which was in the tubes before the operation still needs to be ejaculated.

### 9.5.2 Sexuality

Men are able to fully enjoy sex after having a vasectomy. Hormonal levels and the feeling of orgasm stay exactly the same. In addition, the amount of fluid men ejaculate does not noticeably change. Some men experience improved sexual pleasure, because they no longer have to worry about making their partner pregnant.

### 9.5.3 Advantages and disadvantages

The advantages and disadvantages of sterilisation for men are summarised in Table 9.2 (on the next page). Knowing these will help you provide effective counselling to your community.

Table 9.2 Key advantages and disadvantages of male sterilisation.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Permanent birth control.</li> <li>• Requires no daily attention.</li> <li>• Does not affect sexual pleasure.</li> <li>• Less complicated than female sterilisation.</li> </ul>	<ul style="list-style-type: none"> <li>• Not immediately effective.</li> <li>• Requires minor surgery in a hospital.</li> <li>• May not be reversible.</li> <li>• Possible regret.</li> <li>• Possible rejoining of the <i>vas deferens</i>.</li> <li>• Does not protect against STIs, including HIV/AIDS.</li> </ul>

## Summary of Study Session 9

In Study Session 9, you have learned that:

- 1 Both male and female sterilisation can be carried out using local anaesthesia with light sedation under strict aseptic conditions and practices to avoid infection.
- 2 The pre-operative counselling process is very important. You need to tell the client that VSC is almost always irreversible. Therefore, once the client has undergone the procedure, it will be very difficult for them to have children again. Additionally, you need to make sure that the decision for or against sterilisation is made by the client and is not pressured or forced on them by anyone else.
- 3 Tubal ligation is the female sterilisation procedure which involves blocking the fallopian tubes to prevent the egg from travelling down the tubes to where fertilisation takes place. It also prevents sperm from moving up the fallopian tubes to fertilise an egg.
- 4 Women are able to fully enjoy sex after a tubal ligation. Some women experience improved sexual pleasure because they are less worried about becoming pregnant.
- 5 Vasectomy is a permanent method of contraception for men, involving a minor surgical procedure where the *vasa deferentia*, or sperm ducts, of a man are cut and then tied to prevent the sperm from mixing into the semen when men ejaculate.
- 6 The sperm that were already in the *vasa deferentia* before the operation need to be ejaculated in order for the vasectomy to be effective. This may take about a month, or 10–30 ejaculations.
- 7 One of the major advantages of VSC is that it is a permanent birth control method, and cost-effective in the long run.

## Self-Assessment Questions (SAQs) for Study Session 9

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

**SAQ 9.1 (tests Learning Outcome 9.2)**

A 23-year-old, unmarried man has come to your health post to get information on permanent contraceptive methods. At the moment he is not sure whether he would like to have children in the future.

What would you tell him concerning VSC?

**SAQs 9.2 to 9.5**

These SAQs are based on Figures 9.3 and 9.4 in this study session. You may also find it helpful to refer to Study Session 3 in the *Antenatal Care* Module.

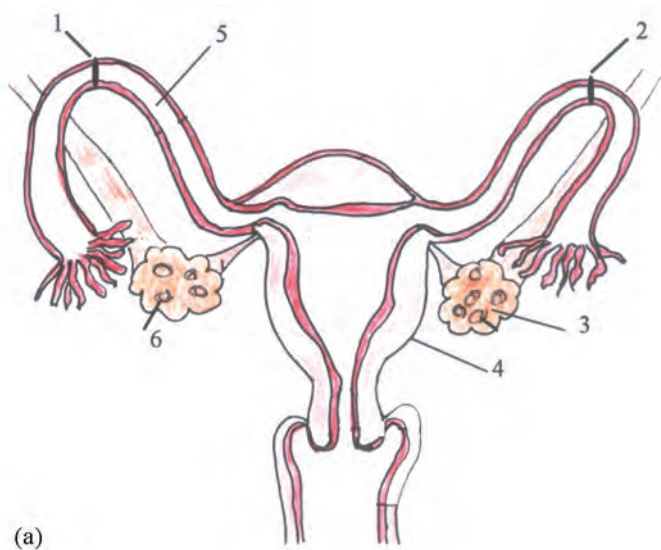


Figure 9.5(a) for SAQs 9.2 to 9.4.

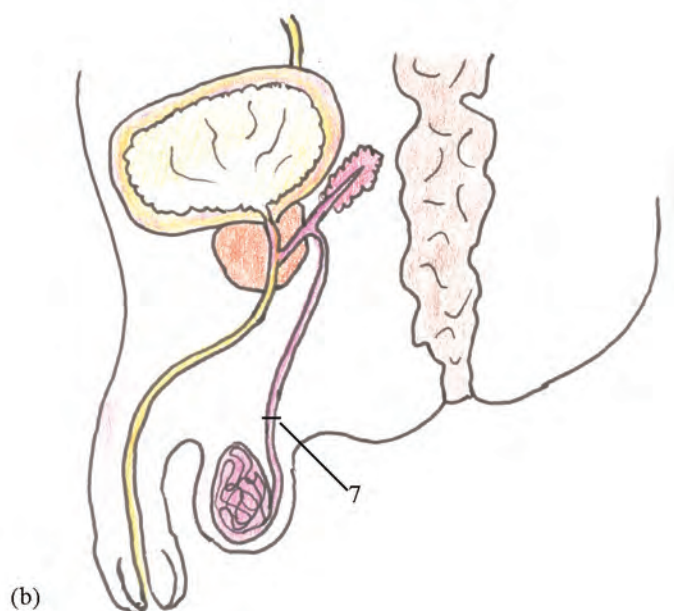


Figure 9.5(b) for SAQ 9.5.

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**SAQ 9.2 (tests Learning Outcome 9.3)**

Name structures 4 and 5 in Figure 9.5(a) and describe their function with regard to fertilisation.

**SAQ 9.3 (tests Learning Outcome 9.3)**

What will happen if structures 1 and 2 in Figure 9.5(a) are blocked?

**SAQ 9.4 (tests Learning Outcome 9.3)**

What will happen to 6 if the pathway is blocked at 1 and 2 in Figure 9.5(a)?

**SAQ 9.5 (tests Learning Outcomes 9.3, 9.5 and 9.6)**

Discuss the advantages and disadvantages of blocking structure 7 in Figure 9.5(b)?

**SAQ 9.6 (tests Learning Outcome 9.2)**

Why is effective counselling important before carrying out male or female sterilisation?

**SAQ 9.7 (tests Learning Outcomes 9.1, 9.2, 9.3, 9.4, 9.5 and 9.6)**

Which of the following statements is *false*? In each case explain why it is incorrect.

- A Cutting the fallopian tubes would be enough to sterilise women.
- B Cutting and tying both ends of the sperm ducts does not have an immediate effect on male sterilisation. Therefore, an alternative contraceptive method must be used for at least a month after the procedure.
- C Many clients assume that cutting the sperm duct is castration.
- D Operating on the fallopian tubes in women, and the sperm ducts in men, is very simple and can be done at health-post level.
- E Both men and women who have undergone VSC will lose their sexual desire and enjoyment.

# Study Session 10 Emergency Contraception (EC)

## Introduction

Sometimes sexual intercourse takes place without the intention of the woman and she is then at risk of becoming pregnant. In many developing countries, including Ethiopia, many pregnancies are unintended and unwanted, despite there being highly effective and safe methods of contraception. These unintended or unwanted pregnancies may carry a higher risk of morbidity and mortality for women, often due to the risk of unsafe abortions. Many of these unplanned pregnancies could have been avoided by using emergency contraception. It is a fact that emergency contraception can help women by providing the last opportunity to prevent pregnancy after unprotected sex.

In this study session, you will learn about the definitions, types and mechanism of action, effectiveness, advantages and disadvantages, precautions, side effects, and management of side effects, in relation to emergency contraception (EC).

## Learning Outcomes for Study Session 10

When you have studied this session, you should be able to:

- 10.1 Define and use correctly all of the key words printed in **bold**. (SAQ 10.1 and 10.2)
- 10.2 Describe the types, effectiveness and precautions of emergency contraception (EC). (SAQs 10.2, 10.3, 10.6 and 10.7)
- 10.3 Describe the advantages and disadvantages of EC. (SAQs 10.3 and 10.6)
- 10.4 Explain the management of common side-effects of EC. (SAQs 10.5 and 10.7)

### 10.1 Definition of emergency contraception (EC)

**Emergency contraception (EC)** is a method used to prevent unwanted pregnancy, and is usually effective up to five days following unprotected sexual intercourse. **Unprotected sexual intercourse** means that either the woman did not use any contraceptive method to prevent pregnancy, or the birth control method failed (for example, a condom broke, Figure 10.1). The use of emergency contraception should be the last option for a woman who has experienced accidental and unprotected sexual intercourse, or whose birth control method has failed, or for whom abortion is not acceptable or accessible.

Emergency contraception can involve the use of either hormonal pills, or a copper-bearing intrauterine contraceptive device (IUCD). However, neither method is a substitute for the correct use of other regular contraceptives. See Box 10.1 (on the next page) for a summary of situations where emergency contraception can be appropriate.



Fig 10.1 I had sex, but the condom broke. What shall I do?



Emergency contraception can prevent 95% of expected pregnancies, providing it takes place within the first 24 hours after intercourse.

### Box 10.1 Situations when emergency contraception is appropriate

Emergency contraception can be appropriate:

- in cases where the woman has not used contraception
- in cases where sex has been forced or coerced, or the woman has been raped
- when a woman must deal with a contraceptive mistake, such as a condom breaking or used incorrectly, an IUCD dislodging, a diaphragm removed too early, or the man failing to withdraw before ejaculation.

## 10.2 Types of emergency contraception

In an emergency situation there are two major types of emergency contraceptive methods available:

- Hormonal methods, known as emergency contraceptive pills (ECPs)
- Copper-bearing intrauterine contraceptive devices (IUCDs).

### 10.2.1 Emergency contraceptive pills

Be aware that this contraceptive method is not for regular use, but intended only for emergency situations.

**Emergency contraceptive pills** (ECPs) are hormonal methods of contraception that can be used to prevent pregnancy following unprotected sexual intercourse. Some women call this method ‘morning-after pills’ or ‘post-coital pills’.

ECPs contain the same concentrated dose of hormones found in daily contraceptive pills. You will remember from your study session on oral contraceptives that these comprise combined pills containing oestrogen and progesterone, and pills containing progesterone only.

The exact mechanism by which emergency contraceptive pills prevent pregnancy is not completely understood. But the principles behind the mechanism of action are summarised in Box 10.2.

### Box 10.2 Mechanism of action of emergency contraceptive pills

Emergency contraceptive pills work in a number of different ways:

- If the ovaries have not yet released an egg (ovulation), they can stop or slow down this process (called the suppression of ovulation).
- If an egg has already been released, they can stop sperm from fertilising it by thickening the cervical mucus to make it difficult for sperm penetration.
- If an egg has already been released and been fertilised, they can prevent it from implanting in the uterus wall by thinning the endometrial lining of the uterus.



If a woman is already pregnant when she uses ECPs, they will not cause an abortion, or any disruption to the fertilised egg, once implantation has taken place. So they do not affect an existing pregnancy.

Women who take ECPs should understand that they could still become pregnant the next time they have sex, unless they immediately start using another method of contraception. This is because ECPs delay ovulation in some women, so they may be at their *most fertile* soon after taking ECPs. You should therefore advise women that they use condoms until the beginning of their next menstrual period. For ongoing protection from pregnancy, they must start using another contraceptive method at once.

### Combined emergency contraceptive pills

**Combined emergency contraceptive pills** are formulations of oestrogen (commonly ethinyl estradiol) and progesterone (commonly levonorgestrel or norgestrel). There are two common types of combined emergency contraceptives available in Ethiopia, and it is recommended that they be taken within five days following unprotected sexual intercourse.

- 1 The Neogynone pill contains 50 µg ethinyl estradiol and 0.5 mg norgestrel. You give two pills as the first dose as soon as convenient within five days (120 hours) after unprotected sexual intercourse. The second dose of the two pills should be after 12 hours. This is a total of four pills within a 12-hour period. µg means 'microgram'.
- 2 The Eugynon pill contains 30 µg ethinyl estradiol and 0.3 mg norgestrel. You give four pills as the first dose within five days (120 hours) after unprotected sexual intercourse, and another four pills after 12 hours as a second dose. This is a total of eight pills within a 12 hour interval.

### Progestin-only pills

The **progestin-only** or levonorgestrel pill has less effect than the combined one, but has fewer side-effects. The timing of the pill is the same as above.

- 1 The Postinor pill contains 0.75 mg levonorgestrel. You give one pill as a first dose within five days (120 hours) of unprotected sexual intercourse, and the second dose of one pill should be repeated 12 hours after the first dose.
- 2 If the only pill available is Microlut or Norgeston, which only contain 0.03 mg Levonorgestrel, then give 20 pills for the first and the second dose, each dose 12 hours apart, so a total of 40 pills are needed.

### Effectiveness and precautions

The effectiveness of emergency contraceptive pills is dependent on the time taken after incidental unprotected sexual intercourse. If the client takes emergency contraception within five days (120 hours) of unprotected sexual intercourse, it can be as effective as 75% to 89% (WHO, 2007).

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This range indicates to you that the sooner you give the pills to your client the better chance they have of preventing pregnancy. The pills work most effectively if started immediately after unprotected sexual intercourse, and work even more effectively if unprotected sex happened during the infertile days of the woman's menstrual cycle.

- Can a woman still get pregnant after taking emergency contraceptive pills?
- Yes, this method may fail to prevent pregnancy in the following situations:
  - If the fertilised egg has already implanted in the uterus, because hormonal ECPs do not cause abortion.
  - If too much time has passed since unprotected sexual intercourse.
  - Because of the failure of the pill itself, as no method is 100% effective under all circumstances.

If the client has used emergency contraceptive pills and has not menstruated for a week or more after the expected date of menstrual bleeding, she may be pregnant. You should refer her for a pregnancy test to confirm the pregnancy. If the client is pregnant, you can explain to her the available options, and ask her to decide on the most appropriate option for her situation. If the client chooses to continue with the pregnancy, you can reassure her that emergency contraceptive pills will not have harmed the fetus.

### 10.2.2 Intrauterine contraceptive devices (IUCDs)

A **copper-bearing IUCD** can be used within five days of unprotected sexual intercourse as an emergency contraceptive. If you remember from Study Session 4 on Natural Family Planning (NFP) methods, in a woman's normal menstrual cycle ovulation occurs on the 14th day before the next menstrual bleeding. So an IUCD can be inserted within five days of unprotected sexual intercourse, provided it is after the earliest calculated day of ovulation (e.g. up to day 19 in the case of a 28-day cycle). Implantation may occur 6–12 days after ovulation. Therefore, inserting an IUCD would be effective in making implantation difficult, but would not cause the abortion of an existing implanted fetus.

#### **Box 10.3 Mechanism of action of copper-bearing IUCD for emergency contraception**

Based on evidence from a number of studies, copper-bearing IUCDs prevent pregnancy by:

- interfering with fertilisation, by stopping the sperm from fertilising the egg.
- decreasing the number of sperm reaching the uterine tube and interfering with their motility.
- preventing the fertilised egg from implanting in the uterus.

## When to use an IUCD

- When would you advise using an IUCD as an emergency contraception?
- You can use an IUCD as an emergency contraception:
  - five days after unprotected sexual intercourse but not more than five days after ovulation
  - if the client also wants to use an IUCD for continuous long-term contraception.

For this reason, emergency contraceptive pills may be a better choice for nulliparous women. However, if the client does not wish to become pregnant in the next few years, the copper-bearing IUCD might be an option for her.

Bear in mind that insertion of an IUCD in women who have never given birth can be very painful and difficult.

The insertion of a copper-bearing IUCD as an emergency contraceptive requires a trained professional, and follows the same eligibility criteria as covered in Study Session 7 on IUCDs. Generally, while advising on both emergency contraceptive pills and copper-bearing IUCDs, you should also encourage clients to use barrier methods (male or female condoms) in order to prevent STIs. Remember, emergency contraceptives cannot protect against STIs, including HIV.

## 10.3 Advantages and disadvantages of emergency contraception

### Advantages of emergency contraception

Emergency contraception is very effective when used early, with only 3% of women becoming pregnant if used within 24 hours of unprotected sexual intercourse. Its use can also provide an appropriate opportunity for a client to start an ongoing family planning method, such as an IUCD.

### Disadvantages of emergency contraception

Box 10.4 summarises the disadvantages of using emergency contraception that you should be aware of when advising women.

#### Box 10.4 Disadvantages of emergency contraception

- It does not work if women are already pregnant.
- It has a limited time frame of 5 days following unprotected intercourse.
- Women still have a small chance of getting pregnant.
- IUCD insertion requires a trained professional.
- Neither method provides protection from sexually transmitted infections.

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## 10.4 Management of common side-effects

After you give emergency contraceptive pills to your client, they may complain about nausea, which is usually limited to the first three days following treatment. Nausea can be reduced if the client takes her pills with food or milk, or at bedtime, so advise her accordingly. In some cases, clients may develop vomiting, which is a common problem within two hours of taking emergency contraceptive pills. In this case, the same dose should be repeated, because the pill may have been vomited out without being absorbed in her stomach. However, if the client suffers from severe or continuous vomiting, advise her to put the same dose in her vagina, and this will then be absorbed into the bloodstream.

Some women may experience withdrawal bleeding (spotting) after taking emergency contraceptive pills. In this case, you should counsel them not to confuse this bleeding with menstrual bleeding. Inform women that emergency contraceptive pills do not bring on menstruation immediately. In cases where there is a delay in menstruation of more than one week, you may refer the client for pregnancy testing.

Other side-effects after using emergency contraception include breast tenderness, headaches, abdominal pain, dizziness and fatigue. These side-effects usually resolve themselves, or last less than two days. If your client complains of breast tenderness and severe headaches, you can give her a painkiller such as Asprin (300 mg), Ibuprofen (400 mg) or Paracetamol (500 mg), to take as needed.

## Summary of Study Session 10

In Study Session 10, you have learned that:

- 1 Emergency contraception (EC) is a method used to prevent the possibility of unwanted pregnancy, and is effective up to five days following unprotected sexual intercourse.
- 2 Unprotected sexual intercourse means that either a couple did not use any contraceptive method to prevent pregnancy, or their birth control method failed (for example, a condom breaking or slipping).
- 3 Combined emergency contraceptive pills (ECPs) are formulations of oestrogen (ethinyl estradiol) and progesterone (levonorgestrel or norgestrel).
- 4 The progestin-only pill consists of levonorgestrel. It is less effective than the combined pill, but has a lower incidence of side effects.
- 5 A copper-bearing IUCD can be used within five days of unprotected sexual intercourse as an emergency contraceptive. It works primarily by interfering with the sperm so it doesn't reach the egg, and subsequently by preventing the fertilised egg from implanting in the uterus.
- 6 Common side-effects from using ECPs are nausea and vomiting. Other side-effects include breast tenderness, headaches, abdominal pain, dizziness and fatigue. These side-effects usually resolve themselves, or last less than two days.

## Self-Assessment Questions (SAQs) for Study Session 10

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 10.1 (tests Learning Outcome 10.1)**

Identify the main reasons for using emergency contraceptives.

### **SAQ 10.2 (tests Learning Outcome 10.2)**

Describe the mechanism of action of emergency contraceptives.

### **SAQ 10.3 (tests Learning Outcomes 10.2 and 10.3)**

- (a) What are the key time limits when taking emergency contraception?
- (b) What should you do if the client fails to menstruate following emergency contraception?

### **SAQ 10.4 (tests Learning Outcome 10.2)**

At what time intervals should the two recommended doses of emergency contraceptive pills be taken after a woman has had unprotected sexual intercourse?

### **SAQ 10.5 (tests Learning Outcome 10.4)**

W/ro Almaz comes to you with side-effects, complaining of nausea and vomiting after taking emergency contraceptive pills. What do you advise her to do?

### **SAQ 10.6 (tests Learning Outcomes 10.2 and 10.3)**

How long do emergency contraceptive pills protect a woman from pregnancy?

### **SAQ 10.7 (tests Learning Outcomes 10.2 and 10.4)**

W/ro Lule, a 32-year old woman in your community who has just taken her second dose of emergency contraceptive pills four days after unprotected sexual intercourse, comes to you complaining of a very strong headache. How would you handle her concern?



# Study Session 11 Postpartum and Post-Abortion Family Planning

## Introduction

The provision of family planning is important for women in the postpartum and post-abortion periods because fertility can return surprisingly quickly after giving birth if not breastfeeding, or after having an abortion. In some cases, women have become pregnant before having their first menstruation following a delivery or abortion, and often the pregnancy is unwanted and may end up with a further abortion. Unfortunately, a large number of women who wish to delay or prevent future pregnancies receive little or no information on effective family planning methods during the postpartum or post-abortion period, including how or where to obtain family planning methods, and how soon they should be started. The majority of women receiving abortion or post-abortion care do not want to become pregnant again in the near future. It is because of these issues that it is important for you to know the family planning needs of women during this critical period.

In this study session, you will learn about the provision of family planning following abortion and childbirth. You will discuss the reasons for giving post-abortion/postpartum family planning, and you will cover the definitions, essential components, advantages and family planning options for women.

## Learning Outcomes for Study Session 11

When you have studied this session, you should be able to:

- 11.1 Define and use correctly all of the key words printed in **bold**. (SAQ 11.1)
- 11.2 Define postpartum and post-abortion family planning. (SAQ 11.4)
- 11.3 Explain the essential components of postpartum and post-abortion family planning. (SAQs 11.2 and 11.4)
- 11.4 Discuss the advantages of postpartum and post-abortion family planning. (SAQs 11.3 and 11.4)
- 11.5 Describe the contraceptive options during postpartum and post-abortion family planning. (SAQ 11.4)

### 11.1 What is postpartum and post-abortion family planning?

**Postpartum family planning** is the initiation and use of family planning methods in the first six weeks following delivery (Figure 11.1). The aim is to prevent unintended pregnancy, particularly soon after childbirth, when another pregnancy could be harmful to the health of the mother or breastfeeding baby.





Figure 11.1 A postnatal checkup is a good time to counsel mothers about immunization and family planning. (Photo: UNICEF Ethiopia/Indrias Getachew)

In Study Session 3 of the *Labour and Delivery Care* Module you learnt that after the delivery of the placenta, the inhibiting effects of oestrogen and progesterone are removed. So the levels of follicle-stimulating hormone and luteinizing hormone gradually rise, and ovarian functions begin again. Due to these effects, the menstrual cycle in non-breastfeeding mothers will start within four to six weeks of delivery (on average 45 days). However, if the mother is exclusively breastfeeding, the menstrual cycle may not return until six months after delivery.

- Why is family planning important during the postpartum period?
- When the menstrual cycle returns, there is a risk of pregnancy that could influence the health of the mother and infant.

**Post-abortion family planning** is the initiation and use of family planning methods immediately after, and within 48 hours of an abortion, before fertility returns. In most women fertility returns on average about two weeks after an abortion; however, ovulation can occur as early as 11 days post-abortion. Part of your role is to help prevent unintended pregnancies in women who do not want to be pregnant again, or for whom pregnancy may be dangerous.

You can begin post-abortion family planning immediately after post-abortion care for those women who wish to prevent pregnancy. Be aware that following an abortion in the *first trimester*, or first three months of pregnancy, a woman's fertility usually resumes within two weeks. However, following an abortion in the *second trimester*, a woman's fertility usually returns more slowly, within four weeks.

- Based on the above descriptions of the postpartum and post-abortion periods, are the principles and guidelines of family planning the same for both?
- Some health providers incorrectly think that the guidelines for postpartum family planning also apply to post-abortion family planning. There are differences though. For example, special concerns for postpartum family planning related to breastfeeding do not apply to post-abortion women. As a result, women are often not offered family planning methods after an abortion that would be both appropriate and acceptable to them.

## 11.2 Postpartum and post-abortion family planning services

You will be involved in a variety of activities when you help women or mothers in their post-abortion or postpartum period (see Box 11.1). Your primary activity is to discuss family planning needs and to ensure protection against sexually transmitted diseases. You can also give information and counselling about short- and long-term method choices, their effectiveness, and side effects. Once a woman has reached an informed choice, you should give her, or refer her for the relevant family planning method. Do not forget to make a follow-up appointment.

### Box 11.1 Important points about postpartum and post-abortion family planning

It should include the following:

- Discussion about contraceptive needs, taking into account reproductive goals and protection against sexually transmitted infections.
- Information and counselling about methods, their effectiveness, and side effects.
- Short- and long-term contraceptive method choices.
- Assurance of contraceptive re-supply.
- Access to follow-up care.

## 11.3 Advantages of postpartum and post-abortion family planning

There are a number of potential advantages in providing postpartum and post-abortion family planning services. You will have several opportunities to contact your clients during antenatal care and the postpartum period, so introducing family planning services can be more efficient and effective.

When a woman comes to you for prenatal care, you will have an opportunity to discuss infant healthcare, breastfeeding, and family planning as well. You can also introduce these ideas at early prenatal visits, and discuss them in greater detail as the delivery date approaches.

When you assist a mother during delivery, it presents another opportunity to offer information about breastfeeding and family planning. In some cases, this may be the only contact the woman will have with you. You can also integrate family planning with postnatal or child healthcare, for example when giving vaccinations.

The period following the treatment of abortion is also an opportunity for you to help women look at family planning needs. During this time, the assessment of each woman should include her personal characteristics, her clinical condition, and the service delivery capabilities in the community where she lives and where the services will be provided.

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The initiation of family planning during the immediate postpartum and post-abortion period can lead to short- and long-term cost savings for both your clients and the health services.

## 11.4 Postpartum and post-abortion counselling

When you provide counselling for a postpartum mother, your goal is to help the woman decide if she wants to use a family planning method, and what the most appropriate method would be for her (see Box 11.2). You will need to take into consideration whether or not she is breastfeeding.

Ideally, you should have already provided counselling during prenatal care. However, it is also possible to provide family planning counselling and services following delivery.

- Can you give counselling during labour?
- You should not give counselling during labour. You can provide useful advice on family planning only after the mother has recovered from the immediate physical and emotional stress of childbirth.

### Box 11.2 Issues for clients to consider before postpartum counselling

Before you provide postpartum counselling, encourage your clients to consider the following key issues:

- Whether they want more children, or whether they are happy with their current family size.
- If they want more children, how long would they like to wait before having another child?
- Their satisfaction, successes and failures with contraceptive methods used previously.
- Their plans regarding breastfeeding.

If a mother is interested in family planning, you should use your counselling skills to help her focus on which method, or combination of methods, may be most appropriate. She should be clear about the effects of family planning methods on breastfeeding, the correct use of methods, and the period before resumption of sexual relations following delivery.

## 11.5 Postpartum and post-abortion family planning options

### 11.5.1 Family planning options postpartum

In Ethiopia, more than 90% of all mothers breastfeed their infants for some period of time. In this case, the impact of contraceptive methods on breastfeeding, breastmilk, and infant health is of some concern.

Effective breastfeeding should be encouraged for the benefit of the mother, and the health of the infant. Here are three general guidelines you should follow.

- Encourage women to exclusively breastfeed for the first six months.
- Ensure their chosen contraceptive method will not adversely affect breastfeeding or the health of the infant.
- Be certain that breastfeeding is not discontinued in order to start a contraceptive method.

For breastfeeding women, non-hormonal methods are the best choice and can safely be used. They do not interfere with a woman's ability to breastfeed, or the quality and quantity of breastmilk and there is no adverse effect on infant growth and development. From your previous sessions in this module, you have learnt that non-hormonal methods include lactation amenorrhoea method (LAM), male or female condoms, spermicides, diaphragms, IUCDs, male or female voluntary surgical contraception (VSC), and natural family planning methods.

Progestin-only oral contraceptive methods are the next best choice, and are considered a suitable method for breastfeeding women six weeks after childbirth. This method has been shown not to affect breastmilk secretion and breastfeeding or infant growth and development. Options include progestin-only injectables, progestin-only pills, and implants put under the skin.

It is recommended that progestin-only methods be provided after the first six weeks postpartum. However, some find it more convenient to begin these methods immediately after delivery, since no adverse effects on the infant or breastfeeding have been observed.

Combined oral contraceptives are less frequently recommended for breastfeeding mothers, because they are known to decrease breastmilk secretion by inhibiting the secretion of prolactin. However, it is an option if the mother is no longer breastfeeding, or breastfeeding less frequently six months after childbirth. These methods include combined oral contraceptives and combined injectable contraceptives (Mesigyna and Cyclofem). See Table 11.1 for a summary of options for breastfeeding women.

Table 11.1 Summary of family planning options for breastfeeding women.

<b>Best choice: non-hormonal methods</b>	<b>Alternative choice: progestin-only methods</b>	<b>Less preferable: combined oestrogen- progestin methods</b>
<ul style="list-style-type: none"> <li>• Lactation menorrhoea method (LAM)</li> <li>• Diaphragm</li> <li>• Male and female condoms</li> <li>• Spermicides</li> <li>• IUCD</li> <li>• Male and female sterilisation</li> <li>• Natural Family Planning (NFP).</li> </ul>	<ul style="list-style-type: none"> <li>• Progestin-only pills</li> <li>• Injectables (DMPA, NET-EN)</li> <li>• Implants (Jadelle, Implanon).</li> </ul>	<ul style="list-style-type: none"> <li>• Combined oral contraceptive pills (COCs)</li> <li>• Monthly injectables (Mesigyna, Cyclofem).</li> </ul>

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## 11.5.2 Family planning options post-abortion

Following abortion, menstruation usually returns after between two and four weeks, depending on the trimester in which it took place (see section 11.1) so a woman will be fertile and may get pregnant again unless she starts a family planning method. All modern family planning methods can be used immediately after post-abortion care, provided that:

- there are no severe complications requiring further treatment
- the provider screens for any precautions before using a particular contraceptive method
- the woman receives adequate counselling.

You should advise women not to have sexual intercourse until their bleeding stops (usually five to seven days after abortion) and any complications have been resolved. Also advise women not to use natural family planning (NFP) methods until their regular menstrual pattern returns. Moreover, all women should be advised that the only contraceptive method that provides protection against sexually transmitted infections (STIs) is the condom. Box 11.3 summarises the principal guidelines for post-abortion family planning.

### Box 11.3 Summary of post-abortion family planning

- Post-abortion family planning should be started immediately:
  - Ovulation can occur as early as eleven days post-abortion.
  - 75% of women will have ovulated within four to six weeks post-abortion.
- All modern family planning methods are appropriate for post-abortion women:
  - Condoms (which also prevent STIs and HIV)
  - Oral contraceptives
  - IUCDs
  - Injectables
  - Implants
  - Spermicides.

## Summary of Study Session 11

In Study Session 11, you have learned that:

- 1 Postpartum family planning is the initiation and use of family planning methods in the first six weeks following delivery. The aim is to prevent unintended pregnancy, too soon after childbirth, when another pregnancy could be harmful to the health of the mother or breastfeeding baby.
- 2 Post-abortion family planning is the initiation of family planning methods immediately after, or (preferably) within 48 hours of an abortion, before fertility returns. Fertility returns on average about two weeks post-abortion.
- 3 One of the advantages of postpartum and post-abortion family planning is that it creates opportunities for you to contact your clients during the prenatal, postpartum, or post-abortion period.

- 4 The goal of postpartum and post-abortion family planning is to help a woman decide if she wants to use a family planning method, to help her choose an appropriate method, taking into consideration whether or not she is breastfeeding, and to prepare her to use the method effectively.
- 5 The best choice of family planning postpartum is a non-hormonal method. Progestin-only methods are the next choice, and combined oral contraceptives are the last choice for a non-breastfeeding mother.
- 6 All modern family planning methods are appropriate for post-abortion women.

## Self-Assessment Questions (SAQs) for Study Session 11

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 11.1 (tests Learning Outcomes 11.1 and 11.2)**

Why is it recommended to use contraception *immediately* following an abortion in the first trimester (first three months), compared with an abortion in the second trimester?

### **SAQ 11.2 (tests Learning Outcome 11.3)**

What are the essential components of postpartum and post-abortion family planning?

### **SAQ 11.3 (tests Learning Outcome 11.4)**

Briefly explain the potential advantages of postpartum and post-abortion family planning services.

### **SAQ 11.4 (tests Learning Outcomes 11.2, 11.3, 11.4 and 11.5)**

W/ro Bekelech gave birth in your health post and now she is six hours postpartum. Before she leaves for home, she asks you to restart her former contraceptive pills (Microgynon). W/ro Bekelech has already started breastfeeding her infant following delivery. During a previous birth she breastfed her first child exclusively for six months without problems. How would you manage W/ro Bekelech's postpartum family planning request?





# Study Session 12 Overview of Infertility

## Introduction

Around one in seven couples may have difficulty conceiving. However, the number of couples who are actually infertile is very low, about 5% globally. In this study session, you will learn about the problems associated with the fertility of couples. Infertility can occur in both men and women, and sometimes in both partners. It can have a debilitating effect on a family, and even lead to divorce. Family planning can help couples by providing appropriate counselling to identify and manage any infertility problems.

In this study session you will cover the definition, types, causes, associated factors, prevention, and treatment of infertility.

## Learning Outcomes for Study Session 12

When you have studied this session, you should be able to:

- 12.1 Define and use correctly all of the key words printed in **bold**. (SAQs 12.1 and 12.2)
- 12.2 Explain the main types of infertility. (SAQ 12.2)
- 12.3 Identify the causes and risk factors of infertility. (SAQs 12.3 and 12.4)
- 12.4 Describe different approaches to help infertile couples. (SAQ 12.5)
- 12.5 Explain the preventative measures for infertility. (SAQ 12.5)
- 12.6 Explain the management and counselling of infertile couples. (SAQ 12.5)

### 12.1 Definition of infertility

**Infertility** is the inability to conceive a child after having unprotected sexual intercourse for a period of at least one year. Although often the woman is blamed, infertility occurs in both men and women (Figure 12.1). In many developing countries, including Ethiopia, having children is one of the principal mechanisms maintaining the cohesion of the family. If a couple is unable to have children, it can create an unhappy marriage and result in divorce, even when both the husband and wife are infertile. In most African countries, a man's wealth is measured by the number of children he has. In rural areas, children are an important asset, as they will work on the land and care for their aged parents.

- Do the above circumstances apply in your community or village? How could you help?
- You will be able to help couples by providing appropriate counselling to help them manage their infertility problems.

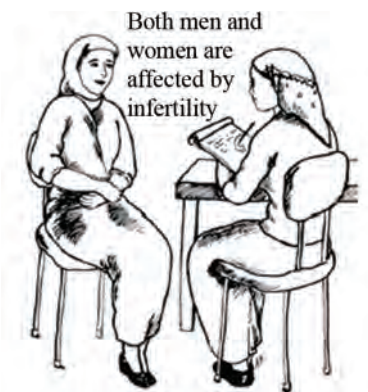


Figure 12.1 Who is affected by infertility?

## 12.2 Types of infertility

There are two types of infertility: primary and secondary.

**Primary infertility** is when a couple have never had children, or have been unable to achieve pregnancy after one year of living together despite having unprotected sexual intercourse.

**Secondary infertility** is when a couple have had children or achieved pregnancy previously, but are unable to conceive at this time, even after one year of having unprotected sexual intercourse.

Secondary infertility occurs more commonly than primary infertility, especially in developing countries where sexually transmitted infections are common. In many countries, induced abortion (intentionally done) contributes much to secondary infertility. Generally, it accounts for 60% of the total number of infertility cases.

## 12.3 Causes of infertility

The causes of infertility are varied and complex. According to studies from around the world, both men and women are affected by infertility: about 40–60% of causes are linked to female factors, and 20–40% are related to male factors.

It is important for you to understand the anatomical, physiological and psychological conditions affecting fertility in women and men, both of whom should normally be able to conceive. Firstly, a man has to have normal functioning reproductive organs (Figure 12.2) capable of producing normal sperm in sufficient numbers, and he has to be able to transfer them successfully to the woman's reproductive system through sexual intercourse.

Similarly, the woman's reproductive system should function normally and be able to produce healthy eggs, have normal fallopian tubes and uterus and produce normal cervical mucus. See Figure 12.3 of the female reproductive organs.

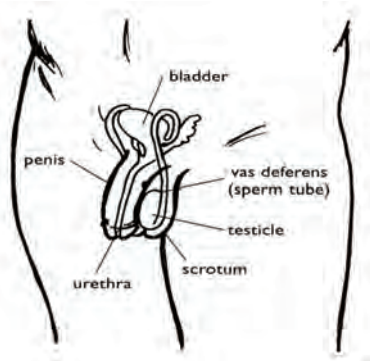


Figure 12.2 Normal male reproductive organs.

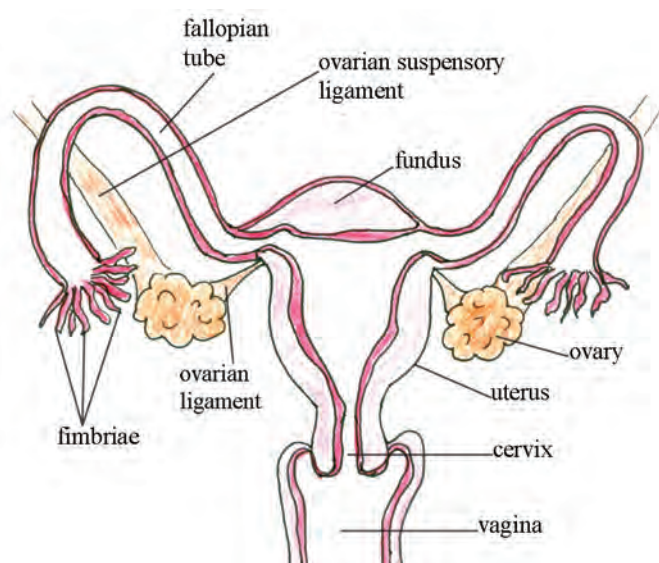


Figure 12.3 Normal female reproductive organs.

To achieve normal physiological functions and processes, the endocrine (hormone-producing) glands of both the man and woman involved in reproduction must function normally. In addition, psychological and social conditions can influence the timing and frequency of sexual intercourse, which in turn can influence the chance of getting pregnant.

Age is an important factor in both women and men. In many women fertility declines as they age, especially over 35 years of age when the quality of eggs remaining in the ovaries is lower than when the women were younger. In men, sperm motility is reduced as they age, but overall fertility is not affected as much. There are many case reports describing men having children even after the age of 90 years.

### 12.3.1 Causes of male infertility

This section covers some of the main causes of infertility in men.

#### Blockage of the sperm tube

Many diseases can cause inflammation of the *vas deferens*, or sperm tube, and result in scarring which can block the tube passing sperm from the testicles or testes. Infections from untreated sexually transmitted infections, such as gonorrhoea and chlamydia, can also ascend via the urethra. Other conditions which can cause inflammation of the epididymis in the testes and disrupt the production of sperm are tuberculosis, schistosomiasis, and the abnormal growth of tumours in the testicles.

#### Problems of sperm production and quality

Many disorders lead to abnormal or reduced sperm production, and can result in it stopping altogether. For example, mumps (in Amharic, *joro degif*) contracted in childhood can lead to inflammation and/or shrinking of the testes, thereby stopping sperm production in adulthood. Drinking large amounts of alcohol can also reduce production of testosterone (the male hormone) and cause shrinking and/or weakness of the testes. Other factors such as the testes failing to descend from the abdomen, excessive smoking and drug abuse, excessive heat due to wearing tight underwear, or working for long periods near a heat source, can reduce the production and motility of sperm.

#### Sexual problems

Certain psychological conditions, like emotional, psychological or physical stress, can result in the inability to maintain an erection, and the inability to ejaculate normally inside the vagina. Impotence and premature ejaculation, where the man ejaculates before the penis is inside the woman's vagina, are another common cause. Other factors which contribute to a man not achieving normal sexual intercourse include neurological damage due to leprosy, taking medications such as methyldopa (an anti-hypertensive drug), surgery involving the penis, scrotum, prostate or pelvis, that can cause nerve damage, and alcohol consumption. In addition, certain chronic diseases like diabetes can reduce the ability to have, and maintain, an erection due to vascular changes.



Sexually transmitted infections (STIs) are one of the major causes of infertility.

Harmful traditional practices, like female genital cutting, can cause trauma and infections which lead to infertility.

## 12.3.2 Causes of female infertility

There are many reasons which are responsible for infertility in women.

### Blockage of the fallopian tube

In women, there are many diseases which cause inflammation of the reproductive tract, resulting in scarring and the sticking together of tissue to create blocks. In this regard, sexually transmitted infections are one of the major causes of infertility. If it is left untreated, gonorrhoea and chlamydia can infect the fallopian tubes, the uterus and ovaries. These can cause pelvic inflammatory disease (PID), which occasionally has no symptoms and so goes unnoticed (silent PID), causing scarring of the fallopian tubes and blocking the egg from travelling down the tubes to meet the sperm. After one episode of PID, a woman has an estimated 15% chance of infertility, while after two episodes the risk rises to 35%, and after three episodes the risk of infertility is nearly 75%.

Similarly, postpartum and post-abortion infection can also cause PID, which may lead to infertility. Additionally, non-sexually transmitted diseases, such as genital tuberculosis, schistosomiasis and endometriosis, and harmful traditional practices like female genital cutting, can cause trauma and infections which lead to infertility.

### Ovulation disorders

Ovulation disorders in the hypothalamus-pituitary-ovarian system are associated with an absence of ovulation. For example, when there is a high level of the hormone prolactin, produced by the pituitary gland, it inhibits ovulation (hyper-prolactinaemia). Other factors that can prevent or inhibit ovulation include ovarian tumours, thyroid gland disorder, stress and malnutrition.

### Uterine factors

When there is abnormal development of the uterus (congenital malformation), or abnormal growths in the uterus (fibroids), adhesion of the uterus due to infection or abortion can affect the possibility of pregnancy, either by interfering with the transport of male sperm, or with embryo implantation.

### Cervical factors

In a few cases, the cervical canal is too narrow and prevents the passage of sperm into the uterus. Hormone imbalances (such as low oestrogen levels) can cause inadequate cervical mucus, or make it so thick that it blocks sperm transport. In rare cases, the cervical mucus and fluids in the vagina may contain chemicals (antibodies) that paralyse or inhibit sperm.

### Vaginal factors

In extremely rare cases, conditions like a vaginal septum (a tissue in the vagina developing abnormally in the womb) that inhibits sperm transportation, and even the congenital absence of the vagina, can be causes of infertility. Finally, extreme spasm of the vaginal muscles (vaginismus) during intercourse can prevent penetration of the penis, and so result in infertility.

### 12.3.3 Unexplained infertility

If there is no known cause of infertility identified in the evaluation of an infertile couple, then it is termed **unexplained infertility**. This occurs in 5% to 10% of couples trying to conceive. It is more common in males than females for unknown reasons. See Box 12.1 for a summary of the main causes of primary and secondary infertility in men and women.

#### Box 12.1 Summary of the causes of primary and secondary infertility in men and women

- The woman does not ovulate (produce an egg).
- The egg does not reach the correct location for fertilisation because the fallopian tube(s) are blocked.
- The man produces insufficient or abnormal sperm.
- The sperm cannot reach the egg because the spermatid tube is blocked.

## 12.4 Factors associated with infertility

In many societies people, believe that infertility comes from natural processes. However, you should understand that there are known socio-cultural factors that are associated with the occurrence of infertility, either directly or indirectly, in addition to the established causes listed previously.

As you have learnt, fertility markedly decreases in women over 35 because they will have older and/or fewer eggs. As they have lived longer, they may have had increased exposure to STIs, or have had induced abortions leading to the development of PID, which can cause tubal damage. As their ovulation becomes less frequent, the eggs produced may be defective, resulting in pregnancy wastage. Untreated gonorrhoea and chlamydia in women can spread into the pelvic area and infect the uterus, fallopian tubes and ovaries leading to PID.

Other factors may include having sexual intercourse less frequently than two to three times per week, due to a husband having more than one wife (polygamy), and having more frequent and multiple sexual partners which can predispose a couple to acquiring sexually transmitted infections.

In developing and poorly resourced countries, where the level of malnutrition is high, the onset of menstruation may be delayed, resulting in menstrual irregularities and even preventing ovulation altogether, thus limiting opportunities for conception.

## 12.5 Approaches to help an infertile couple

Infertility is one of the most commonly occurring problems that you may encounter when you perform your daily activities in the community. The initial contact with an infertile couple is very important in outlining the general causes of infertility, and discussing the subsequent evaluation at your level. If a couple comes to you for the first time, you should ask for the medical and surgical history of both partners, as shown in Box 12.2.

### Box 12.2 Information to include in case history

- Do they have children (together or apart)?
- Is the woman's menstrual cycle regular?
- Do they have adequate sexual relations? The couple should try to have sexual intercourse every two days during the fertile period of her menstrual cycle.
- Do they have any risk factors for infertility, i.e. use of an IUCD, history of PID, pelvic surgery, or an endocrine disorder, such as pituitary, adrenal and thyroid function?
- Information on genital surgery, infection, trauma and history of mumps for the male partner.

If you find any abnormalities which need further evaluation, you can refer the couple to the health centre or hospital. In the meantime, explain the basic requirements for conception to the couple.

## 12.6 Preventing infertility

Infertility is often preventable. You can counsel clients about STIs, and encourage them to seek treatment if they think they might have been exposed. If a client comes to you with the signs and symptoms of an STI, or with other manifestations of PID you should refer them to a health centre for treatment.

## 12.7 Treatment of infertility

There is no universal treatment or cure for infertility. Any treatment depends on the specific causes of infertility for a couple. The majority of couples who seek advice, testing and treatment for infertility might conceive within 12 to 18 months following investigation. Usually, you would expect to counsel a couple after having identified the causes or risk factors you think may have contributed to the couple being infertile.

## 12.8 Counselling clients with fertility problems

As much as possible you should try to counsel both partners together, because men often blame women for infertility when they themselves might be responsible.

- What can you tell a couple when you are counselling them?
- A man is just as likely to have fertility problems as a woman. Try for pregnancy for at least 12 months before worrying about infertility.

Suggest she have sex more often during her most fertile time, using fertility awareness methods as covered in Study Session 4. The most fertile time of a woman's cycle is about three days before the egg is released from the ovary, or more specifically 12–16 days after her previous menstruation in a normal menstrual cycle. Advise the couple about their general health, importance of regular exercise, and avoiding excessive alcohol drinking and smoking. If the couple fail to conceive after trying for an appropriate time, both partners need to be referred for evaluation.



## Summary of Study Session 12

In Study Session 12, you have learned that:

- 1 Infertility is the inability to conceive or have children after trying for one year without any use of contraception. Although the woman is often blamed, in fact infertility occurs in both men and women.
- 2 Primary infertility is when the couple has never had children, or has been unable to achieve pregnancy after one year of living together and having unprotected sexual intercourse.
- 3 Secondary infertility is when a couple who already have children, or have achieved pregnancy previously, have been unable to conceive after one year of having unprotected sexual intercourse.
- 4 The causes of infertility are varied and complex. According to studies from around the world, both women and men are affected by infertility.
- 5 Male infertility may occur because of either a blockage of the spermatic cord, or a problem of sperm production, or because of sexual problems.
- 6 The causes for female infertility include ovulation disorders, blockage of uterine tubes, and problems of the uterus, cervix or vagina.
- 7 In many societies, people believe that infertility is a natural process. But many socio-cultural factors are associated with the occurrence of infertility, either directly or indirectly, in addition to the already established physical causes.
- 8 Your first contact with an infertile couple is the most important in outlining the general causes of infertility, and in discussing any subsequent evaluation.
- 9 Prevention of infertility includes counselling clients about sexually transmitted infections, and encouraging them to seek treatment if they are affected.
- 10 There is no universal treatment or cure for infertility. It depends on the treatment of specific causes relevant to the couple.

## Self-Assessment Questions (SAQs) for Study Session 12

Now that you have completed this study session, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting. You can check your answers with the Notes on the Self-Assessment Questions at the end of this Module.

### **SAQ 12.1 (tests Learning Outcomes 12.1 and 12.2)**

Is infertility more common in women or men?



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**SAQ 12.2 (tests Learning Outcome 12.2)**

List two types of infertility and explain the meaning of each type.

**SAQ 12.3 (tests Learning Outcome 12.3)**

List the causes of infertility in men and women.

**SAQ 12.4 (tests Learning Outcome 12.3)**

Can you describe the main factors associated with male and female infertility?

**SAQ 12.5 (tests Learning Outcomes 12.2, 12.3, 12.4, 12.5 and 12.6)**

Ato Belay comes to you and tells you he has married three wives, but had no children yet. When you take his medical history from him, you find out he had mumps during late adolescence.

- (a) What are your initial thoughts about his problem?
- (b) What treatment would you suggest?
- (c) How would you counsel Ato Belay?

# Notes on the Self-Assessment Questions (SAQs) for the *Family Planning Module*

## Study Session 1

### SAQ 1.1

Possible reasons why a woman experiences high fertility are as follows:

*Early marriage and pregnancy.* If a woman gets married as a teenager she will experience a longer period of productivity and tend to have more children in her lifetime.

*Limited use of contraceptive methods.* If a woman fails to use birth control methods, either to limit or to space her child bearing, she will continue to give birth throughout her lifetime.

### SAQ 1.2

Population size is a measurement of the number of people in an existing population at any point in time. The population growth rate is defined as what is happening to the population in terms of whether it is growing, shrinking, or remaining constant.

### SAQ 1.3

If a country experiences a high birth rate with a disproportionately low death rate, then rapid population growth can occur. In order to overcome such a problem, a country needs to have effective family planning programmes.

### SAQ 1.4

A is *false* because rapid deforestation and soil degradation are often due to human actions, e.g. as a result of overgrazing and cutting down trees.

B is true. Depletion of soil and forests contribute to low agricultural production.

C is *false* because in densely populated areas the population is forced to live in overcrowded areas with small pieces of land to cultivate.

D is true. Unless population growth in Ethiopia is controlled, pressure on natural resources will increase.

E is *false* because rapid population growth, low agricultural production and destruction of the environment are common to most of the sub-Saharan African countries, including Ethiopia.

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### SAQ 1.5

Family planning is the decision-making process by couples together or individually, on the number of children that they would like to have in their lifetime and the age interval between children.

### SAQ 1.6

Family planning helps mothers in different ways. Three of them are as follows:

*Avoiding too early and too late pregnancies:* Family planning helps mothers avoid pregnancy when they are vulnerable because of their youth or old age, e.g. from pregnancy-related hypertension in younger mothers and uterine rupture in older multiparous mothers.

*Limiting the number of pregnancies:* Any pregnancy or birth equal to, or greater than five, can carry greater risk for the mother. Therefore, once the desired number of children has been achieved, a woman can avoid further pregnancy by using family planning methods.

*Preventing abortion:* Most abortions result from unwanted pregnancies, and significant numbers of maternal deaths can be attributed to unsafe abortions induced by untrained practitioners. Using family planning methods can avoid unwanted pregnancy and prevent abortion.

### SAQ 1.7

A population policy was issued in Ethiopia in 1993 to expand the family planning programme. Concurrently, the National Population Office was established to implement and oversee the strategies and actions related to the population policy of 1993.

## Study Session 2

### SAQ 2.1

The most common family planning service delivery modes are as follows:

*Door-to-door service delivery:* these services are provided by Health Extension Practitioners and mainly include education, counselling and the provision of oral pills, condoms and injectable contraceptive methods.

*Facility-based service delivery:* this approach provides family planning services in Ethiopia through public health centres and hospitals. Medically complex methods, such as IUCDs, hormonal implants, and sterilisation, can be provided at these health facilities.

**SAQ 2.2**

(a) The number of eligible population in *kebele* Y is 900 women. Your working out is as follows:

Given data:

Total population = 5,000.

Proportion of women of reproductive age group (WRAG) 15–49 years = 22%

Proportion of currently pregnant women = 4%

Proportion of eligible women for family planning = 18%

Eligible population	= % WRAG – (% currently pregnant women) × total population
	= 22% – 4% × 5,000
	= 18% × 5,000
	= 900 women.

(b) In preparing the operational plan for the family planning programme implementation, you can apply the following simple steps:

*Possible objectives* (you may have suggested other equally good objectives):

- 1 To increase CAR from current 25% in year 2002 to 65% in year 2003.  
OR
- 2 To provide contraceptives to 585 women of reproductive age group 15–49 years (WRAG) by the end of year 2003.  
OR
- 3 To educate 85% of the couples on methods of contraception as a means of birth control by end of year 2003.

*Possible major activities for the above objectives could be:*

- 1 Secure contraceptive commodities.
- 2 Secure Information, Education and Communication/Behaviour Change Communication (IEC/BCC) materials.
- 3 Conduct community sensitisation workshops.

*Indicators for monitoring performance:*

- Number of months without contraceptive supply in stock.
- Percentage of community members attending a sensitisation workshop.
- Percentage of women who accept contraceptive methods.

(c) One way in which you could organize objective (1) in your work plan into a Gantt Chart is shown below:

Family planning implementation schedule (X *woreda*, Y health post, 2003 EFY).

Objective	Major activities	Implementation Period				Responsible person
		Hamle– Meskrem	Tikmet– Tehsas	Tir– megabit	Miazia– Sene	
(1) To increase CAR from current 25% in year 2002 to 65% in year 2003.	Secure contraceptive commodities	X				Mulu, Gete, Buli
	Secure IEC/ BCC materials		X			Mulu
	Conduct community sensitisation workshops		X	X	X	Mulu, Gete

### SAQ 2.3

You can use the following methods to monitor progress against what has been planned:

- Conduct timely and regular supervision.
- Carry out regular performance monitoring.
- Conduct participatory performance review meetings.

### SAQ 2.4

The following are some of the good performance indicators for measuring programme outputs:

- Number of new clients, recorded by choice of contraceptive method
- Number of households covered
- Number of community meetings and number of people informed at sensitisation workshops
- Number of referrals for clinical methods of contraception
- Number of contraceptives distributed for each contraceptive method.

### SAQ 2.5

Programme impact in the area can be evaluated by one or more of the following indicators for the area:

- Contraceptive prevalence rate (CPR)
- Crude birth rate
- Induced abortion rates (if available)
- Total Fertility Rates (TFR)
- Infant mortality rate
- Maternal mortality rate
- Rate of high-risk births (to women over 35 years who have given birth to five babies or above).

Additionally, your answer could point out that most of the impacts cannot simply be calculated from routine service data. Population-based impact evaluation/research is needed.

**SAQ 2.6**

(a) Based on the information given, you can calculate AMC and 'months of supply' as follows:

Product = (a)	Amount dispensed during 6 months = (b)	AMC = (b) ÷ 6 months = (c)	Stock in hand = (d)	Months of supply = (d) ÷ (c)
Lo-femenal	300 cycles	50	500 cycles	10
Depo-provera (DMPA)	450 vials	75	750 vials	10
Male condoms	1,500 condoms	250	5,000	20

(b) Based on current stock in hand, you can safely provide Lo-femenal pills and Depo-provera (DMPA) for 10 more months, and male condoms for 20 months, before running out of stock.

**SAQ 2.7**

The following may be the best ways of communicating about the family planning programme in your *kebele*:

- Use *model* households and community volunteers to convey family planning messages to the community.
- Make use of traditional forms of entertainment, such as role plays, folk songs, theatre and puppet shows, in order to transmit information with regard to the programme.

**Study Session 3****SAQ 3.1**

B is *false* because family planning counselling is a discussion between two people, and not a question and answer session between the counsellor and the client.

C is also *false* because counselling is a continuous process in which a client learns about family planning step by step.

A, D and E are true because counselling is an ongoing, two-way communication process that takes place in every health and family planning service encounter. This enables a person to be informed about different methods, ask questions, make an informed choice about method, and leave the clinic feeling confident about how to use a contraceptive method correctly.

**SAQ 3.2**

The importance of counselling in family planning is to help the client to make, and arrive at, informed and well-considered voluntary choices about their fertility, or help a client to decide on the number of children they want and when to have them.

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### SAQ 3.3

The most important principles in counselling are:

- Being in a private room and quiet place.
- Taking sufficient time.
- Maintaining confidentiality.
- Conducting counselling in a tolerant/non-judgmental, accepting and conducive/helpful way.
- Using direct and simple words.
- Using good interpersonal communication skills.
- Telling the most important messages first.
- Using available visual aids.

### SAQ 3.4

Wozero Misgane is a new client, so you need to counsel her on family planning using the acronym GATHER to remember all the six steps:

- G Greet Wozero Misgane in a friendly, helpful and respectful manner.
- A Ask Wozero Misgane about her family planning needs, concerns and previous use.
- T Tell Wozero Misgane about different contraceptive options.
- H Help Wozero Misgane to make a decision about which method she prefers.
- E Explain to Wozero Misgane how to use the method chosen; ask her to repeat the instructions.
- R Arrange a return visit and follow-up with Wozero Misgane.

### SAQ 3.5

The factors that can affect family planning counselling outcomes are:

- Provider factors, such as your ability to engage in effective communication, your technical knowledge, skills, attitudes and behaviours.
- Client factors, such as a client's level of knowledge and understanding.
- External and programmatic factors which you cannot control, such as lack of availability of certain methods or equipment, or irregular supplies of family planning materials.

## Study Session 4

### SAQ 4.1

Natural family planning methods are preferred by women who do not wish to use artificial methods of contraception or who, for reasons of religion, rumours or myths, fear using other methods. Couples with lower levels of education can use natural family planning methods effectively, providing the couple are highly motivated and have been well trained in the method. They should be prepared to avoid sex, or use withdrawal or a barrier method during the woman's fertile period.



**SAQ 4.2**

For many women who know their fertile period and have used a fertility awareness-based method consistently for a long period of time, the method can be reliable. However, the failure rate is higher when compared with other contraceptive methods.

**SAQ 4.3**

The criteria are:

- The woman's period must not have returned.
- The baby must be exclusively breastfed day and night.
- The baby must be less than six months old.

**SAQ 4.4**

- (a) No. If the infant takes more than a six-hour interval between feeds during the night, the mother is advised to start a complementary family planning method.
- (b) The first choice would be a non-hormonal contraceptive, such as condoms, spermicides, diaphragms, IUCDs, or voluntary surgical contraception. This is because these methods do not enter the bloodstream and interfere with the production of breastmilk.
- (c) The second choice would be to provide progestin-only methods, such as progestin-only pills, a DMPA injectable or implants. These methods do not interfere with breastmilk production.

## Study Session 5

**SAQ 5.1**

There are a lot of misconceptions about the use of oral contraceptives. Some of those listed in Section 5.1 may also be common myths in your locality. In addition, the following misconceptions are sometimes cited:

- 1 Some societies believe that oral pills cause severe heartburn if not taken with milk, so those who are not able to get milk should not take the pill.
- 2 Some still perceive taking a pill is not allowed by God.
- 3 Others say pills cause obesity and sometimes interfere with menstruation.

None of these are true.

**SAQ 5.2**

The pill works by altering the body's reproductive hormone balance. As a result, the following occurs:

- 1 The woman does not release an egg (ovum) each month from one of her ovaries, so ovulation cannot take place.
- 2 The cervical mucus becomes thickened and forms a 'mucus plug' which makes it difficult for sperm to get through to the uterus (womb) to fertilise an egg.
- 3 The lining of the uterus gets thinner and thinner. This makes it unlikely that a fertilised egg will be able to attach to the uterus.

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### **SAQ 5.3**

If a woman who forgot to take three COC pills in the second week of her last menstrual period comes to your health post, you may tell her she should take the following actions.

- 1 Take a pill as soon as possible.
- 2 Take the next pill at the usual time. This may mean taking two pills on the same day, or even at the same time.
- 3 Continue taking active pills (see Figure 5.1) as usual, one each day.

### **SAQ 5.4**

Firstly, you should check her blood pressure to see if it has increased. In any case, these symptoms are serious and require medical intervention. So, you need to tell her to seek medical advice at the hospital or health post.

### **SAQ 5.5**

The major difference between COCs and mini-pills is that there are two hormones in COCs (progesterone and oestrogen), while mini-pills contain only one hormone (progesterone). All women are eligible to take mini-pills, but they are most suitable for breastfeeding mothers, as they do not interfere with breastmilk.

**SAQ 5.6**

The table below summarises the main advantage and disadvantages of COCs compared to mini-pills.

<b>Advantages</b>	
<b>COCs</b> <ul style="list-style-type: none"> <li>• Very effective and safe.</li> <li>• Can be used at any age.</li> <li>• Women's fertility returns quickly after pills stop.</li> <li>• Can prevent or decrease iron deficiency anaemia.</li> <li>• Decrease menstrual cramps and pain.</li> <li>• Reduce the risks of ectopic pregnancies, endometrial cancer, ovarian cancer, ovarian cysts, pelvic inflammatory disease, benign breast disease.</li> <li>• Can be used as an emergency contraceptive after unprotected sex.</li> </ul>	<b>Mini-pills</b> <ul style="list-style-type: none"> <li>• Can be used by nursing mothers, because the quantity and quality of breastmilk is not affected.</li> <li>• Do not cause oestrogen-related side-effects, such as heart attacks or strokes.</li> <li>• Easier to understand how to take them, since you take one pill every day with no break.</li> <li>• May help prevent benign breast disease, endometrial and ovarian cancer, and pelvic inflammatory disease.</li> </ul>
<b>Disadvantages</b>	
<ul style="list-style-type: none"> <li>• Can slightly reduce milk production.</li> <li>• Very rarely can cause strokes, blood clots in deep veins of the legs, heart attacks.</li> <li>• They can't prevent STIs, like HIV/ AIDS.</li> </ul>	<ul style="list-style-type: none"> <li>• For women who are <i>not breastfeeding</i>, changes in menstrual bleeding, including irregular periods, spotting or bleeding between periods, and amenorrhoea (missed periods).</li> <li>• Prolonged or heavy menstrual bleeding in a few women.</li> <li>• Progestin-only oral contraceptives may lengthen amenorrhoea during breastfeeding.</li> <li>• For women who are not breastfeeding, even taking a pill more than a few hours late increases the risk of pregnancy.</li> <li>• They can't prevent STIs, like HIV/ AIDS.</li> </ul>

**SAQ 5.7**

If one of your clients who is using COCs has developed pulmonary tuberculosis and been put on anti-tuberculosis drugs, you should advise her to switch her contraceptive method from COCs to a mechanical method, such as condoms or IUCD, so that she will avoid any drug interactions or possible side-effects.

**Study Session 6****SAQ 6.1**

While non-hormonal methods are better, DMPA and other progesterone-only contraceptives would be the next best choice for lactating women. If the mother is not fully breastfeeding, or if menstruation has resumed, DMPA or a progesterone-only pill can be started as early as six weeks after delivery.

### SAQ 6.2

The correct protective periods in column B have been matched with the contraceptive methods in column A.

A	B
DMPA	3 months
Noristerat	2 months
Norplant	5–7 years
Jadelle	5 years
Implanon	3 years
Sino-implant	5 years

### SAQ 6.3

Women who stop using contraceptive implants can get pregnant as quickly as if they had stopped a non-hormonal contraceptive method. This is because contraceptive implants do not delay the return of fertility once they have been removed.

### SAQ 6.4

Progesterone-only contraceptives prevent the occurrence of pregnancy because they:

- stop the ovaries from releasing an egg each month
- thicken mucus in the cervix, which prevents sperm cell entry to the uterine cavity
- thin the endometrium of the uterus, making it difficult for the fertilised egg to be implanted.

### SAQ 6.5

The best times to start DMPA to prevent pregnancy are:

- During the first seven days after menstrual bleeding begins.
- 6 weeks after childbirth, or at any time once menstruation returns, ensuring that the woman is not pregnant.
- After childbirth if the mother is not breastfeeding.
- Immediately, or in the seventh day after miscarriage or abortion.
- Immediately after stopping another method.

### SAQ 6.6

Menstrual irregularity, or inter-menstrual bleeding, or total absence of menstruation (amenorrhoea) are common side effects of Implanon caused by hormonal imbalance, specifically by excess progesterone in the woman's body. In the absence of infection, reassure W/ro Marta that her bleeding pattern is very common and is normal, particularly during the first three to six months following insertion. If the bleeding is unacceptably high, refer her for further investigation and management to the nearest health centre or hospital.

**SAQ 6.7**

These are the most important infection prevention precautions:

- Wash your hands using water and ordinary soap.
- Wear protective barriers such as gloves.
- Use antiseptic prior to insertion/injection.
- Discard all disposable materials into a safety box.

**Study Session 7****SAQ 7.1**

Your hand-drawn Copper T IUCD drawing should look something like this. See Figure 7.3.

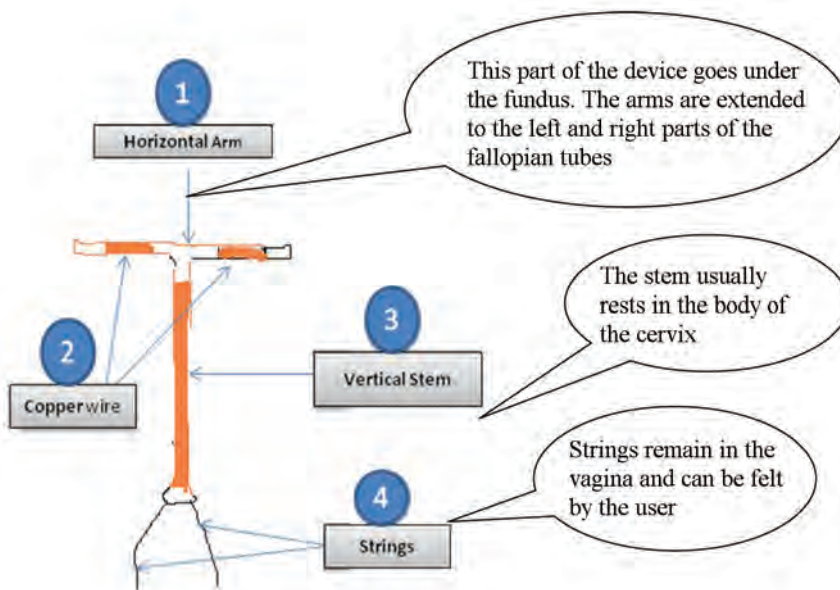


Figure 7.3 Hand-drawn copper T IUCD

**SAQ 7.2**

A copper-bearing IUCD can interfere with fertilisation in two main ways:

- The copper slows down the movement of sperm within the woman's uterus to prevent sperm from reaching the fallopian tubes and fertilising the egg.
- The device can stimulate a strong reaction in the wall of the uterus, which prevents implantation of the egg even if it is fertilised.

### SAQ 7.3

*False* statements and their justifications:

A is true. Loops and Copper T IUCDs are quite different in shape and size.

B is *false* because the main function of impregnated barium sulfate in IUCDs is to illuminate the location of the device in the uterus when an x-ray image is taken. It has nothing to do with fertilisation.

C is *false* because the copper-bearing IUCD acts locally and has no systemic effect in reacting with other drugs. Therefore it can be safely used as a contraceptive method by a woman who is taking antituberculosis medication.

D is *false* because in spite of its flexibility, it is not easy to insert a copper T IUCD into the uterus. You need special skills and training to do so. Therefore, health professionals who are not trained in such skills should not insert the device.

E is true. Expulsion of the Copper T IUCD is rare, if inserted and placed appropriately.

### SAQ 7.4

IUCDs have the following advantages compared to oral contraceptives:

- They contain no hormones, so do not cause blood clots and heart attacks. Although it is very rare, oral contraceptives can have these side-effects.
- IUCDs act locally and do not affect other drugs. Therefore, an IUCD can be safely used as an optional contraceptive method by a woman taking anti-tuberculosis and/or anticonvulsion drugs.
- IUCDs can be a good choice for lactating mothers, as they do not affect breastmilk .

### SAQ 7.5

The following table depicts the relative advantages of IUCDs compared with oral contraceptives.

Disadvantages/side effects of oral contraceptives	Relative advantages of IUCDs
<ul style="list-style-type: none"><li>• COCs can affect quality and quantity of breastmilk.</li><li>• Very rarely COCs can cause stroke, blood clots in deep veins of the legs, or heart attack.</li><li>• OCs can interact with anti-tuberculosis and anti-convulsion drugs.</li><li>• Women may forget to take OCs.</li><li>• Women may require repeated regular visit or follow-ups.</li><li>• Mini-pills can cause prolonged or heavy menstrual bleeding in some women.</li><li>• Mini-pills may lengthen amenorrhoea during breastfeeding.</li></ul>	<ul style="list-style-type: none"><li>• IUCDs can be used by nursing mothers because the quantity and quality of breastmilk is not affected.</li><li>• IUCDs do not cause oestrogen-related side-effects, such as blood clots, heart attacks or strokes.</li><li>• IUCDs do not interact with anti-tuberculosis and anti-convulsion drugs.</li><li>• Once inserted, users do not need to remember to take the IUCD, and are not required to make repeated visits to see health professionals.</li><li>• Prolonged or heavy menstrual bleeding is unlikely for women using IUCDs.</li><li>• IUCDs do not lengthen amenorrhoea during breastfeeding.</li></ul>

**SAQ 7.6**

The following is a list of groups of women who cannot use IUCDs at all:

- Women with active PID cannot use IUCDs as they can worsen any pelvic infection as a result of microbiological contamination during insertion.
- Women who are known to be pregnant should not use IUCDs because they can cause toxicity to the fetus, which may result in abortion.
- Women who are suffering from undiagnosed irregular genital tract bleeding must consult a doctor before using an IUCD, as the bleeding could be due to uterine cancer. Using an IUCD with this condition can worsen the bleeding.
- Women who are known to be allergic to any constituent of the device should avoid using an IUCD because it may result in an undesirable health problem.

## Study Session 8

**SAQ 8.1**

The major difference between mechanical barriers and chemical barriers is that mechanical barriers are devices that provide a physical barrier between the sperm and the egg, while chemical barriers act as sperm-killing substances. Barrier methods can be more effective when used together with other contraceptive methods, such as oral contraceptives. Spermicides can also be used together with other mechanical barriers.

**SAQ 8.2**

The unique advantage of condoms is that they can be used for birth control and at the same time prevent STIs, including HIV/AIDS.

**SAQ 8.3**

The key messages to pass on when counselling clients who want to use male condoms are:

- Used condoms should be thrown away after each sex act.
- Male and female condoms should not be used at the same time.
- Placing two male condoms on a penis increases the chance of tearing.

**SAQ 8.4**

The most common reason for a male condom breaking is lack of enough lubrication from natural secretions, which results in increased friction. Increased friction in turn causes breakage. To overcome this, users are advised to use a water-based lubricant, such as KY jelly.



### SAQ 8.5

Using a female condom is more advantageous for the woman than relying on a male partner because it is the only female-controlled device offering protection against pregnancy, STIs and HIV/AIDS.

### SAQ 8.6

A is *false* because wearing both male and female condoms at the same time can increase the likelihood of breakage, as a result of increased friction.

B is true. Wearing two condoms at a time cannot prevent breakage.

C is *false* because to prevent dryness during sexual intercourse, you should not use edible oil or Vaseline, but rather only water-based lubricants, such as KY jelly.

D is true. The diaphragm is one of the least effective birth control methods.

E is *false* because spermicides can only be really effective when used with other contraceptive methods, such as oral contraceptives, condoms and diaphragms.

F is true. Both male and female condoms act as physical barriers so semen and blood are not shared.

G is true. Men should wait for the penis to become erect before wearing a condom.

## Study Session 9

### SAQ 9.1

Your answer should include some of these questions:

- Can you tell me why you want to have VSC?
- You are only 23 years old, which is very young to have VSC. Do you realise it is a permanent method of contraception?
- Do you have a partner? If so, does your partner want to have children in the future?
- Do you already have a family? If not, are you sure you won't want to have children in the future? If yes, are you sure you won't want to have more children in the future?
- Do you think you might change your mind later? What might change your mind? For example, suppose one of your children died? Suppose you lost your spouse and you married again?
- VSC is irreversible. Have you thought about other contraceptive methods?

Your client may need encouragement to further consider his decision about sterilisation. As a provider, you can advise your client about other methods of contraception, and help him make an informed choice.

Ultimately, the decision about sterilisation belongs to the client alone. A man or woman may consult a partner and others about the decision to have sterilisation, and may consider their views, but the decision cannot be made for them by a partner, another family member, a healthcare provider, a community leader, or anyone else. It is your duty to make sure that the decision for or against sterilisation is made by the client and is not pressured or forced by anyone.

**SAQ 9.2**

Structure 4 in Figure 9.5(a), is the uterus. Its function is receiving the fertilised ovum and creating a favourable environment for the fetus to develop.

Structure 5 in Figure 9.5(a), is the right fallopian tube. Its main function is hosting fertilisation and transporting the fertilised egg to the inner part of the uterus, where implantation takes place.

**SAQ 9.3**

If the pathway at structures 1 and 2 in Figure 9.5(a) is blocked it will result in female sterilisation. The blocks prevent the sperm from reaching an egg, and as a result fertilisation and implantation will not take place.

**SAQ 9.4**

If the pathway at structures 1 and 2 in Figure 9.5(a) is blocked then the eggs (structure 6.) will remain in the fallopian tube and be reabsorbed by the body. Sterilisation does not usually affect hormone levels and the ovaries will continue to release eggs as part of the normal menstrual cycle.

**SAQ 9.5**

Blocking structure 7 (left sperm tube or *vas deferens*) in Figure 9.5(b), is the procedure known as vasectomy, and results in male sterilisation. Its advantages and disadvantages are detailed below.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Permanent birth control.</li> <li>• Requires no daily attention.</li> <li>• Does not affect sexual pleasure.</li> <li>• Less complicated than female sterilisation.</li> </ul>	<ul style="list-style-type: none"> <li>• Not immediately effective.</li> <li>• Requires minor surgery in a hospital.</li> <li>• May not be reversible.</li> <li>• Possible regret.</li> <li>• Possible rejoining of the <i>vas deferens</i>.</li> <li>• Does not protect against STIs, including HIV/AIDS.</li> </ul>

**SAQ 9.6**

Effective counselling is very important before carrying out either a tubal ligation or a vasectomy because these procedures are permanent and almost always irreversible. Clients who do not have sufficient reasons for choosing a permanent contraceptive method at the time of their decision are more likely to regret it later. For women electing VSC following childbirth, thorough counselling during pregnancy, and a decision made before labour and delivery, can help to avoid regrets later.

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### SAQ 9.7

A is *false* because cutting the fallopian tubes alone would not be enough to sterilise a woman; the tubes have to be tied as well.

B is true. Sperm can remain in the ducts after the operation.

C is true, but this common belief is mistaken.

D is *false* because operating on the fallopian tubes in women or the sperm tubes in men requires special training and a high degree of skill and is usually done in hospital where aseptic techniques are followed as part of the procedure.

E is *false*. Clients who have undergone VSC do not lose their sexual desire and enjoyment at all. In women, hormonal levels and the menstrual cycle are not affected, and similarly, men can fully enjoy sex after having a vasectomy. Some couples even experience improved sexual pleasure because they no longer have to worry about the possibility of pregnancy.

## Study Session 10

### SAQ 10.1

The main reasons for using emergency contraception are:

- When a woman has not used contraceptives prior to sexual intercourse.
- If sexual intercourse has been forced or coerced.
- If the client has incorrectly used a contraceptive method.

### SAQ 10.2

Emergency contraceptives work by:

- Suppression of ovulation.
- Thickening of cervical mucus to make it difficult for sperm penetration.
- Thinning the endometrial lining of the uterus to prevent the fertilised egg from attaching and developing.

### SAQ 10.3

- (a) It should be as soon as possible after unprotected sex and must be within five days following unprotected sexual intercourse.
- (b) If your client has failed to menstruate a week or more following emergency contraception, she may be pregnant. You can refer her for a pregnancy test to confirm the pregnancy. If the client is pregnant, you can tell her the available options, and ask her to choose the most appropriate option for her situation. If the client would like to continue with the pregnancy, you can reassure her that emergency contraceptive pills will not have harmed the fetus.

**SAQ 10.4**

The first dose must be within five days of unprotected sexual intercourse, if possible within 24 hours (depending on the types of emergency contraceptive used). The second dose should be taken 12 hours after the first dose.

**SAQ 10.5**

In the case of nausea, advise her to take the pills with food or milk. In the case of vomiting, give her an additional dose of ECPs, because the pill may have been vomited out without being absorbed in the stomach. If she vomits continuously, advise her to put the same dose of the pill in her vagina, from which it will be absorbed into the bloodstream.

**SAQ 10.6**

Women who take ECPs should understand that they could become pregnant the next time they have sex unless they begin to use another method of contraception at once. This is because ECPs delay ovulation in some women. So they may be *most fertile* soon after taking ECPs. If a woman wants ongoing protection from pregnancy, she must start using another contraceptive method at once.

**SAQ 10.7**

Tell W/ro Lule that headaches are a possible side-effect of using emergency contraceptive pills, and that it will not last long. For pain relief, offer her either Aspirin (300 mg), Ibuprofen (400 mg), or Paracetamol (500 mg).

## Study Session 11

**SAQ 11.1**

Following an abortion in the first trimester (first three months of pregnancy), a woman's fertility resumes almost immediately and usually within two weeks. However, following an abortion in the second trimester, a woman's fertility usually resumes within four weeks, allowing slightly longer to begin appropriate contraception.

**SAQ 11.2**

The essential components of postpartum and post-abortion family planning are:

- Discussing family planning needs, and protection against sexually transmitted infections (STIs).
- Counselling about short- and long-term family planning method choices, their effectiveness, and side effects.
- Provision of appropriate and available family planning methods or contraceptives.
- Appointment for a follow-up meeting.

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### SAQ 11.3

The potential advantages of postpartum and post-abortion family planning services are:

- Opportunities to contact clients in order to introduce family planning services.
- Subsequent opportunities to offer information about breastfeeding and family planning.

### SAQ 11.4

- Explain to W/ro Bekelech that her current pill, Microgynon, could affect her breastmilk and is not the best contraceptive choice.
- Discuss with W/ro Bekelech the effectiveness of using the LAM method, and mention to her the importance of maintaining a full breastfeeding pattern over the next six months if she does.
- Inform W/ro Bekelech about the effect of oestrogen on breastmilk production.
- If W/ro Bekelech wants to use LAM, provide detailed instructions, and the criteria for starting a complementary method.
- If W/ro Bekelech does not want to use LAM, and wants to use contraceptive pills, counsel her on the progestin-only methods. If she accepts progestin-only pills, provide her with a supply.
- Discuss with W/ro Bekelech any risks concerning STIs, and provide her with condoms if needed.

## Study Session 12

### SAQ 12.1

Both men and women are affected by infertility: about 40–60% of causes are linked to female factors and 20–40% are related to male factors.

### SAQ 12.2

Primary infertility is when the couple have never had children, or have been unable to achieve pregnancy after one year of living together and having unprotected sexual intercourse.

Secondary infertility is when a couple who already have children, or have achieved pregnancy previously, are unable to conceive after one year of having unprotected sexual intercourse.

### SAQ 12.3

Men:

- Problems of sperm production
- Blockage of sperm tube
- Sexual problems.

Women:

- Ovulation disorders
- Blockage of the uterine tube
- Disorders of the uterus, cervix and vagina.

**SAQ 12.4**

- The age of both men and women is important. Fertility decreases as age increases, particularly for women.
- Having less opportunities for sex due to, for example, polygamy.
- Having multiple sexual partners, which increases exposure to STIs. (STIs can lead to blockage of the uterine tube in women, or spermatic cord in men).
- Excessive alcohol can have an inhibitive effect on sexual drive.
- Chronic malnutrition. Starvation can result in the absence of menstruation, and it also reduces a couple's desire to have sexual intercourse frequently.

**SAQ 12.5**

- (a) Ato Belay may have a primary infertility problem, possibly caused by mumps, which could have caused his testes to become shrunken and so fail to produce normal sperm.
- (b) Explain that the mumps infection may have caused damage to his testes, where sperm are produced. As a result, it is possible he may not be able to fertilise the women's eggs.
- (c) Tell him as gently as you can that you will be referring him to the hospital/health centre for tests.

