Federal Ministry of Health

# Urban Health Extension Program Integrated Refresher Training

## Module Four

## Major Communicable Diseases Prevention and control

# Facilitator's Guide

February 2017

Federal Ministry of Health

# Urban Health Extension Program

# Integrated Refresher Training (IRT)

## Module Four

## Major Communicable Diseases Prevention and control

# Facilitator`s Guide

February 2017

# Contents

# Acknowledgement

The preparation and finalization of the integrated refresher training modules for Urban Health Extension Professionals (UHE-ps) has been made possible through a series of consultative meetings and workshops. During this process, the valuable contributions of our partners and program stakeholders have been crucial. This module is meant for UHE-ps in order to improve their attitude, skill and knowledge, which in turn help them provide quality health services to their clients. Therefore, the Federal Ministry of Health (FMOH) acknowledges all organizations for their contributions in the preparation, fine-tuning and finalization of this document.

FMOH is grateful to all partners involved and in particular USAIDJSI/SEUHP, JHU CCP, World Vision, Challenge TB, UNICEF, for the technical support provided to develop this Integrated Refresher Training(IRT) module in a harmonized approach.

Special acknowledgement is made by the FMOH to team of experts from the government and nongovernmental organizations who tirelessly involved in the entire processes of producing the module.

The FMOH also acknowledges the Joint leadership of the Health Extension and Primary Health Services Directorate (HEPHSD) and John Snow Incorporate (JSI) -Strengthening Ethiopia's Urban Health Program (SEUHP) for mobilizing resource and coordinating the development of the training module.

FMOH acknowledges JSI-SEUHP for providing financial support to organize a series of workshops and consultative meetings as well as to print the final version of all training modules.

Zufan Abera Damtew (BSc N., MPH, PhD)

Director, Health Extension and Primary Health Service Directorate

Federal Ministry of Health

# Introduction

Urban Health Extension Program was introduced in Ethiopia in 2009, based on lessons learnt from successful implementation of the health extension program in rural areas. The program is designed with the aim of ensuring health equity by creating demand for essential health services through the provision of health information and basic health services at household level, school and youth centers and improving access to health services through referral to health facilities. Subsequent evaluations conducted on the program implementation have shown that, Urban HEP has contributed for increased health service awareness and utilization among urban dwellers. However, there was a wide disparity in implementation of the program and its achievements among cities. Low competency of Urban Health Extension Professionals (UHE-ps) and lack of integrated and continuous training has contributed for the discrepancy in implementation of the program.

Hence, a training need assessment was conducted to identify the competency gaps of UHE-ps when providing basic services. Therefore, considering the type of competencies that the UHE-ps need to have and identified competency gaps, six modules have been identified and developed based on Competency Based Training approach to provide in-service integrated refresher trainings. In addition, the modules were pre-tested and further refined. These modules are: -

Module 1: Social and Behavioral Change and Communication

It encompasses the health communication component to improve the knowledge and skill of UHE-ps to conduct effective health communication and improve UHE-ps attitudes affecting their performance in provision of health communication activities.

Module 2: Reproductive, Maternal, Neonatal, Child Health and Nutrition

The overall purpose of this module is to improve the attitude, knowledge and skills of UHE-ps to carry out quality family planning, maternal, neonatal, child health and nutrition services as well as enhance the UHE-ps understanding of attitudes affecting their performance in provision of family planning, maternal, neonatal, child health and nutrition services.

Module 3: Water, Hygiene and Sanitation

The overall purpose of this module is to improve the knowledge and skills of UHE-ps to carry out quality Water, Sanitation and Hygiene services as well as enhances the UHE-ps understanding of attitudes affecting their performance in provision of Water, Sanitation and Hygiene services.

Module 4: Major Communicable Diseases Prevention and Control

This module prepares Urban Health Extension professionals (UHE-ps) to provide TB/HIV and malaria-related services including reaching vulnerable populations with key TB/HIV prevention messages, HIV/STI counseling and testing (HCT), TB case detection, TB and HIV/AIDS care and support, referrals to services and malaria prevention and control in malarias areas.

Module 5: Non Communicable Diseases Prevention and Control and Mental Health

The Purpose of the module is to enable the participant s (UHEPs) explore and use their Attitude, Skill and knowledge to improve their performances in terms of providing quality health services related to major NCDs and mental health

Module 6: Basic First Aid

The purpose of this module is to improve the knowledge, attitude and skill of UHE-ps to provide quality first aid service and injury management. The module will also consist of transferring information regarding first aid and injury management to household and communities. This module also includes pre hospital cares.

# Module Outline

**Module Four: Major Communicable Diseases Prevention and Control**

**Duration = Five days**

| Time | Objectives/Activities | Facilitating /Learning Methods | Resources/ Materials |
|---|---|---|---|
| **Unite one: HIV/AIDs and STI ( two and half days , 14:50 hours)** | | | |
| 120 min (2:00) | **Session one**: Basic facts and epidemiology of HIV/AIDS<br>Enabling objective:<br>Describe the basic facts and epidemiology of HIV/AIDS<br>Explain risk and vulnerability for HIV | Slide presentation, Group Work, Plenary discussion | **Blended Learning Module for the Health Extension Program** *Communicable Disease part III - HIV and AIDS* |
| 130 min (2:10) | **Session two**: HIV prevention interventions<br>Enabling objectives:<br>Identify priority populations for to provide HIV prevention services<br>Analyze Post-Exposure Prophylaxis (PEP)<br>Describe infection prevention principles | Paired discussion and reflection, Brain storming, group discussion, plenary discussion, | |
| 360 min (6:00) | **Session three**: provide home based HIV Counseling and Testing<br>Enabling objective:<br>Demonstrate pre HIV test counseling<br>Demonstrate HIV testing<br>Demonstrate post HIV test counseling, referral and linkage | Group work, Role Play, Case study, Demonstration and brainstorming | |
| 195 min (3:25) | **Session four**: HIV treatment, care and support<br>Enabling objective:<br>Describe adherence and retention to care and treatment and the required support<br>Describe the linkage between HIV and nutrition and nutritional screening assessment<br>Discuss care and support and how to live positive and the required support based on individual cases | Brainstorming, Group discussion, Role play, Paired discussion and plenary, Interactive lecture, reading assignment, small group discussion | |
| 75 min (1:15) | **Session five**: Basics of common STIs and relation with HIV/AIDS<br>Enabling objective:<br>Describe basics of common STI's and the relation between STISTI and HIV<br>Describe syndromic management of STIs and how to identify and STI cases to the health centre | Brainstorming, slide presentation case scenario , plenary discussion | |

# Module Schedule: Major Communicable Diseases

| Day | Time | **Unit, Session** | Activities | Training materials |
|---|---|---|---|---|
| Day 1 | 2:30-4:30 | **Unit 1 (U1), Session 1:** Basic facts and epidemiology of HIV and AIDS | Slide presentation<br>Group work<br>VIPP exercise and plenary discussion | |
| | 4:30-5:00 | Tea Break | | |
| | 5:00- 6:30 | **U1, Session 2:** HIV/AIDS prevention interventions | Paired discussion and reflection<br>Brain storming and small group discussion | Flip chart, marker, flip chart stand, LCD projector and lap top computer<br>Reach protocol hard copies for all participants and list of priority population<br>Participant's guide, Facilitator guide |
| | 6:30-8:00 | Lunch time | | |
| | 8:00-8:40 | **U1, Session 2:** HIV/AIDS prevention interventions cont. | Group work and plenary discussion | |
| | 8:40 -9:30 | **U1, Session 3:** Provide home based HIV counseling and testing | Group work,<br>Role play, structured feedback, discussion | Flip chart with stand, white board, and white board marker<br>HCT protocol algorithm for pre- and post-test<br>Scenarios of different cases<br>Observer's checklist |
| | 9:30- 10:00 | Tea Break | | |
| | 10:00-11:30 | **U1, Session 3**: Provide home based HIV counseling and testing cont. | Group work,<br>Role play, structured feedback, discussion | |
| Day 2 | 2:30-4:30 | **U1, Session 3**: Provide home based HIV counseling and testing cont. | | |

| | | | | |
|---|---|---|---|---|
| Day 2 | 4:30-5:00 | Tea Break | | |
| | 5:00- 6:30 | **U1, Session 3**: Provide home based HIV counseling and testing cont. | | |
| | 6:30-8:00 | Lunch | | |
| | 8:00-9:10 | **U1, Session 3**: Provide home based HIV counseling and testing cont. | | |
| | 9:10 -9:30 | **U1, Session 4**: HIV treatment, care and support | Brainstorming, Group discussion, Role play, Paired discussion and plenary, Interactive lecture, group discussion | |
| | 9:30- 10:00 | Tea break | | |
| | 10:00-11:30 | **U1, Session 4**: HIV treatment, care and support cont. | Brainstorming, Group discussion, Role play, Paired discussion and plenary, Interactive lecture, group discussion | |
| Day 3 | 2:30-4:05 | **U1, Session 4**: HIV treatment, care and support cont. | | |
| | 4:05-4:30 | **U1, Session 5:** Basics of common STIs and relation with HIV/AIDS | Brainstorming, slide presentation case scenario , plenary discussion | |
| | 4:30-5:00 | Tea break | | |
| | 5:00- 5:50 | **U1, Session 5:** Basics of common STIs and relation with HIV/AIDS cont. | Brainstorming, slide presentation case scenario , plenary discussion | |
| | 5:50-6:30 | Unit 2 (U2), Session 1: Basic facts and epidemiology of Tuberculosis. | Reading and Brainstorming ,VIPP facilitation,(True or False Exercise), Slide presentation and group discussion | |
| | 6:30-8:00 | Lunch | | |
| | 8:00-8:30 | **U2, Session 1**: Basic facts and epidemiology of Tuberculosis Cont. | Reading and Brainstorming ,VIPP facilitation,(True or False Exercise), Slide presentation and group discussion | |
| | 8:30 -9:30 | **U2, Session 2**: Presumptive TB cases identification and referral. | Group discussion, Case Scenario, VIPP and Plenary/ Gallery walk, Role play | |
| | 9:30- 10:00 | Tea break | | |
| | 10:00-11:30 | **U2, Session 2**: Presumptive TB cases identification and referral cont. | Group discussion, Case Scenario, VIPP and Plenary/ Gallery walk, Role play | |

| | | | | |
|---|---|---|---|---|
| Day 4 | 2:30-4:30 | **U2, Session 3**: Diagnosis and Treatment of Tuberculosis | Brainstorming, group discussion /Plenary ,VIPP exercise | |
| | 4:30-5:00 | Tea break | | |
| | 5:00- 6:30 | **U2, Session 4**: Community TB care | Brainstorming, group discussion /Plenary ,VIPP exercise | |
| | 6:30-8:00 | Lunch | | |
| | 8:00-9:30 | **U2, Session 5**: Introduction to TB/HIV co-infection | VIPP Exercise, Brainstorming, Slide Presentation, Plenary /large group discussion, Case scenario /Group work | |
| | 9:30- 10:00 | Tea break | | |
| | 10:00-11:30 | **U2, Session 6**: Introduction to MDR TB | Brainstorming, Group discussion and reflection, Participatory slide presentation | |
| Day 5 | 2:30-4:30 | **Unit 3 (U3), Session 1:** Basic facts and epidemiology of Malaria in Ethiopia | VIPP Exercise (True or false exercise), Video show (Malaria vector and parasite lifecycle), Group work and plenary discussion. | |
| | 4:30-5:00 | Tea break | | |
| | 5:00- 6:30 | **U3, Session 2:** Major malaria prevention and control interventions. | Group discussion and Presentation, VIPP Exercise | |
| | 6:30-8:00 | Lunch | | |
| | 8:00-9:30 | **U3, Session 3:** Malaria Diagnosis and treatment | Brainstorming and group discussion, Plenary discussion, Slid Presentation, Demonstration, Case scenario | |
| | 9:30-10:00 | Tea break | | |
| | 10:00-11:30 | **U3, Session 3:** Malaria Diagnosis and treatment cont | Demonstration, Case scenario | |

# Module Syllabus

Module Description

This five day training module will enable the urban health extension professionals to deliver community based prevention and control of HIV/AIDS, Tuberculosis and malaria services as per national implementation guideline. The intended course will fill the gaps that were found on the training needs assessment and include the current initiatives that are included in the implementation guideline.

Module Goal

The goal of the module is to improve the knowledge, attitude and skills of urban health extension professionals on the implementation of TB, HIV and malaria services.

Module objectives

At the end the course the participant will be able to:-

Acquire the knowledge, attitude and skills to implement community based TB prevention and control services

Acquire the knowledge, attitude and skills to implement community based HIV/AIDS prevention and control services

Acquire the knowledge, attitude and skills to implement community based malaria prevention and control services

Description of training methods and materials

Participant selection criteria

Participants for this module should be urban health extension professionals and their supervisors.

Methods of module evaluation

Participant

- Pre-test
- Assessment during the training
- Post-test
- Post training follow up

Course

- Daily Evaluation
- Course Evaluation

Module duration: Five days

Suggested class size: Twenty-five participants per training room with at least 2 facilitators

Module Schedule: **Major Communicable Diseases**

**Total Allocated time: Five days**

Module Units: Major Communicable Diseases

- Unit one: HIV/AIDS and STI
- Unit two: Tuberculosis
- Unit three: Malaria

Reference Manual [21 modules]

Reference Materials

Pre and Post Test

Attendant Information

Attendance Sheet

Training Evaluation Sheet

**Unit description:** This unit is designed to give Urban Health Extension professionals (UHE-ps)the knowledge, skills and attitude to create awareness about prevention, treatment and care of sexually transmitted infections (STIs) including HIV/AIDS, to identify and reach priority population for HIV intervention, provide HIV counseling and testing (HCT), care and support, and referrals to services.

**Specific Objectives:** By the end of this unit participants will be able to;

- Describe basic facts and epidemiology of HIV and AIDS in Ethiopia
- Identify priority population for HIV intervention and understand how to reach priority population
- Demonstrate HIV counseling and rapid HIV testing
- Describe adherence and retention to HIV care and treatment and nutrient and provide and link for care and support as required
- Describe common types of STIs and explain how to screen for Sexually Transmitted infections (STIs) and refer for treatment and relation between STI and HIV

**Time allocated: 14: 50 hrs**

## Session one: Basic facts and epidemiology of HIV and AIDS

**Session Objective** - by the end of this training session the participants will be able to describe basic facts about HIV/AIDs and epidemiology of HIV/AIDS in Ethiopia.

**Time:** 120 minutes (2:00)

**Enabling objectives:** by the end of this training session the participants will be able to:

- Describe the basic facts and epidemiology of HIV/AIDS
- Explain risk and vulnerability for HIV

**Enabling objective 1:** Describe the basic facts and epidemiology of HIV/AIDS

**Allocated time: 60 min**

**Facilitation method:**

- Slide presentation (15 minutes)
- Group work and plenary discussion (45 minutes).

**Instruction for the slide presentation**

1. Give a brief presentation on the global burden of HIV/AIDS
   - Which part of the world most affected by HIV/AIDS
   - Show the continental map of the HIV epidemic
2. Give a brief presentation on the national burden of HIV/AIDS
   - Show the national Map of HIV/AIDS
   - HIV prevalence and incidencein Ethiopia.
3. Break participants in groups to discuss the details.

Slide ≠1

- ***What is HIV?*** Human Immunodeficiency Virus.
  - ✓ Immunodeficiency: Decrease or weakness in the body's ability to fight infections and illnesses
- ***What is AIDS?*** Acquired Immunodeficiency ***Syndrome***
  - ✓ Syndrome: A group of signs and symptoms that occur together and characterize a particular abnormality

HIV is the virus that can lead to AIDS. Someone is said to have AIDS when his/her immune system has stopped working due to HIV, and s/he has been diagnosed with a serious opportunistic infection or cancer.

Not everyone who is infected with HIV has or develops AIDS, but a person who is HIV positive can still transmit the virus to others.

Slide ≠2

- HIV infection leads to a weakened immune system. This makes a person with HIV vulnerable to illnesses that would not as easily sicken a healthy person
- AIDS results when HIV infection progresses to an advanced stage, damaging the immune system to a point at which the body can no longer overcome illness.
- AIDS is a syndrome because it is characterized by a group of illnesses
- Antiretroviral (ARVs) drugsprevent the virus from replicating and slow the progress of the disease.There is still no cure for AIDS or a vaccine to prevent HIV transmission.

**Types of HIV virus**

- ***HIV 1***
  - Most common in sub-Saharan Africa and throughout the world
  - A cause for HIV epidemic in Ethiopia
- ***HIV 2***
  - Most often found in West Central Africa, parts of Europe and India
  - HIV2 causes a more slow progress of disease than those

Slide ≠4

**Window Period**

- Represents the stage when you have been infected with HIV, but your body hasn't created antibodies.
- Usually takes 3 to 8 weeks before antibodies are detected but in rare cases may take as many as 6 months.
- A person may test false-negative for HIV antibodies during this time period
- A person has high levels of HIV in blood, sexual fluid, or breast milk during this period.
- 
- Can pass the virus to others during this period
- A negative HIV test from high risk client on one occasion must be repeated after 3 months

Slide ≠5

How is HIV transmitted?

- Unprotected sexual contact with an infected partner
- Exposure of broken skin or wound to infected blood or body fluids
- Transfusion with HIV-infected blood
- Injection with contaminated objects
- Mother to child during pregnancy, birth or breast feeding
- There is no documented risk of transmission by
  - ✓ Insect bite
  - ✓ Contact with tears, sweat or saliva,
  - ✓ Casual contact (e.g. shaking hands )

Slide ≠6

Disease Progression

- Over a period of time, HIV infects and kills white blood cells called CD4 lymphocytes or (T cells), leaving the body unable to fight off certain kinds of infections
- Severity of illness is determined by amount of virus in the body (increasing viral load) and the degree of immune suppression (decreasing CD4+ counts)
- As CD4 count declines, so does the immune function.
- Viral load is the amount of HIV circulating in the bloodstream.
- Immune suppression, measured by CD4+ cells and total lymphocyte counts, alerts us to the risk of opportunistic infections and the need for prophylactic treatment to prevent such infections from developing.

Slide≠ 7

**Epidemiology of HIV/AIDS**

***Global burden***

HIV infection is a worldwide epidemic that affectspeople everywhere.

- HIV continues to be a major global public health issue, having claimed more than 34 million lives so far. In 2014, 1.2 [980 000–1.6] million people died from HIV-related causes.
- There were approximately 36.9 [34.3–41.4] million people living with HIV (PLHIV) at the end of 2014; 2 [1.9–2.2] million people become newly infected in 2014 .
- Sub-Saharan Africa is the most affected region, with 25.8 [24.0–28.7] million people living with HIV in 2014.
- Between 2000 and 2015, new HIV infections fell by 35%, AIDS-related deaths by 24% and some 7.8 million lives saved as a result of international efforts that led achievement of the HIV targets of the Millennium Development Goals.

Slide ≠8

National burden

- The current prevalence of HIV varies byregion, age groups, andurban and rural parts of the country. Accordingly, higher prevalence was observed in urban areas and in those ages 15-24 years.
- The national prevalence of HIV in adults is estimated at 1.1% (0.8% in males and 1.5% in females) In 2015 adult HIV incidence was 0.03%.
- 4.2% in urban and 0.6% in rural areas (DHS 2011)
- In 2015, there were estimated 729,517 people living with HIV/AIDS
  - 21,495 new HIV infections
  - 17,648 AIDS related deaths (48 a day)
  - AIDS accounted for 34% of all young adult deaths (15-49 years)
  - There were a total of 385,598 AIDS orphans

Slide≠9

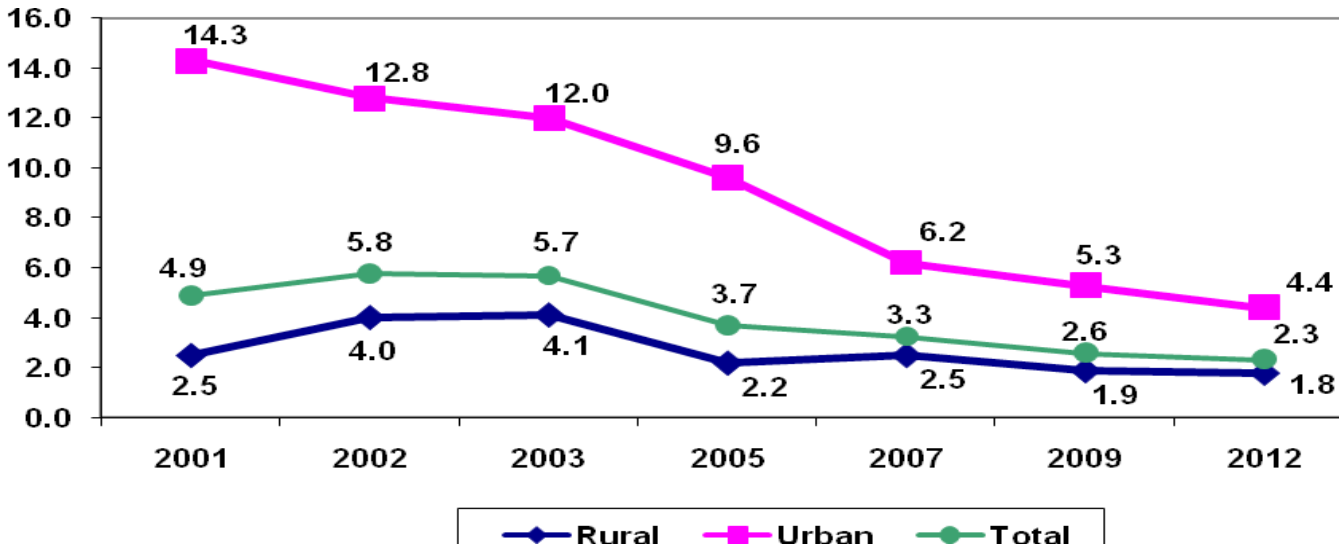



*Figure 1 Trends of HIV Prevalence (%) among ANC Clients in Urban and Rural Sites in Ethiopia, 2001-2012*

**Group work and plenary discussion (45 minutes)**

***The facilitator is advised to follow the following steps for the group work***

**Step 1.** Divide the class in to four groups; seat them far apart as possible to minimize disturbance.

**Step 2.** Encourage trainees to participate and provide the flip chart and markers for each group.

**Step 3.** Distribute one set of questions to each group.

***Group I:***

1. What do you observe from the National incidence of HIV/ AIDS in the recent years?
2. What do you think the reason for the shift in the burden of HIV/AIDS
3. Are you concerned about HIV and AIDS? Why?

***Group II:***

1. Which are the most affected segments of the population?
2. Why do you think these groups are most affected?
3. How does the trend of HIV/AIDS in urban and rural areas differ?

Are you concerned about HIV and AIDS? Why?

***Group III:***

1. Discuss what should be done in response to HIV/AIDS in Ethiopia;
   - At the individual level
   - At the family and community levels
   - At the health facility level
   - At the policy maker level

Are you concerned about HIV and AIDS? Why?***Group IV:***

1. ***Dis***cuss the health, social and economic effects of HIV/AIDS in Ethiopia
2. Are you concerned about HIV and AIDS? Why?

**Step 4.** Advise each group to summarize its discussion on the flip chart in clear and visible handwriting.

**Step 5.** After the **15 minutes** discussion and write up of the summary, post each flipchart on the wall and facilitate a **30 minute plenary discussion**.

**Step 6.**; Ask each group to briefly present their work. Encourage other group members and the participants to comment.

**Step 7.** Supplement missing points in each group discussion and presentation. Summarize by recapping the enabling objective.

**Enabling objective #2:** Explain risk factors and vulnerability for HIV

**Allocated time:** 60 minutes

**Facilitation method;**

- Group work with cards and plenary discussion

1. Ask if anyone can explain "risk of HIV infection "and **"**vulnerability to HIV infection "and discuss. (5 min.)
2. Distribute randomly to each participant the following cards (it is fine if several participants receive the same card). (5 min.)
   - Lack of alternative jobs.
   - Insufficient social security.
   - Inadequate occupational health and safety conditions.
   - Gender norms that disempowered women.
   - Peer pressure.
   - Insufficient self-risk perception.
   - Alcohol and substance abuse.
   - Unsafe sex with casual partners.
   - Lack of information about personal rights.
   - Stigma and discrimination.

***Note: In the set of cards above, only unsafe sex with casual partners fits the definition of 'risk.' You can adapt or create additional cards as needed.***

3. Post one card that says **"Risk of HIV infection"** and another that says "**Vulnerability to HIV infection**" next to each other on a wall.
4. Read the case study below twice. As you read it, the participants will decide which cards are about risk and which about vulnerability and will post them under the corresponding sign. (5 min.

**Case study:**

I am a 20-year-old girl living in Bahir Dar. I am a waitress in a hotel that tourists visit. I started working here when my parents died a year back because as the eldest I am responsible for supporting my siblings. The income is not enough to support us and I am worried about how I can fulfill our needs.

I meet many guests in the hotel and some of them are interested in me. One who comes from Addis for business frequently told me he will help me start a private business if I become his sexual partner.

My friends and colleagues advised me to accept his request so I can support my family. On his next visit he asked me to to a party with him. I accepted and I drank whisky for the first time. I did not exactly remember what happened but I found myself in his room in the morning. I think we had unsafe sex, but I am not sure and I do not know what to do.

5. Gather participants by the wall where the risk and vulnerability signs are posted.

6. Discuss how the participants categorized the cards. If the same cards are posted under both signs, ask themto explain their reasoning. (10min.)

7. Post the definitions of risk and vulnerability (below) near the already posted cards and discuss the definitions.(5 min.)

**Vulnerability to HIV:** considers how social environment may increase risk of exposure.

**Risk of HIV infection**: constitutes direct exposure that increases the probability that a person will acquire HIV infection.

Ask if the participants want to shift the placement of any cards following the discussion and posted definitions of risk and vulnerability. (15 min.)

Discussion questions

- How do the issues on the cards affect risk in real life for a girl like the one in our story?
- How do these issues interconnect and increase risk?
- Let's imagine that the girl in the story begins to practice safer sex. What vulnerability issues would make it difficult for her to sustain safer sexual behavior? Why? As UHE-ps, how could you help her?
- Do certain people experience these issues more than others in our society? Who? What barriers can you reduce to increase access to services for these people? How?

8. Use the following questions to conclude discussions.(10 min.)

- If you met a girl like the one in the story, how could you help her to decrease her vulnerability? What could you do to help her decrease her risk?

- Why is it important for UHE-ps to understand risk and vulnerability and their connection?

## Session two: HIV prevention intervention

**Session Objective:** by the end of this session the participants will be equipped with the required knowledge, attitude and skills in providing different HIV prevention intervention at a community level.

**Allocated time**: 130 min (2:10)

**Training materials:**

- Flip chart, marker, , LCD projector, lap top computer
- Reach protocol hard copies and list of priority population for all participants
- Participant's and , Facilitator guides

**Enabling objectives:** by the end of this session the participants will be able to:

- Identify priority populations to provide HIV prevention services
- Analyze Post-exposure prophylaxis (PEP)
- Describe infection prevention principles

**Enabling Objective 1:** Identify priority populations and provide HIV prevention services

**Allocated time: 60 minutes**

**Facilitation Method**

✓ Paired discussion and reflection

**Instruction**

1. Describe the purpose of the activity. (5min.)
2. Ask participants to list the vulnerable groups in the community in pair with the participant seated next them.
3. Give them the list of Priority Populations for HIV Testing groups according to Government of Ethiopia HIV prevention guide (listed below), including prevention with positives. (15 min)
4. Ask each pair to compare its list with the GOE list and discuss
5. Display the following list of eligible clients for routine HIV testing and counseling by using PITC approach listed in the National Guidelines for comprehensive HIV prevention, care, and treatment, on a flipchart.

***List of Priority Populations for HIV Testing in Ethiopia***

**Note for the facilitator**

1. Pregnant women with unknown HIV status and their partners
2. Women in labor whose HIV status is unknown and their partners
3. Postpartum mothers whose HIV status is unknown and their partners
4. TB clients with unknown HIV status
5. STI clients with unknown HIV status and their partners
6. All family members of index cases
7. All under five children visiting health facility
8. Children orphaned by AIDS and vulnerable children
9. All family planning clients with unknown HIV status and their partners
10. All key populations (Sex workers, Widowed persons, Divorced persons, Truck drivers and adolescent/youth 15-24 years
11. Clients with clinical signs and symptoms of HIV/AIDS visiting health facilities
12. Discordant couples.

6. Ask participants to talk in pairs about how they provide HIV-related services to these groups of people. What tools are do they use to reach priority population for HIV prevention interventions and how are they using them? (15 min.)
7. Ask a few pairs to summarize their discussions for the larger group . (20 min.)
8. Summarize by asking participants to discuss what they leaned in identifying and reaching priority population for HCT and its significance. (5 min.)

**Enabling Objective 2:** Analyze post-exposure prophylaxis (PEP) and referral for service

**Allocated Time: 30 min**

**Facilitation Method:** Brain storm, small group discussion

1. Tell the participants to brainstorm the discussion points individually.(5 min)
2. Ask participants to discuss and answer the discussion question one by one with the person next to them. (10 min)
3. Ask them to note theirtheir discussion points for the plenary session

**Discussion questions**

- What/ why Post-exposure prophylaxis (PEP) is needed?
- Who is eligible for PEP?
- What occupational exposures put health care providers at risk of HIV transmission?
- Why do UHE-ps need to discuss PEP?
- Discuss the need for PEP in cases of rape?

4. Instruct participants to have a 15-minute plenary discussion.
5. Invite one pair to present discussion points on one question. Repeat till all question are addressed.

6. Summarize the topic by readdressing;
    - Who is PEP- eligible and how services are provided
    - The type of professional/occupational risk for HIV exposure
    - The need for counsel and referral of rape cases for PEP

**Facilitator resource:**

Post-exposure prophylaxis (PEP) is short-term antiretroviral treatment to reduce the likelihood of HIV infection after potential exposure, whether at work or during sexual intercourse. Within the health sector, PEP should be provided as part of a comprehensive universal precautions package to reduce staff exposure to infectious hazards at work.

The aimof PEP is to give a person's immune system a chance to provide protection from the virus and to prevent HIV from becoming established in his/her body. It usually consists of a month-long course of two or three different types of ARV drugs that are also prescribed as treatment for PHIV. Because it is not 100 percent effective, PEP should only be used as a last resort.

Who is eligiblefor PEP?

There is general consensus that the provision of PEP should be judged on a case-by-case basis, and the decision to administer PEP should be confidential and non-discriminatory and with informed consent. Some believe that the increasing availability of PEP will lead to negative behavioral changes. The following groups of people are eligible for PEP:

1. People exposed to blood,bloody fluid, or needles sticks at work
2. Victims of sexual assault or rape

Post-exposure prophylaxis is not indicated:

- If the exposed person is HIV-positive from a previous exposure;
- If the exposure does not pose a risk of transmission, that is, after exposure of intact skin to potentially infectious body fluids; sexual intercourse using a condom that remains intact;exposure to non-infectious body fluids (such as feces, saliva, urine and sweat); exposure to body fluids from a person known to be HIV-negative, unless this person is identified as being at high risk for recent infection and thus likely to be within the window period.
- If exposure occurred more than 72 hours previously.

**Enabling Objective 3:** Describe infection prevention principles and how to implement them.

**Allocated time: 40 min**

**Facilitation method:**

- Group work and plenary discussion

**Group work**

1. Divide the participants into four groups,The first two groups will work on the first two questions; the others on the last two

2. Each group will discuss the questions for 15 minutes, then will summarize for other groups. After each group has presented, open floor for plenary discussion.

3. Discussion questions ;

   3.1. What are the principles of infection prevention?

   3.2. What are you doing to prevent infection while providing services like HCT, and

Family Planning- i.e. Depo injections?

   3.3. How do you manage waste generated during service provision (E.g. HCT waste)?

   3.4. What needs to be improved to ensure appropriate waste management and disposal

4. Summarize the topics by reviewing the following key issues;

   - The significance of infection prevention.

**Note for the facilitator:**

Infection prevention and control is required to prevent the transmission of communicable diseases in all health care settings. Infection prevention and control demands a basic understanding of the epidemiology of diseases; risk factors that increase client susceptibility to infection; and the practices, procedures, and treatments that may result in infections. The basic principle of infection prevention and control is hygiene.

**Standard precautions**

Standard precautions are the minimum infection prevention measures that apply to all client care, regardless of suspected or confirmed infection status of the client, in any setting where healthcare is delivered. These evidence-based practices are designed to protect health care personnel and prevent the spread of infections among clients. Standard precautions replace earlier guidance relating to universal precautions and body substance isolation. They include:

1. **Hand hygiene**

   Hand hygiene can be undertaken using soap and water or alcohol based hand sanitizer gel. When used appropriately, alcohol gels are an efficient and effective way to disinfect hands. A considerable amount of gel needs to be used so that hands are wet. The entire procedure should last at least 20 seconds and calls for the same rubbing movements as hand washing. Hand sanitizers are not better than washing with water and soap, and if used incorrectly, they can be much less effective.

   It is important that health workers perform hand hygiene:

   - Before client contact
   - Before contact with a susceptible client site (such as an invasive device or wound)
   - Before an aseptic task
   - After exposure to body fluids (blood, vomit, feces, urine, etc.)
   - After glove removal
   - After client contact
   - After contact with the client's immediate environment

2. **Use of personal protective equipment (e.g., gloves, gowns, facemasks) depending on the anticipated exposure**
3. **Respiratory hygiene and cough etiquette**
4. **Safe injection practices**
5. **Safe sharps best practices**

UHE-ps must ensure the following in day to day activities:-

- Syringes or needles are disposed as a single unit and not dismantled by hand.
- Sharps are put in a sharps container for disposal.
- Sharps containers are readily available as close as possible to point of use
- Needles are never re-sheathed, recapped, or reused.
- Needles are not broken or bent before use or disposal.
- Ensure safe disposal and transport of sharps in community settings such as clients' homes.
- Sharps containers (safety box) are not filled more than two-thirds.
- Sharps bins are stored away from public and out of children's reach (e.g., not on the floor or at low levels).
- Staff report sharps injuries in line with local reporting procedures/policies.

## Session Three: Provide home based HIV counseling and testing

**Session Objective:** by the end of this session,participants will have the required knowledge, attitude and skill on providing pretest and posttest counseling, and demonstrate HIV testing.

**Allocated time: 360** minutes **(6:00)**

**Training materials:**

- Flip chart with stand, white board, and white board marker
- HCT protocol algorithm for pre- and post-test
- Case studies
- Observer's checklist

**Enabling objectives**: by the end of this training session the participants will be able to:

- Demonstrate pre HIV test counseling
- Demonstrate HIV testing
- Demonstrate post HIV test counseling, and referral &linkage

**Enabling objective ≠ 1:** Demonstrate pretest HIV counseling

**Allocated time: 150 minutes (2:30minutes)**

**Facilitation Methods:**

- Group work, role play, structured feedback, discussion

## HIV pre-test group work (60 min.).

1. Divide participants into four groups. (5 min.)
2. Each group will discuss the process of pre-HIV test counseling. Write the steps on flip chart (15min.)
3. Distribute National HIV pre-test counseling protocols from participant manual to each group and ask them to compare with what they wrote. Ask them the following discussion questions. (20min.)
    - ✓ What benefits do the steps in the protocol have for the client?
    - ✓ What would happen if you proceeded without these steps?
    - ✓ What are differences between individual and couple counseling?
    - ✓ Who should receive HIV counselling and testing?
4. One group will present the answers for the above questions and the other groups will contribute (15 min.)
5. Conclude the session by asking what new information they have gained from the activity and its importance for providing HCT services to the community. (5 min.)

## Pre-test HIV counseling role play: 90 min.

1. Distribute prepared observer checklist and have them discuss in pairs (10 min.)
2. Ask each pair to read one indicator and explain what they discussed. Why are these issues important to the counseling process? What negative consequences might arise if we do not address these issues? (10min.)
3. If any issue is not properly explained by the participants, provide the correct information. .
4. Divide participants into four groups. Each group will select people to be a UHE-p (service provider), and one/two clients depending on the scenario. Remaining members will observe and hold questions and comments until the role play is complete.
5. Describe how structured feedback avoids debates and enhances learning. Feedback is not an attack; it helps people assess and improve performance. The person playing the client will also offer constructive feedback. (5 min.)
6. Give each group with a case scenario (found in case scenarios tabe below, Case scenario 1,2 &4) and begin the role play (25 min.).

7. Ask a group to volunteer to perform their role play for the rest of the participants. (20 min.)
8. Using the structured feedback model, the observers begin with what was done well and what could be improved. ("If I were the provider, I would do this and also include...") (5 min.)
9. When the role play and discussion is completed, use the following questions to debrief. (15 min.)

***Ask the 'service provider' the following questions:***

- ✓ Which part of the HTC process did you did best?
- ✓ Which part of the process did you find challenging? Why? How might you overcome these challenges?
- ✓ What contributes to successful counseling? (Creating a comfortable environment, rapport building, not being judgmental…)
- ✓ If given the chance to do (the role play) it again, what would you change? Why?

***After the service provider self-assesses her performance, ask the 'client' the following questions:***

- ✓ Which part of the HTC process was most helpful for you? Why?
- ✓ Which part of the process did not meet your needs? Why?

Solicit feedback from the larger group by asking:

- ✓ Did the UHE-p meet the needs of the client?
- ✓ If you were the service provider, would you have done anything differently to meet the client's needs?

Finally, ask the service provider about the feedback from the plenary:

- ✓ Which suggestions will help you do a better job of HTC?

**Enabling objective # 2:** Demonstrate post-test HIV counseling protocol

**Allocated time: 120 minutes** (2:00)

**Facilitation method:**

- **Group work (45 min.)**
- **Role play, Structured feedback and discussion (75min)**

## Post-test HIV counseling protocol: group work (45 min.)

The facilitator is advised to follow the following step for group work;

1. Divide participants into four groups. (5min.)
2. Each group discusses the process for post-HIV test counseling. (10 min.)
3. Distribute official guidelines to each group and ask them to compare, using the following discussion questions. (15min.)
   - ✓ What benefits do the steps in the protocol have for the client?
   - ✓ What would happen if you proceeded without all the steps?
4. One group will present answers; the other groups will contribute. (10 min.)
5. Conclude by asking what they learned from this activity and its importance for providing HCT services to the community. (5 min.)

## Post-test HIV counseling role play ( 75min.)

1. Distribute prepared observer checklist and let them discuss in pairs. (10 min.)
2. Ask each pair to read one indicator and summarize what they discussed.Why are these issues important to the counseling process? What negative consequences might arise if we did not discuss these issues?(15 min.)
3. If any issue is not properly explained by the participants, facilitator will do so.
4. Divide participants into four groups. Each group will select people to be a UHE-p (service provider), and one/two clients depending on the scenario. Remaining members will observe and hold all questions and comments until the role play is complete.
5. Give each participant with an unfinished case scenario (below, scenario 3) and ask volunteers to perform the role play for the rest of the participants. (20 min.)
6. Using the structured feedback model, observers begin with what was done well and what could be improved. ("If I was the provider, I would do this and include...") (5 min.)
7. When the role play and discussion is completed, (25 min.)

   Ask 'service provider' the following questions:

   - ✓ Which part of the counseling process did you do best?
   - ✓ Which part was challenging? Why? How might you overcome these challenges?
   - ✓ If given the chance to do it again, what would you differently ? Why?

   After the service provider self-assesses his/her performance, ask the 'client' the following question:

   - ✓ Which part of the counseling process was most helpful ? Why?
   - ✓ Which part of the counseling process did not meet your needs? Why?

***Solicit feedback of the larger group by asking:***

- ✓ Did the service provider/UHE-ps meet the needs of the client?
- ✓ What would you do differently to meet the client's needs?

Finally, ask the service provider about the feedback s/he received from the client and the plenary:

Which suggestions will help you do a better job of post-HIV test counseling?

### ✓ Case scenarios

**Scenario 1: Test wife and family of Bekele.**

Bekele complained of repeated infections and was referred to HCT by a UHE-p. He agreed and was tested at the UHE-p office. He turned out to be HIV- positive. He has a wife and two children, ages 7 months and 5 years. He also has hidden sexual relations with another woman.

**Scenario 2: Testing couples who are at risk of HIV transmission.**

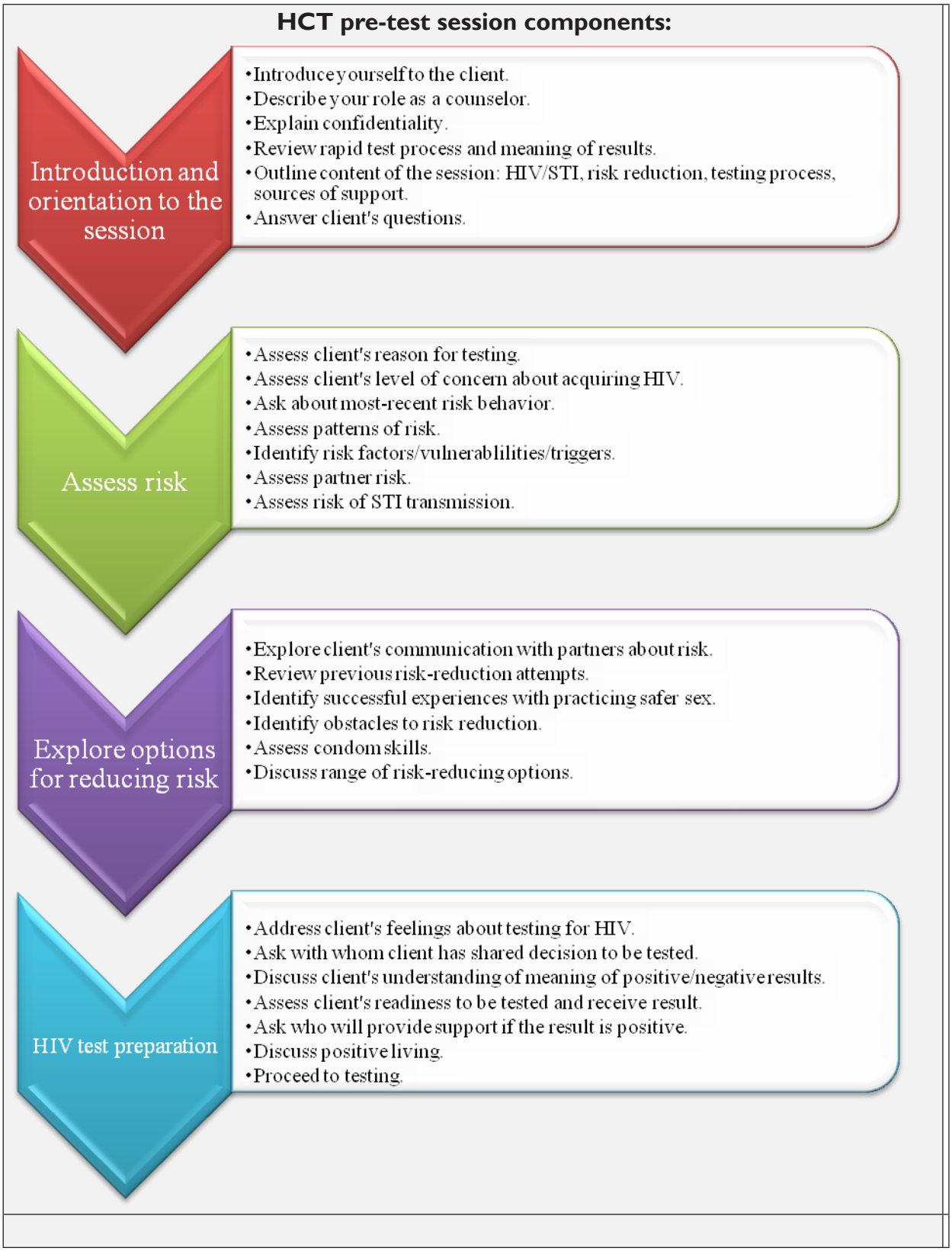
Abebech and Abera have been married for six years and have two children. She is 5 months pregnant and has never attended antenatal (ANC). Last year, the couple separated for approximately 4months. During that time, Abera had unsafe sexual relations with someone who he later found out was HIV-positive.

**Scenario 3: Disclosing results to discordant couples. (for post-HIV test counseling)**

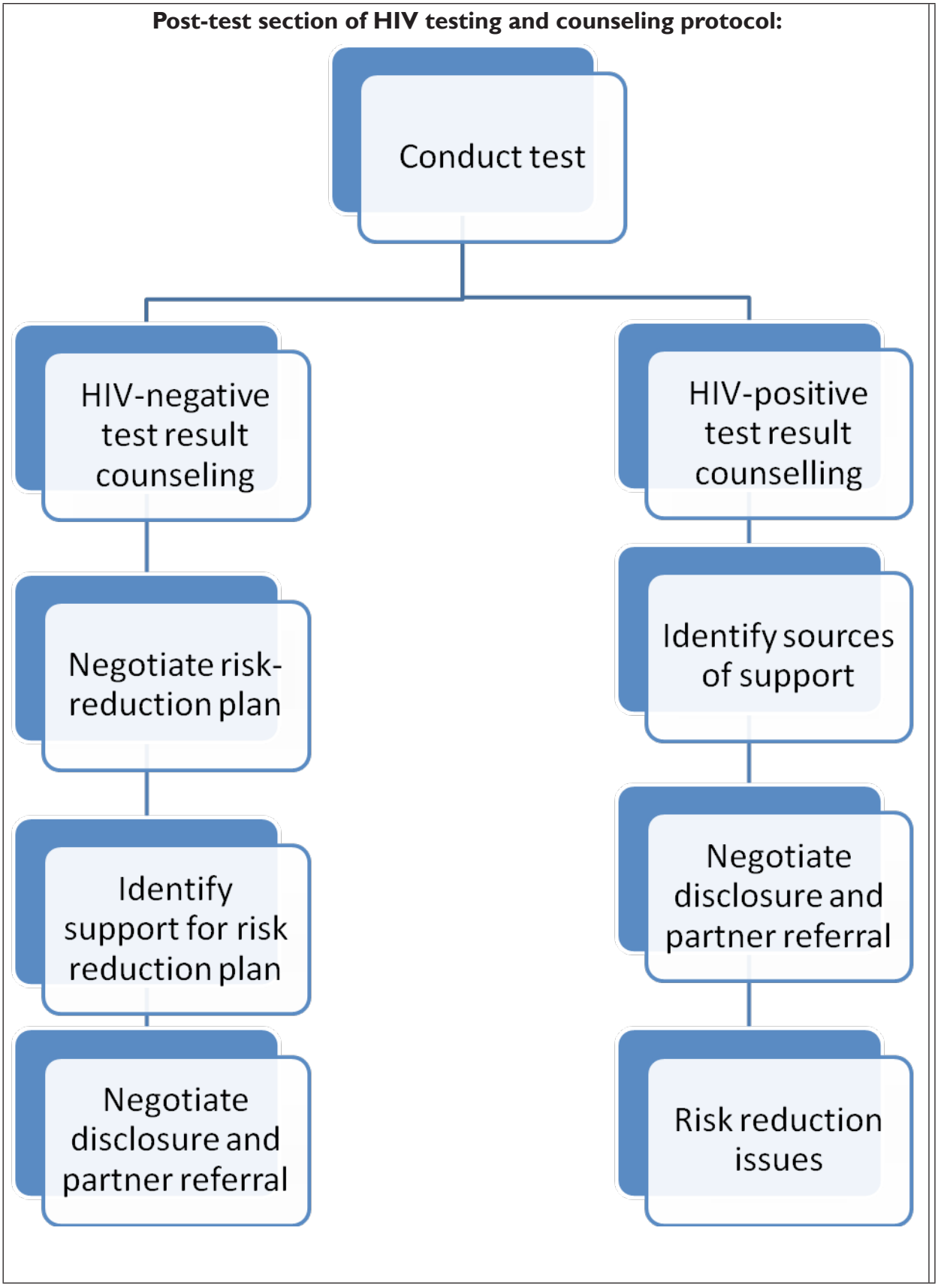
A couple came to a UHE-p for HCT service because they planned to have a child. The UHE-p tested them and found that the husband is negative and the wife is positive.

**Scenario 4: STI**

While visiting a household, Sr. Demeshi met a woman who had an STI. The woman is 23 years old, married, and lives with husband and four children. She is uneducated and unemployed. For the last seven days, she has been ashamed and worried about unusual, thick yellowish vaginal discharge.


HCT pre-test session components:
Introduction and orientation to the session
•Introduce yourself to the client.
•Describe your role as a counselor.
•Explain confidentiality.
•Review rapid test process and meaning of results.
•Outline content of the session: HIV/STI, risk reduction, testing process, sources of support.
•Answer client's questions.
Assess risk
•Assess client's reason for testing.
•Assess client's level of concern about acquiring HIV.
•Ask about most-recent risk behavior.
•Assess patterns of risk.
•Identify risk factors/vulnerablilities/triggers.
•Assess partner risk.
•Assess risk of STI transmission.
Explore options for reducing risk
•Explore client's communication with partners about risk.
•Review previous risk-reduction attempts.
•Identify successful experiences with practicing safer sex.
•Identify obstacles to risk reduction.
•Assess condom skills.
•Discuss range of risk-reducing options.
HIV test preparation
•Address client's feelings about testing for HIV.
•Ask with whom client has shared decision to be tested.
•Discuss client's understanding of meaning of positive/negative results.
•Assess client's readiness to be tested and receive result.
•Ask who will provide support if the result is positive.
•Discuss positive living.
•Proceed to testing.

**Post-test section of HIV testing and counseling protocol:**




**Pre-test HIV counseling observer's checklist**

**Put tick mark (√) if the task is completed and "X" if not. Provide comments for those marked with "X."**

| Task | Completed | Comments |
|---|---|---|
| Introduce yourself to the client | | |
| Described role as a counselor | | |
| Explain confidentiality | | |
| Review the rapid test process | | |
| Outline content of session | | |
| Assess client's reason for testing | | |
| Assess client's level of concern about acquiring HIV | | |
| Ask about most-recent risk behavior | | |
| Assess patterns of risk | | |
| Identify risk factors/vulnerabilities | | |
| Assess partner risk | | |
| Assess risk of STI | | |
| Review previous risk reduction attempts | | |
| Identify experience with practicing safer sex | | |
| Identify obstacles to risk reduction | | |
| Assess condom skills | | |
| Discuss range of risk-reducing options | | |
| Discuss client's HIV test history and results | | |
| Ask with whom client has shared decision to test | | |
| Make sure client understands the meaning of positive/negative test results | | |
| Assess client's readiness to test and receive result | | |
| Ask who will provide support if positive | | |
| Discuss positive living | | |

**Post-test HIV counseling observer's checklist: HIV-positive test result**

***Put tick mark (√) if the task is completed and "X" if not. Provide comments for those marked with "X."***

| Task | Completed | Comment |
|---|---|---|
| Inform client that test results are available | | |
| Provide results clearly and simply | | |
| Review meaning of the result | | |
| Allow client to absorb the meaning of the result | | |
| Assure client's understanding of the result | | |
| Assess how client is coping with the result | | |
| Acknowledge the challenges of dealing with an initial positive result | | |
| Discuss living positively | | |
| Ask who client will tell about the result | | |
| Identify people who can help the client cope with being HIV-positive | | |
| Identify health care resources | | |
| Explain the importance of client's health care providers knowing test result | | |
| Assess client's access to medical services | | |
| Identify needed medical referral | | |
| Discuss support groups/post-test clubs | | |
| Discuss client's feeling about telling partner about his/her HIV status. | | |
| Remind the client his/her status does not indicate partners' HIV status | | |
| Identify partners who need to be informed of their risk to HIV | | |
| Discuss possible approaches to disclosure of HIV status to partners | | |
| Help client refer partner for testing | | |
| Assess client's plan to reduce risk of transmission to partners | | |

**Enabling Objective 3:** Demonstrate rapid HIV testing

The practical rapid HIV testing training will be provided by trained medical laboratory technical staff

**Allocated time:** 90 minutes **(1:30 hrs)**

**Facilitation Method**

- Brainstorm (30 min)
- Demonstration (60 min)

***Brainstorm (30 min)***

1. Ask participants to individually write the procedure for conducting HIV testing. (5 min)
2. Randomly select four participants to read what they wrote (10 min)
3. Ask if others have a different approach to the algorithm. (10 min)
4. Summarize the session by reviewing (5 min)
    - The type of existing rapid HIV testing algorithm
    - The advantages of HIV rapid testing
    - The supplies required for HIV rapid testing

**Demonstrate HIV testing; (60 min)**

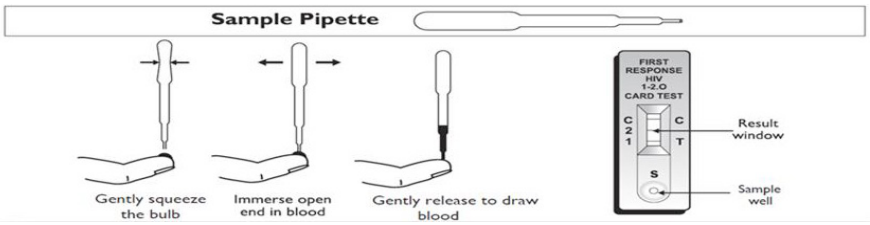
1. Avail all supplies required for HIV rapid testing, including serum (see list below)
2. Ask a few UHE-ps to demonstrate the testing using prepared sample
3. Demonstrate the rapid HIV testing using the already known samples brought from the health facility/ regional lab.
4. Ask a UHE-p to demonstrate the procedure again.
5. Review the test result reading of training participant
6. Address questions and close the session.

**Facilitator resource**

## *First Response®1&2 HIV Rapid Test*

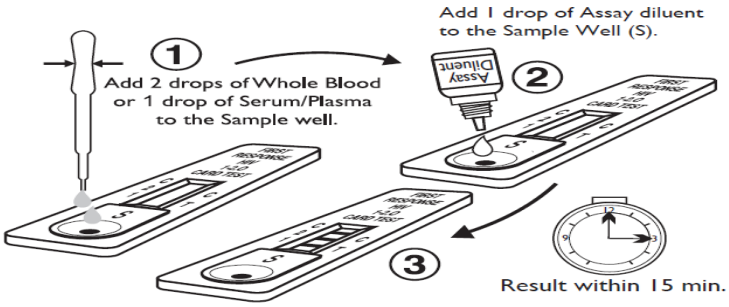
i. Remove the test device and sample pipette from the foil pouch and place it on a flat, dry surface

ii. Specimen collection and test procedure

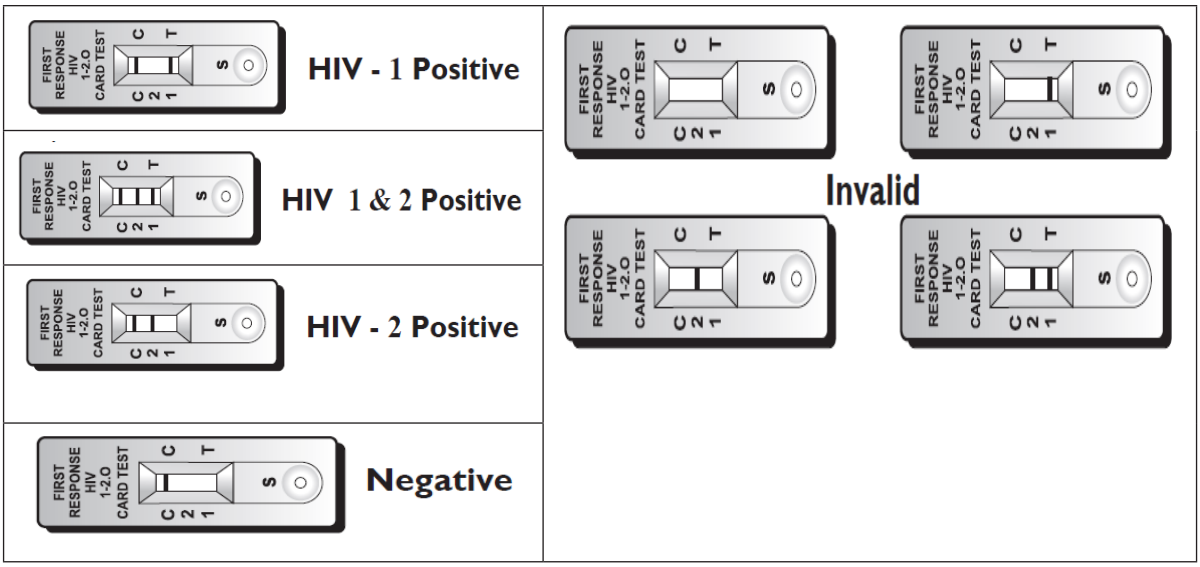



iii. Slowly add 20 µL (two drops) of whole blood or 10 µL of plasma (one drop) to the sample well (S) using the sample pipette. Dispose used sample pipette as a biohazard waste.

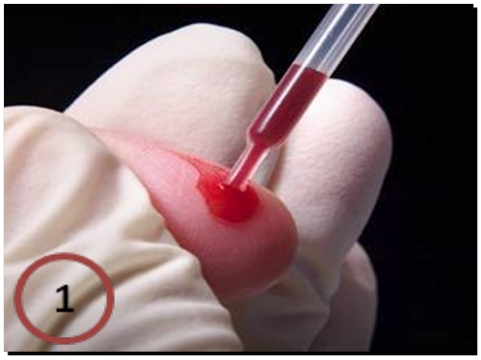
iv. Add 35 µL of (one drop) of the assay diluents to the sample well




v. Watch for development of colored bands on the result window and interpret test result at 5-15 minutes.



## Uni-Gold




Collect the specimen


Add 2 drops (approx.60µl) of specimen to the sample port in the device


Add 2 drops (approx. 60µl) of the wash reagent to sample port


**Wait for 10 minutes (no longer than 20 ) before reading the results**

**Non-reactive**

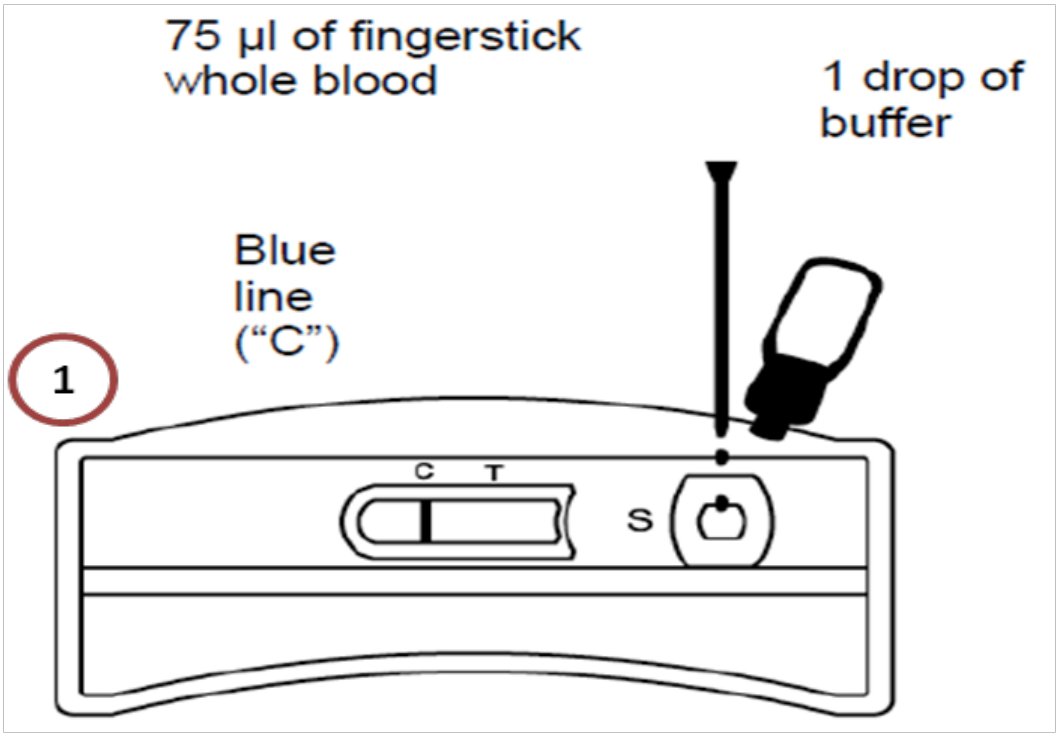
**Reactive**

**Invalid**

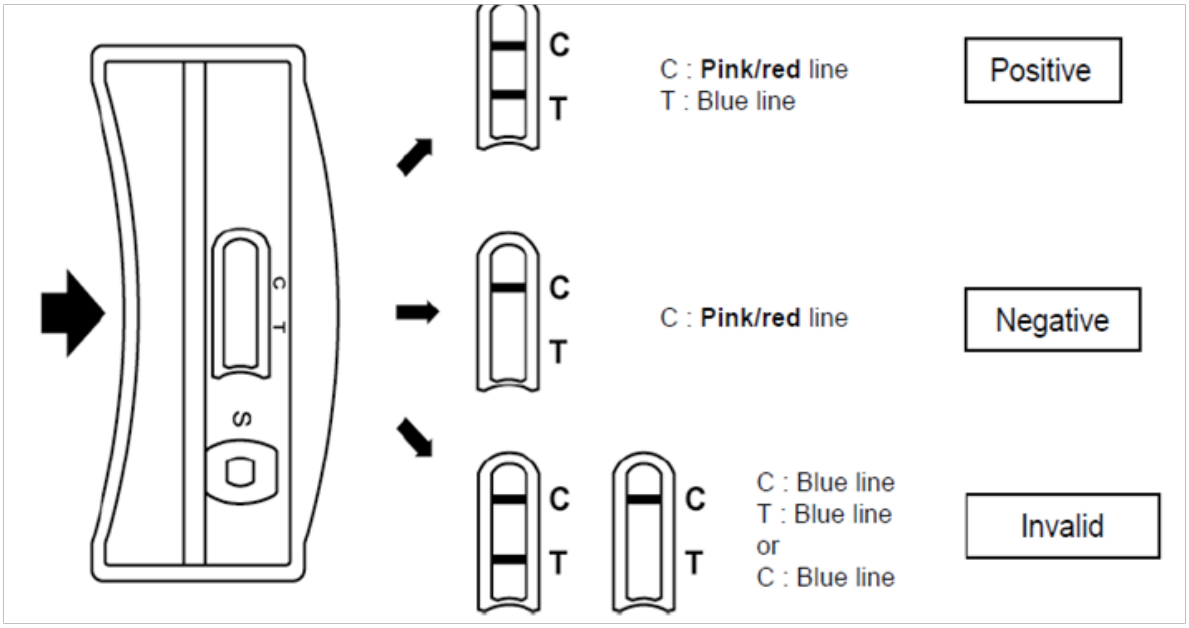
5

**Result interpretation**

# Vikia HIV1/2

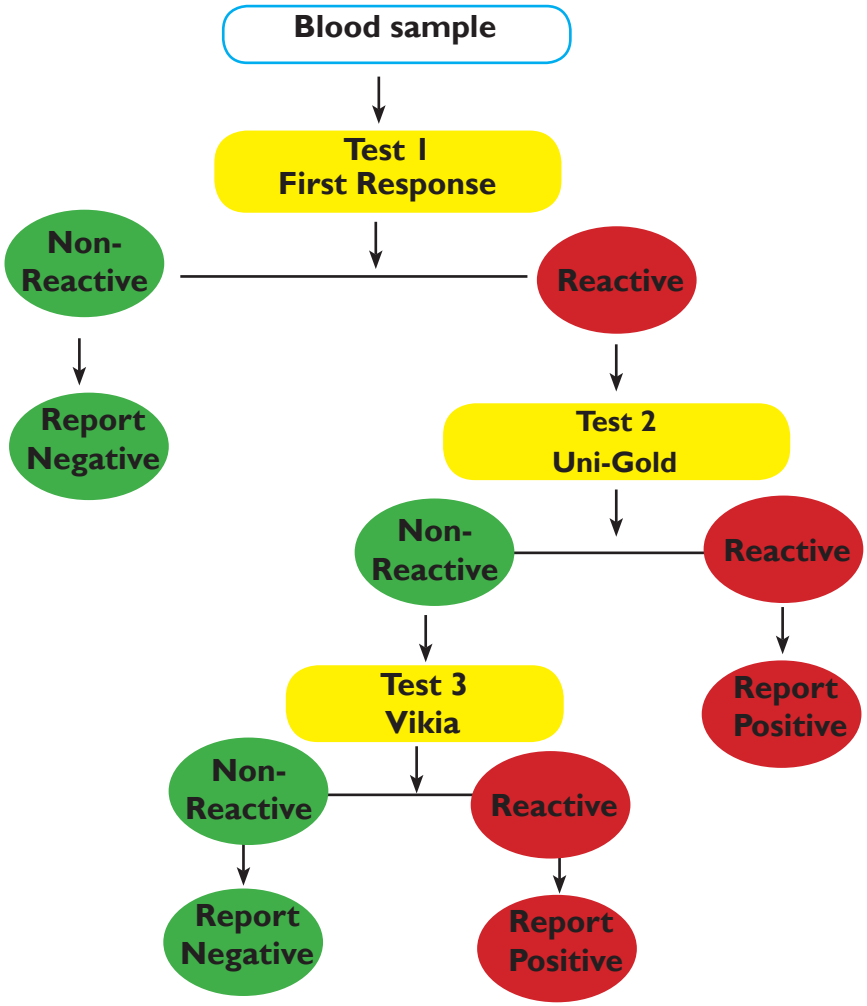



2 **Interpret test result at 1-30 minutes. (no longer than 30.results after 30 minutes**




3 **Result Interpretation**

## Rapid HIV Testing Algorithm in Ethiopia




**Possible outcomes in a serial algorithm:**

| First Response | Uni-Gold | Vikia | HIV Status |
|---|---|---|---|
| Non-reactive | | | Negative |
| Reactive | Reactive | | Positive |
| Reactive | Non-reactive | Non-reactive | Negative |
| Reactive | Non-reactive | Reactive | Positive |

### Supplies required for HIV rapid testing

The following supplies are required to perform rapid HIV testing in safe manner.

- HIV rapid testing kits (First Response , Uni-Gold, Vikia)
- Gloves
- Alcohol swabs
- Cotton balls or gauze
- Sterile lancets
- Pipette

- Timer
- Standard operating procedures
- Marking pens
- Sharps disposal bins
- Disinfectant jar
- Bleach
- Syringe and needles
- Vacutainers

## Session Four: HIV treatment, care and support.

**Session Objective:** by the end of this session the participants will be able to have the required knowledge, skill and attitude on HIV treatment, care and support to people living with HIV.

**Allocated time:** 195 minutes (3:25)

**Enabling objective:** by the end of this training session the participants will be able to;

- Describe adherence and retention to care and treatment and the required support (90min)
- Describe the linkage between HIV and nutrition and nutritional screening assessment (30 min)
- Discuss care and support and how to live positive and the required support based on individual cases

**Enabling objectives≠ 1**: Describe adherence and retention to care and treatment and provided support

**Allocated Time:** 110 Min

**Facilitation method:**

- Brainstorming
- Group discussion
- Role play

**Brainstorming (10 minutes)**

**Step 1**: Brainstorm what **adherence** means with the large group. Discuss the definitions suggested and compare them to the following definition (show on flipchart)(5 min.)

***Adherence is a client's ability to follow a treatment plan, take medications at prescribed times and frequencies, and follow restrictions regarding food, behavior, and other medications.***

**Step 2**: Brainstorm the definition of retention in care. Discuss the definitions suggested and compare

them with the following definition (show on flipchart)(5 min.)

**Retention in care begins with the moment of initial engagement in care when a person with HIV is linked to services, assessed for eligibility, initiated on ART, and in care for rest of life.**

**Group discussion (45 min)**

**Step 3**: Divide the participants in to four groups and ask them to answer the following questions. Provide three questions for each group. (Questions "a" and "b" are given to all groups; the rest are divided, one each, among the four groups (e.g., one group works on questions a, b, and f) (25 min.)

**a.** What factors affect adherence to HIV treatment? Retention in care?

**b.** How can UHE-ps enhance adherence?

**c.** What attitudes should providers develop to improve client adherence?

**d.** What essential knowledge should the providers have about adherence? Why?

**e.** What essential knowledge should clients have? Why?

**f.** In which other ways might we support adherence and retention?

**Step 4**: Use the diagram for factors affecting adherence and ask them to link it in the social ecology they already discussed. (Note for the facilitator: Prepare the diagram, post beside social ecology diagram and discuss how factors are interconnected. E.g., how clinical settings as an adherence factor is linked to social ecology).(20 min.)

**Role plays (55 min)**

**Step 1:** While the participants are in a group, distribute adherence counseling tool and case study. Assign one as a client and another as a UHE-p. The others group members will be observers. Ask participants to read and discuss the tool and begin the role play on adherence counseling (20 min).

Scenario for adherence counseling role play:

Tigist is a young woman who lives with her large family. She is on ART, but no one in the family knows. She hides her drugs from her family members because she does not want them to know her HIV status. She tells you that she has missed four tablets in the last two weeksbecause she could not take them in front of her relatives. She believes that ART will be good for her health, but not sure she can take the medicines on time.

**Step 2:** One group demonstrates the role play in a plenary; the other group will provide structured feedback.(25 min)

**Step 3**: Conclude the activity by asking how they will make use of this tool in their routine service provision and its importance.(10 min)

**Adherence to ART and retention in care**

Adherence is defined as a client's ability to follow a treatment plan, take medications at prescribed times and frequencies, and follow restrictions on food, behavior, and other medications.

**How much adherence is required for successful therapy?**

- Goal of ART= maximal and durable viral suppression (undetectable levels)
- Successful HIV therapy requires adherence > 95%
- Failure rates increase sharply as adherence decreases

**Forms of non-adherence:**

- Missing one dose of a given drug
- Not observing intervals between doses
- Not observing dietary instructions

**Consequences of poor adherence:**

- Incomplete viral suppression
- Continued destruction of immune system-CD4 cell counts
- Disease progression
- Emergence of resistant viral strains
- Limited future treatment options
- Higher costs to the individual and ARV program

Factors affecting ART adherence

1. **Client variables:**

- **Socio-demographic factors:**
  - ✓ Gender
  - ✓ Ethnicity
  - ✓ Age
  - ✓ Employment
  - ✓ Income

- ✓ Education and literacy

- **Psychosocial factors:**
  - ✓ Active drug or alcohol use
  - ✓ Degree of social support
  - ✓ Social stability
  - ✓ Depression and other psychiatric illnesses

### 2. Client/provider relationship:

The client/provider relationship has an important role in improving adherence to prescribed medications in chronic disease and is believed to be a motivating factor for adherence to ART. Trust and confidence in providers has been found to influence adherence positively.

### 3. Disease characteristics:

Prior opportunistic infections (OI) contribute to increased adherence. Clients who have had serious OIs may perceive their illness to be severe and adhere better to treatment.

### 4. Treatment regimen:

- The higher the pill burden, the lower the adherence.
- When clients experience treatment side effects, they tend to stop treatment or take it irregularly. Common side effects include:
  - ✓ Diarrhea, fatigue, nausea, and vomiting; peripheral neuropathy, physical changes in body appearance, metabolic changes.

### 5. Clinical settings:

A friendly, supportive, and non-judgmental attitude of health care providers, including UHE-ps, convenient appointment scheduling, and confidentiality contribute to better adherence.

**Adherence counseling needs:**

- Knowledge
  - ✓ Infections, CD4 counts
  - ✓ Medications and side effects
- Attitudes
  - ✓ Positive belief and perceptions

- ✓ Self-efficacy and commitment
- ✓ Practices and support systems
- ✓ Disclosure to buddies, family
- ✓ Identifying and addressing barriers
- ✓ Integrating treatment regimen into client daily routine
- ✓ Providing reminder cues
- ✓ Retention in care:
- ✓ Retention in care' can be defined from the moment of initial engagement in care, when a person with HIV is linked successfully to services, to assessment for eligibility, initiation on ART and retention in lifelong ART care.
- ✓ Barriers to retention in care:
- ✓ The most common reasons for missed appointments are thought to be:
- ✓ Client barriers:
- ✓ Forgetfulness, sickness/illness, disbelief in ARV efficacy, and traditional and religious beliefs.
- ✓ System barriers:
- ✓ Clinic distance resulting in transport difficulties and cost; schedule conflicts including inability to take time from work (both in the formal and informal sector); long wait times; poor hospital staff attitude; and poor knowledge about ART.
- ✓ Transferring to another health care provider or migration due to different reasons:
- ✓ Stigma, poor clinical environment.

**ART adherence counseling protocol for UHE-ps**

**Preparations to conduct adherence counseling visit**

- Knowledge of client's regimen, potential side effects and helpful tips to cope with the side effects.
  - ✓ Potential side effects and helpful advices
- Knowledge ofconsequences of failure to adhere(death, 2nd generation drugs, public health problem, etc.)
- Adherence support tools – pill box, diary card, reminders techniques based on availability
- Referral directory and referral slip.

**Rationale of the adherence counseling tool: Helping clients commit to adherence.**

| | |
|---|---|
| **HIV replication, resistance and adherence:** The HIV virus copies itself so quickly that, it can change to a new form (a mutation) that is resistant to the medications. The combination of the medicines PLHIV receives can slow the virus from copying itself. When adherence is poor, however, the virus can still copy itself. The fact that some medicine is still there, but not enough to stop the virus from copying itself completely, increases the chances that the copies that survive can become resistant to medicines. A minimum of 95% adherence to treatment gives the best chance of having an undetectable viral load. | |
| **Identify clients who need ART adherence counseling** | ▪ PLHIV who are on care and support and pre-ART care<br>▪ PLHIV who started ART<br>▪ ART defaulters |
| **Rapport building** | ▪ It is important that you understand what we discuss. Therefore, I will start by asking you what you know and do.<br>▪ Explain importance of feeling comfortable asking questions and being honest about any problems.<br>▪ Importance of taking an active role in one's treatment. Adherence versus compliance: compliance is following the regimen prescribed and is not a shared decision between provider and cilentt. Adherence is a shared decision. |
| **Assessing HIV medications and adherence status** | ▪ Which facility is providing you the ART/care and support service?<br>▪ When did you start ART/care and support?<br>▪ How are you taking the drugs? Doses, frequency, timing? Discuss timing of pill and any food restrictions. What reminder strategies the client is using?<br>▪ Did you miss any dose in the previous week, month? How much times/doses if it is missed?<br>▪ What were the reasons for missing?<br>▪ Ask client to explain why it is important to take all of his/her medicines.<br>▪ Did you disclose your HIV status and ART?<br>▪ If yes, to whom? If no, why?<br>▪ What particular side effects may occur with the regimen the person is taking (e.g. diarrhea, nausea, headaches, peripheral neuropathy,)?<br>▪ Who can help you withstand the difficulties associated with HIV treatment?<br>▪ From whom do you want to keep your HIV status private?<br>▪ Where will you store the pills (privacy concerns but safe and easy) |
| **Adherence plan and follow up** | ▪ Schedule follow-up appointment to review.<br>▪ Refer client if necessary |

**ARV side-effectmanagement**

| Side effect | What UHE-ps can advise client to support him/herself. | UHE-ps should refer client to health facility if; |
|---|---|---|
| Headache | ▪ Rest in a quiet, dark place<br>▪ Place cold cloths on the eyes<br>▪ Rub the base of the clients head or your temples with your thumbs<br>▪ Take a warm bath<br>▪ Avoid coffee, cola, tea<br>▪ Take paracetamol | ▪ The clients vision becomes blurry<br>▪ Paracetamol does not relieve the pain<br>▪ Headaches are frequent<br>▪ Neck is stiff |
| Diarrhea | ▪ Eat frequent small meals<br>▪ Eat easy foods: bananas, rice, toast<br>▪ Avoid milk products<br>▪ Do not eat spicy or greasy foods<br>▪ Drink lots of clean water and tea<br>▪ Take ORS (oral rehydration salts) | ▪ There is blood in the stool<br>▪ When there is fever<br>▪ There is more than 4 watery or soft bowel movements per day<br>▪ Thirsty but cannot eat or drink properly |
| Dry mouth | ▪ Rinse your mouth with clean salted<br>▪ water<br>▪ Suck on crushed ice or sip clean water<br>▪ Avoid sweets and drinks such as coffee and Coke | ▪ Spots (white or red) seen on client's tongue or in mouth |
| Nausea, vomiting and low appetite | ▪ Take HIV treatment drugs with food.<br>▪ Eat frequent small meals.<br>▪ Eat bland foods (rice, porridge)<br>▪ Take sips of tea or ORS until vomiting stops.<br>▪ Do not eat greasy or spicy foods | ▪ Sharp pains in stomach<br>▪ Have a fever<br>▪ Vomiting blood<br>▪ Vomiting lasts more than 1 day<br>▪ Thirsty but cannot drink or eat |

| | | |
|---|---|---|
| Anemia | ▪ Increase foods with iron, such as fish, meat, chicken, spinach, dark leafy greens. | ▪ Feeling tired for 3-4 weeks and it is increasing.<br>▪ Both of your feet are swelling. |
| Dizziness | ▪ If dizzy, sit down until it goes away.<br>▪ Try not to lift anything heavy or move quickly.<br>▪ Avoid driving a car, motorcycle or bicycle when dizzy. | ▪ If the dizziness lasts more than 2 weeks |
| Skin rash | ▪ Keep the skin clean and dry<br>▪ Wash with unscented soap and water<br>▪ Avoid hot baths or showers<br>▪ Avoid the sun if you have a rash | ▪ Rash is accompanied by general ill feeling, fever, muscle or joint aches, blisters or mouth sores, inflammation of the inside of the eyelids, swelling of the face or tiredness |
| Tingling or pain in feet and hands | ▪ Wear loose fitting shoes and socks<br>▪ Keep feet uncovered in bed<br>▪ Walk a little, but not too much<br>▪ Soak feet in cool water<br>▪ Rub feet and hands | ▪ The tingling does not go away or gets worse<br>▪ The pain prevents you from walking |

**Enabling objective ≠ 2:** Describe the linkage between HIV and nutrition and nutritional screening assessment (45 min)

**Allocated time: 45Min**

**Facilitation method: Paired discussions and plenary**

The facilitator advised to follow the following steps;

**Step 1:** Organize participants in pairs and ask each pair to discuss the following questions (15 min.)

- What is the link between malnutrition and PLHIV?
- How do you assess nutritional status of PLHIV at household level?

**Step 2:** Discuss views with plenary (25 min.)

**Step 3**: Conclude the session by asking (5 min.)

- What new information did they get at the session?
- How will they apply it to PLHIV when providing service at household level?

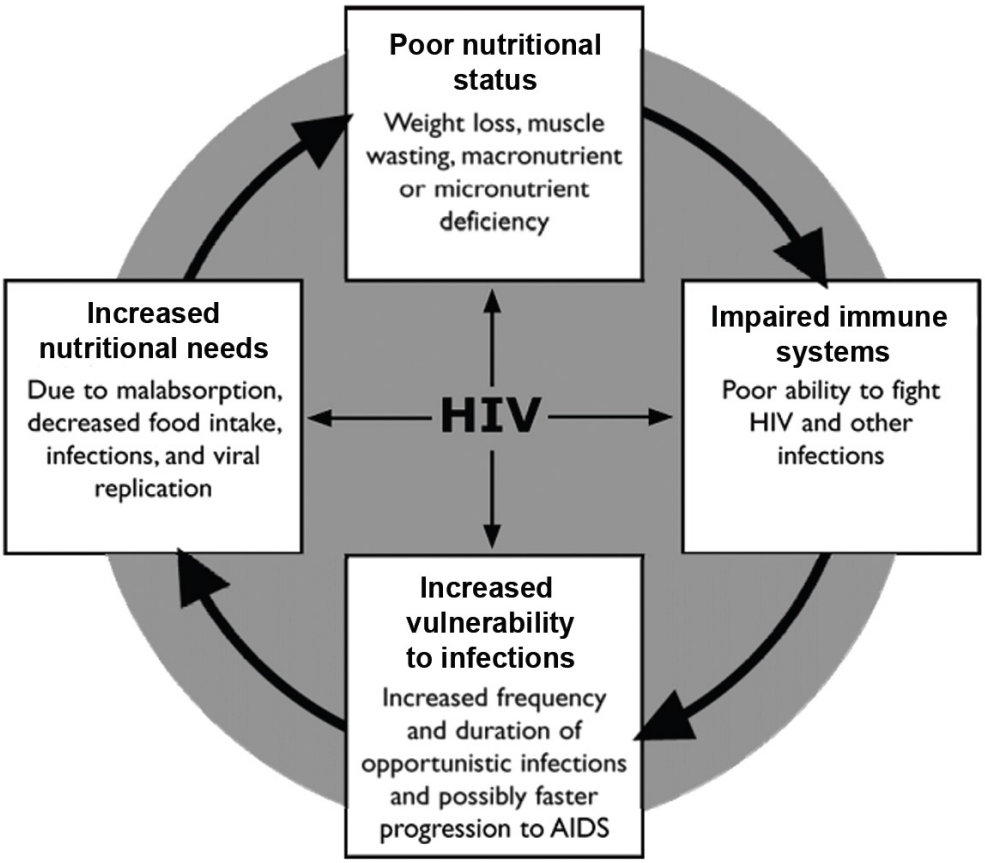
**HIV and nutrition resources to be printed and distributed toparticipants:**

**Links between HIV and AIDS and nutrition**

Malnutrition and HIV and AIDS exacerbate one another. PLHIV are more likely tobecome malnourished because of the following:

- Reduced food intake resulting from appetite loss and difficulty eating, possiblyas a result of infections, side effects of medication, or depression.
- Poor absorption of nutrients that may be the result of recurrent or chronicdiarrhea and HIV-caused intestinal cell damage.
- Increased energy needs as a result of virus replication and opportunisticinfections (OIs).
- Changes in the way the body uses the nutrients it receives or has stored.

**Inter-connection between HIV and nutrition**



**HIV-positive adults and adolescents:**

Measure weight in kilograms to the nearest 100 grams and height in meters to thenearest centimeter at every visit and also calculate BMI(= weight in kg/square of height in meter).

Advise clients to be weighed at these intervals:

- If asymptomatic, at least every 3–4 months
- If symptomatic, at least every 2 months
- If BMI < 18.5, every month

Always check a client's palms. Those of anemic clients are often noticeably pale. Also, ask about any illness,symptoms, or medications the client is taking and refer client to a clinician as necessary.If the client's BMI is < 18.5 or MUAC is < 18.5 cm, or palm is pale, refer him/her to appropriate food and nutrition interventions or suppliments.

**What is the link between malnutrition and PLHIV?**

When you have diarrhea, some of the nutrients you have eaten are lost before you can absorb them, so it is as though you never ate them. You lose the protein, carbohydrates, vitamins, minerals, and whatever else you ate. Frequent diarrhea means frequent loss of nutrition.

**Enabling Objective 3:** Discuss positive living and the required care for PLHIV

**Allocated time: 40 min**

**Facilitation method:**

- Paired and plenary discussions

1. Instruct the participants to discuss questions below with person next to them and take notes (15 mins).
2. Ask each pair to present discussion points to the large group, and open floor for plenary discussion (25min).
3. Discussion questions;
   - 3.1. What are the issues to be discussed to promote positive living?
   - 3.2. Why a person with HIV is more susceptible to opportunistic infections? What would you advise the PLHIV to avoid getting infections?
   - 3.3. Why re-infection of HIV for PLHIV is a concern? What do you advise to avoid re-infection
5. Summarize the topics by emphasizing;
   - The importance of dealing with positive living to help the PLHIV to lead quality life.

**Facilitator note**

'Positive living' is a way that PLHIV can focus on living life as fully as possible while slowing progression to AIDS. Adopting positive living practices, which include caring for one's mental and physical health, taking an optimistic perspective, and avoiding risky behaviors, improves the quality of life of PLHIV remarkably.

Clear information about HIV and AIDS and positive living helps PLHIV manage their health, including getting care during episodes of ill health. Topics/advice for positive living include:

- Prevent the spread of HIV.
- Be informed about your health.
- Work as your energy allows.
- Avoid stress.
- Maintain good nutrition.
- Get regular exercise.
- Seek regular medical care.
- Reduce risk of sexual HIV transmission, even if not on ART. This might include abstinence, maintaining faithful relationships, and safer sex practices
- Adhere completely to all treatment, care, and support.
- Personal hygiene is particularly important for PLHIV to avoid infections, e.g., keeping minor wounds clean.

## Session five: Basics of common STIs and relation with HIV/AIDS

**Session objectives:** By the end of this session the participants will be equipped with the knowledge and skill on basic of STI, syndromic management of STI and refer to the health centre for treatment

**Allocated Time: 75 Min**

**Enabling objective;**

- Describe basic facts of common STI's and the relationship to HIV
- Describe syndromic management of STIs and how to identify and STI cases to the health centre

### Enabling objective 1: Describe basic facts of common STI's and the relationship between STI and HIV

**Allocated time: 45 min**

**Facilitation method:**

- **Brainstorm and plenary discussion**
- **Slide Presentation**

1. ***Instruction*** Ask the participants to brainstorm in pair the following discussion points (in the participant manual) for 10 minutes.
    - ✓ Explain why the risk of transmission of STIs is greater in women than in men.
    - ✓ Explain how the presence of HIV can increase the risk of transmission of other STIs and vice versa.
    - ✓ How transmission of STIs is greatly affected by demographic, social, biological, economic and behavioral factors.
    - ✓ What are the key intervention to address both STI and HIV
2. Invite one group to stand and present their discussion, allow them only respond to one question. Make two presentation per question based on the availability of time. Repeat the process until all question addressed. (20 minutes)
3. Summarize the session with the presentation 15 min)
    - ✓ The common STI and sign and symptom
    - ✓ Relationship between STI and HIV/AIDS

***Slide≠ 1: Chlamydia***

| Symptoms | | Mode of transmission |
|---|---|---|
| ***Women*** | ***Men*** | |
| • Asymptomatic in 2/3 women<br>• Unusual vaginal discharge<br>• Burning during urination<br>• Bleeding between periods<br>• Pain during or bleeding after sex<br>• Low abdominal pain | • Asymptomatic in 1/2 men<br>• Cloudy urethral discharge<br>• Pain/burning during urination<br>• Testicular pain and/or swelling | • Having anal or vaginal sex with infected person |

***Slide≠ : Gonorrhoea***

| Symptoms | | Mode of transmission |
|---|---|---|
| Women<br>• Asymptomatic in 50% women<br>• Foul white, yellow/ greenish vaginal discharge<br>• Burning during urination<br>• Abnormal vaginal bleeding<br>• Pain during or bleeding after sex<br>• Abdomen or pelvic pain | Men<br>• Asymptomatic in 10% men<br>• Foul white, yellow/ greenish urethral discharge<br>• Pain/burning during urination<br>• Urethral itch<br>• Testicular pain and/or swelling | • Anal or vaginal sex with infected person<br>• Close physical contact and touching infected parts<br>• Mother-to-child at birth |

***Slide≠ : Chancroid***

| Symptoms | | Mode of transmission |
|---|---|---|
| Women<br>• Sores are not common in women<br>• Vaginal discharge<br>• Painful urination and defecation<br>• Rectal bleeding<br>• Painful intercourse<br>• Inguinal lymphadenopathy | Men<br>• Painful open sores on penis<br>• Tender and swollen inguinal lymph nodes | • Sexual activity<br>• Skin-to-skin contact with open sores<br>• Contact with hands that have touched a sore |

***Slide≠ 4:* Trichomoniasis**

| Symptoms | | Mode of transmission |
|---|---|---|
| Women<br>• Genital itching and/or burning<br>• Frothy yellow- greenish vaginal discharge with foul odor<br>• Frequent and/or painful urination<br>• Blood spotting<br>• Abdominal pain | Men<br>• Usually asymptomatic<br>• Unusual penile discharge<br>• Pain/burning during urination<br>• Burning sensation after ejaculation<br>• Tingling inside the penis | • Sexual contact with infected person<br>• Sharing infected objects such as sheets, towels, and underwear |

### *Slide≠5 :* Genital herpes (Herpes)simplex)

| Symptoms | Mode of transmission |
|---|---|
| • Flu-like symptoms<br>• Burning sensation in the genitals<br>• Pain during urination<br>• Painfulblisters around the genitals and on the mouth (lips)<br>• Lower back pain | • Sexual contact with infected person<br>• Kissing or touching any affected area |

### *Slide≠6 :* HPV(Genital warts)

| Symptoms | Mode of transmission |
|---|---|
| • Many types of HPV have no symptoms<br>• Visible warts in the vagina and/or urethra or on the cervix, vulva, penis, or anus<br>• Flesh-coloredsoft-to-touch often painless (although may itch) | • Oral, anal, or vaginal sex with infected person<br>• Skin-to-skin contact |

### *Slide≠ 7:* Syphilis

| Symptoms | Mode of transmission |
|---|---|
| • 1st stage: Painless sores or open ulcers on anus, vagina, penis, or inside mouth<br>• 2nd stage: Flu-like symptoms, hair loss, or a rash on the soles and palms and in some cases all over the body<br>• Latent phase: no symptoms | • Anal, oral, or vaginal sex with infected person<br>• Intimate touching or kissing<br>• Mother-to-child (during vaginal birth) |

### *Slide≠8: Relationship between STIs and HIV and AIDS*

***HIV/AIDS and STI relationships***

- Predominant mode of transmission of HIV and STIs is Sexual.
- Many of the measures for preventing sexual transmission are the same
- STIs facilitate transmission of HIV, therefore control of STIs is important for HIV prevention.
- HIV changes the natural history of STI and response to treatment, e.g., neurosyphilis, chancroid, HSV.
- Clinical services for STIs are important points of contact with persons at high risk of both AIDS and STIs, not only Dx and Rx, but also for education

**Enabling objective** 2: Describe the importance of syndromic management of STIs and how to identify and refer STI cases to the health centre for treatment

**Allocated time: 30 min**

**Facilitation method:**

- Case study

**Case scenario**

**The facilitator is advised to follow the following steps.**

1. Ask participant to review the syndromic management table (below)
2. Review and discusses case study in pair and answer discussion points (10 min).
3. Ask one pair/group to respond, and explain response. Ask if other group had different answers, if so entertain accordingly (10 min)
4. Summarize session by reiterating the following key points;(10 min)
   - ✓ Why syndromic management of STIs is a feasible intervention in community health care/ applicable to UHE-ps
   - ✓ Diagnosis of the syndrome, immediate treatment, promotion of condom , treatment of sexual partner(s) and counseling for HTC if available

***Cases study:***

While you are on your routine house visit, in one of your household you have found, a 22-year-old young man complaining of a yellow urethral discharge with burning pain on urination. He has had these complaints for the past five days.

(a) What syndrome does this young man present with?

(b) What will you do?

**Facilitator's resources**

Syndromic management of STIs that is a diagnosis based on the identification of the symptoms the client reports and the signs the health care provider observes. Syndromic management of STIs is the standard approach for diagnosis and management of these communicable diseases recommended by the WHO and adapted by the FMOH. Syndromic management of STIs is an important tool to simplify the diagnosis and treatment of STIs. It involves treating all possible causes, even though the specific infectious agents have not been identified.

Using the syndromic approach, health workers at health centers and hospitals can identify one of these syndromes and treat accordingly. The objective of introducing you to syndromic management of STIs is to help you identify and refer cases to the nearest health centre. At this moment you are not expected to treat STI cases either at the health post or in the community. In the health centre the patient will receive all necessary services including

testing for HIV

In managing STI cases using syndromic management, the health worker is guided through logical steps of clinical decision-making. The following four steps are to be followed:

1. Assessing clients for symptoms, signs and risk factors
2. Syndromic diagnosis and treatment.
3. Education and counseling on HIV testing and safer sex, including condom use, promotion and provision.
4. Management of sexual partners, in your case tracing sexual partners.

**Main sexually transmitted infection syndromes-**

| Syndrome | Signs and symptoms | Most common causes Management | Management |
|---|---|---|---|
| Vaginal discharge | Unusual vaginal discharge, vaginal itching, dysuria (pain on urination and pain during sexual intercourse) | Trichomoniasis<br>Bacterial vaginosis | Refer to health centre |
| | | Candidiasis | Refer to health centre. |
| | | Gonorrhoea<br>Chlamydia | Refer to health centre<br>Counsel and refer for HIV and syphilis testing<br>Include partner tracing |
| Urethral discharge | Urethral discharge, dysuria, frequent urination | Gonorrhea<br>Chlamydia | Refer to health centre<br>Offer HIV testing and counseling<br>and refer for syphilis testing<br>Consider HIV-related illness<br>Consider partner tracing |

| | | | |
|---|---|---|---|
| Genital ulcer | Genital sore | Syphilis,<br>Chancroid | Refer to health centre<br>Promote and provide condoms<br>Consider HIV-related illness; offer HIV testing and counseling<br>Educate on STIs, HIV and risk reduction |
| | | Genital herpes | Refer to health centre |
| Lower abdominal pain | Vaginal discharge, fever, lower abdominal pain and tenderness | Gonorrhoea<br>Chlamydia | Refer to health centre. Consider<br>HIV-related illness<br>Consider partner tracing |
| Scrotal swelling | Pain and swelling of the scrotum | Gonorrhoea<br>Chlamydia | Refer to health centre. Consider<br>HIV-related illness<br>Consider partner tracing |
| Inguinal bubo | Painful enlarged lymph nodes on the groin | Lymphogranuloma venerum<br>(LGV)<br>Chancroid | Refer to health centre<br>Consider HIV-related illness; offer HIV testing and counseling<br>Educate on STIs, HIV and risk reduction |
| Neonatal<br>Conjunctivitis | Swollen eyelids, eye discharge in<br>newborns and infants | Gonorrhoea<br>Chlamydia | Refer to the nearest health centre for management |

# UNIT TWO: TUBERCULOSIS PREVENTION AND CONTROL

**Unit objective:**

This Unit is designed to enable UHE-ps to be able to equipped with the necessary knowledge and skills to create awareness about tuberculosis in the community, identify and refer presumptive TB cases and contacts of pulmonary TB cases, retrieve lost to follow up cases and provide support to TB patients and their families for better adherence and prevention of MDR TB emergence.

**Specific objectives:**

By the end of this unit, participants will be able to:

1. Describe the basic facts, global and national epidemiology of Tuberculosis.
2. Identify and refer presumptive TB cases to HFs for confirmatory diagnosis
3. Explain the method of TB diagnosis, category of TB cases and their treatment.
4. Describe community TB strategies
5. Explain TB/HIV co infection and strategies to decrease the burden of TB/HIV co infection.
6. Describe MDR TB and factors facilitate the emergence of MDR TB in the community.

**Allocated time: 8:25 hrs**

## SESSION ONE: Basic Facts and Epidemiology of Tuberculosis

**Session objective:**

By the end of this training session UHE-ps, will be able to describe basic facts, epidemiology and transmission of Tuberculosis in the community.

**Allocated time: 70 Minutes**

**Enabling Objectives:**

By the end of the topic participants will be able to:

- Describe basic facts and epidemiology of TB disease.
- Identify risk factors and risk groups for the spread of tuberculosis and its impact in the community.

**Enabling objective# 1:** Describe basic facts and epidemiology of TB disease.

**Allocated time: 30 Minutes**

**Facilitation Method:**

- True or False Exercise (15 Minutes)
- Slide presentation and discussion (15 Minutes)

**Activity # 1 :True or false exercises (15 minutes)**

1. Place cards that say true" and "false" on the either side of the wall.
2. Each statement on the facilitator question and answer sheet on the next page is about the basics and epidemiology of HIV and AIDS.
3. Read one statement at a time. Participants who believe a statement is true will stand under "true" sign. If they believe the statement is false, they will stand under "false" sign.

Ask a few people from each group why they think that the statement is true or false. After they reply, ask if anyone from either group would like to change his or her opinion and move to the other side; ask why s/he changed his/her mind.

***Note for facilitators:***

*Some of the statements may be immediately identified as true or false. In other cases participants may have doubts. When this happens, ask them to discuss their doubts but remain neutral. After each question is discussed, give the correct answer and explain why before reading the next statement.*

*Even though several people will stand under the same sign, this is not a group exercise and people should make individual decisions.*

**True / False Exercises**

| Statements | True | False |
|---|---|---|
| 1. Tuberculosis (TB) is **acute infectious disease** caused by a bacterium called mycobacterium tuberculosis. | | X |
| 2. Tuberculosis is mainly a disease of the lungs, but it can affect other parts of the body such as lymph nodes, bone, spinal cord, intestine, etc | X | |
| 3. HIV epidemic worsened the TB situation **only by** accelerating the progression from primary infection to disease. | | X |
| 4. A person infected with TB stays infected for life and may develop the disease at any time in the future. | X | |
| 5. More than 25% of the infected persons develop active TB. | | X |
| 6. Transmission of TB occurs **only** through inhalation of droplets released during coughing, sneezing, spiting, etc by people with active pulmonary TB | | X |
| 7. Cough is the most important symptom of pulmonary TB | X | |
| 8. If the lungs are affected by tuberculosis, the case is classified as extra pulmonary tuberculosis (EPTB). | | X |

**Activity #2: Slide Presentation**

**Instruction for the Presentation**

- Present the basic facts about TB in a language they understand better
- Encourage the trainee to take note and actively participate in the discussion after the presentation.
- Finalize the presentation in 10 minutes and use the remaining five minutes for discussion based on the question raised by participants,
- Encourage participants to speak more and forward their questions and their understanding from the presentation.

**Slide #1:**

1. **Basic Facts about Tuberculosis:**

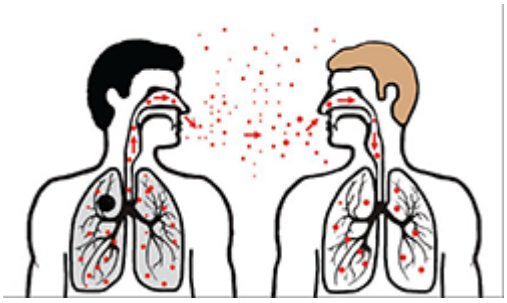
**What is TB disease? (Definition)**

- Tuberculosis (TB) is a chronic infectious disease caused by a bacterium called ***Mycobacterium tuberculosis***. Though in a small proportion it also caused by Mycobacterium Bovis and Mycobacterium Africanism. A rod shaped acid fast non motile slow growing bacteria.
- TB is mainly a disease of the lungs, but it can also affect other parts of the body.

**Slide #2**

**How TB bacilli are transmitted? (Modes of transmission of TB)**

- Transmission of TB occurs mainly through inhalation of droplets aerosolized during coughing, sneezing, spiting, laughing, singing etc by people with active pulmonary TB &
- TB can also be transmitted by consumption of raw milk from animals infected with TB.



**Slide #3**

**There are two types of TB infection in humans**:

- Latent or inactive TB infection
- Active TB or TB disease.

**Latent**: A person infected with TB bacilli, remains infected without showing sing and symptoms of TB

diseases. Stays infected for life or may develop the disease at any time in the future.

**Active**: A disease state of TB that the client manifests the sign and symptoms of Tuberculosis. Only about 5-10% of the infected persons develop active TB. Active TB disease arises from new infection or reactivation from the latent TB. TB usually affects the lungs (more than 80%)

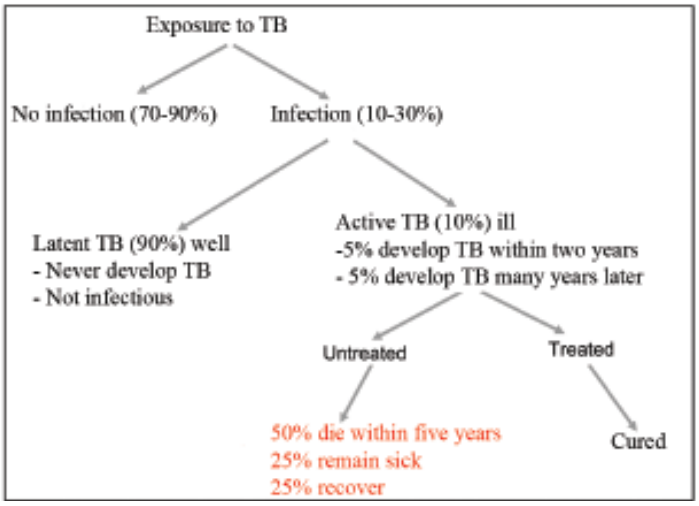



*Fig: Schematic diagram showing the natural history of TB (adapted form blended learning for HEP communicable diseases volume II page 5)*

**Slide #4**

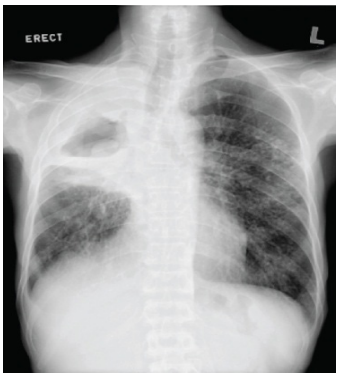
**Types of TB diseases**

Tuberculosis cases can also be classified in to two based on the sites of the affected organ/tissue

1. Pulmonary Tuberculosis (PTB):
2. Extra pulmonary tuberculosis (EPT**B):**

**Pulmonary Tuberculosis (PTB):**

Any bacteriologically confirmed or clinically diagnosed case of TB involving the lung parenchyma or the tracheobronchial tree is classified as pulmonary tuberculosis (PTB). If lungs as well as other parts of the body are affected, it will also be classified as pulmonary tuberculosis



***X-Ray image of severely affected lung old cavity, right upper lops***

**Slide #5**

**Extra pulmonary tuberculosis (EPTB):**

If body parts other than lungs are affected the disease is classified as extra pulmonary tuberculosis (EPTB). Examples of common types of EPTB are:

- TB lymphadenitis (if lymph nodes are affected)
- Glandular TB (if glands are affected).
- Bone TB (if the bone and joints are affected).
- TB Meningitis (if the spinal cord/ meninges of the brain are affected).
- Mesenteric/Intestinal (if intestine and/or mesenteric tissue are affected).
- TB adenitis (TB of the kidneys and urinary system).

TB LYMPHADENITIS

**Side #6**

**What are the main Symptoms of PTB***?*

- Cough, (Persistent cough, the cough could be productive, blood stained or dry)
- Fever,
- Drenching night sweating,
- Poor appetite, Wight loss and
- Fatigue,

***According to the national case finding policy: refers to an individual who presents with symptoms or signs consistent with TB, mainly Persistent cough of two or more weeks (or cough of any duration if HIV positive) is defined as "PRESUMPTIVE TB case"***

## Symptoms of EPTB:

Signs and symptoms of EPTB depend on the site or organ affected. by the disease, night sweats and fever for more than 2 weeks' weight loss and fatigue found to be common for all type of manifestations.

- ***Tuberculous lymphadenitis:*** painless swelling on the sides of the neck, initially cervical lymph nodes are firm and discrete, and may later be matted together and become fluctuant
- ***Tuberculous pleural effusion:*** pain while breathing in, dull lower chest pain, intermittent cough, breathlessness on exertion.
- ***TB of bones and/or joints:*** localized pain and/or swelling of insidious onset, discharge of pus, muscle weakness, paralysis, and stiffness of joints.
- ***Intestinal TB:*** loss of appetite and weight, chronic abdominal pain, diarrhea or constipation, mass in the abdomen, fluid in the abdominal cavity (ascites).
- ***Tuberculosis meningitis:*** Headache, fever, vomiting, neck stiffness and mental confusion of insidious onset.

### Symptoms of EPTB:

Signs and symptoms of EPTB depend on the body part that is affected by the disease, night seating, weight loss and fatigue found to be common for all type of manifestations.

### Slide #7

### Global Burden of TB

- TB is a major public health problem throughout the world.
- According to the 2016 WHO Global TB Report, there were an estimated 10.4 million new (incident) TB cases in 2015. However, only 6.1 million new TB cases were notified in the same year.
- Ethiopia is among the 30 High TB, HIV and MDR-TB Burden Countries, that accounted for 80% of all estimated TB cases worldwide
- According to the 2016 WHO Global TB report, the annual estimated TB incidence of Rate for Ethiopia in 2016 is 192/100,000 population and mortality rate of 26/100,000 population.

Among the notified TB cases in 2015, 2.4% of new TB cases and 14 % of previously treated TB cases were estimated to harbor MDR TB.

**Enabling Objective 2:** Identify risk factors and risk groups for the spread of tuberculosis and its impact in the community.

**Allocated time:** 40 Minutes

**Facilitation Method:**

- Group discussion (35 Minutes)
- Session Summary (5 Minutes)

**Activity #1: Group Discussion (35 Minutes)**

**The facilitator is advised to follow the following steps.**

**Step 1.** Divide the class in to four groups and facilitate a seating arrangement optimum for group discussion. Each team should seat far apart as much as possible to minimize disturbance.

**Step 2.** Encourage trainees to actively participate and provide the flip chart and markers for each group.

**Step 3.** Explain and distribute the following questions (tell them to refer their participant guide) for each group.

Step 4. Tell the trainees that each group has 15 minutes to work on the discussions questions and 20 minutes for gallery walk, presentation and plenary discussion.

**Discussion questions**

- Which segments of the society are at higher risk of contracting TB infection? Why?
- What are the main contributing factors that facilitate for the spread of TB in your community?
- Is stigma and discrimination of TB clients is a concern in your community? Why people discriminate/ isolate TB clients?
- What are the major impacts of tuberculosis to individuals, family and the community?

**Session Summery** (5 minutes)

- Summarize the session by forwarding the following summary questions, encourage participants to speak out their reflection quickly.

- What new information about tuberculosis did you learn from this exercise?
- How useful is the exercise to help you understand better about tuberculosis?

- Ask the participants if something is not clear or burning issues they want know concerning the topic.
- Compliment missing points; emphasize on type of TB, the difference b/n TB infection and TB diseases, TB transmission, contributing factors for the spread of TB.

**What factor facilitates for TB transmission in your community?**

- Overcrowded living condition
- Poor ventilation/window opening practice at home, public transport, schools, Health facilities, entertainment facilities, meeting & the like
- High rate of HIV infection/ immuno-compromised people.

- Under nutrition

**What are the sources of Infection for TB?**

- People with active pulmonary TB,
- Untreated smear negative TB cases and
- Raw milk from cattle infected with TB

**Who is at risk of contracting TB in Ethiopia (Risk groups for TB?)**

- People who have close contact with active TB cases,
- Children under the age of five and elderly people
- People living with HIV/AIDS.
- People with diabetes clients
- People under go transplantation and on immune-suppressant medicines, on chemo/ radio therapy for certain conditions.
- Undernourished / debilitated or people living in crowded situations (Prison inmates, refugees, schools )

**Socio-economic Impact of TB**

- Causes morbidity and mortality,
- Lost earnings due to TB (poverty),
- Stigma and discrimination etc…
- Disruption of family life
- Disruption of education
- Burdened the health system
- Unhealthy community and stress

## SESSION TWO: Presumptive Tb Cases Identification and Referral

**Session objectives**

By the end of the session participants will be able to equip with all the required knowledge and skills to identify and refer presumptive TB cases in their community.

**Allocated time:** 125 minute

**Enabling Objectives:**

**At the end of this topic, UHE-ps will be able to:**

- Describe the strategies and major activities used to identify and refer presumptive TB cases.
- Identify and refer presumptive TB cases for further diagnosis

**Enabling Objective # 1**: Strategies and Activities used to identify and refer presumptive TB cases.

**Allocated Time:** 45 minutes

**Facilitation Method:**

- Group discussion and exercise based on cases scenario (25 minutes)
- Plenary/ Gallery walk and reflection (20 minutes)

**Group Exercise Instruction:**

The facilitator is advised to follow the following instructions

- Divide the class in to four groups, and facilitate to seat in circle in different quadrant of the class, try to make the groups far apart each other as much as possible.
- Give numbers from 1- 4 for each group to randomly deal with set of corresponding questions after reading the case scenario.
- Make sure that the groups are different from previous group exercises.
- Tell the trainees that each group has 20 minutes to work on the case scenario, 25 minutes for gallery walk, presentation and discussion.
- Each group should assign leader to facilitate the discussion and reporter.
- All member of the group should agree on every answer before writing on the flip chart.
- After 20 minutes tell the group leaders to post their flip charts on the wall.
- Tell participants to walk around and observe the works of the other groups (Gallery Walk).
- Call all participants to gather around one flip chart at a time and discuss on the group's work. The group members from the specific flip chart are expected to explain the points on the flip chart and invite comments from other participants. Assist the participant to focus on the missing points rather than repeating what has been discussed already.

**Case scenario for all groups:**

According to the 2007 census projection Woreda Y of Addis Ababa City Administration has a total population of about 10,000 in 2013/14. The average number of person per household is very high (8 people) when compared to other sub-city of Addis Ababa and the residential area is overcrowded by Sub-Standard housing structure. There is one large prison facility which has its own health center, one flower farm in the west edge of the woreda, 3 garments, one textile and one paint factories are situated in the middle of the Woreda. One public health center, 5 private clinics, and 9 Drug stores / pharmacies

are providing service to the community. There is one historical church and holy water which has been visited by thousands of pilgrims especially in the fasting season all over the country. There is also one mosque in the business street of the Woreda and one famous witch doctor dealing with all kinds of health conditions in the Woreda.

The sub-city health office assigned three urban health extension professionals to this Woreda and these professionals are providing community level health service since 2010. The prevalence of communicable diseases such as HIV and Tuberculosis is higher than other part of the city. Estimated HIV prevalence in 2006 in this Woreda is 5%. In the first three quarter of 2008 a total of 30 HIV positive cases were registered according to sub-city health office report. There are about 20 smear positive TB clients in the Woreda currently on intensive phase and 12 on continues phase of treatment.

**Question for Group the Groups:**

**Group I:**

- Calculate the number of TB cases expected in the Woreda for a given Year.
- How many presumptive TB cases you need to identify and refer to get the number of expected TB cases.
- Distribute the number of presumptive TB cases by quarter and set targets for each quarter.
- List the main partners/stakeholders you want to engage to identify and refer those presumptive TB cases.

**Group II:**

- Calculate the number of TB cases expected in the Woreda for a given Year.
- How many presumptive TB cases you need to identify and refer to get the number of expected TB cases.
- Discuss and list the main strategies and activities used to identify presumptive TB cases in Woreda.
- Is there any chance of the actual number of cases can be greater than the expected cases, if yes discussions and list the reason why and identify the potential sources of imported cases.

**Group III:**

- Calculate the number of TB cases expected in the Woreda for a given Year.
- How many presumptive TB cases you need to identify and refer to get the number of expected TB cases.
- Discuss and list conditions that facilitate TB transmission in the Woreda.

- Discus and list important segment of the population in the woreda you want to invest your time and effort to identify and refer more presumptive TB cases.

**Group IV:**

- Calculate the number of TB cases expected in the Woreda for a given Year.
- How many presumptive TB cases you need to identify and refer to get the number of expected TB cases.
- How many individuals you will going to screen as contact of TB cases, list the age group and type of people you will focus during the screening.
- How would you ensure that the strategies and activities did not create stigma and discrimination?

**Summery Questions for a plenary:**

- Summarize the session by forwarding the following summary questions, encourage participants to speak out their reflection quickly.

- What are the main benefits of early identification and referral for the client, the society and the program?
- Is a child under five automatically a presumptive TB case? Why?
- Is a person living with HIV automatically a presumptive TB case? Why?
- What did you learn from these activities, that help you improve how to identify and refer presumptive TB cases?

- Compliment missing points; emphasize on strategies and activities, how set targets and stakeholders for presumptive TB identification.

***Note for facilitators:***

- *Please use the national prevalence and incidence data and the woreda population to calculate the expected number of TB cases in the given year.*
- *According to the federal ministry of health routine data, at least 10 individuals needs to be referred and diagnosed to get one smear positive cases.*
- *Please assist the trainees to identify their primary focuses for presumptive TB case in the woreda (PLHIV, Family contacts of smear positive TB cases, sick people attending the traditional healer, OPDs of the private and public facilities, holy water, etc )*
- *Please assist the trainees to exclusively explore all possible means to get more TB cases and to identify as partners to engage them (Both public and private health facilities, religious institutions, the prison facility, work place like farm the factories and community systems.*

**Enabling Objective #2:-** Identification and referral of presumptive TB cases in the community.

**Allocated time**: 80 Minutes

**Facilitation Method:**

- Brief Brainstorming with Key Questions **(5 minutes)**
- Role play **(30 Minutes)**
    - Discussion and Writing the script **(15 Minutes** )
    - Practice for each group **(5 minutes** )
    - Performance of the role play at the plenary **(10 minutes)**
- Debriefing and feedback (20 minutes)
- VIPP excursive, Agree / disagree **(15 minutes)**
- Session summery **(10 minutes)**

**Brainstorm:**

Divide the class into four groups; make sure that each is comprised of different people than the last small groups. Tell the participants in each group to quickly read and respond to the following questions. Help them list and select a type of presumptive TB for the role; each group should work on different kind of case to avoid duplication.

1. List the four types/categories of presumptive TB.
2. What challenges arise during presumptive TB case identification and referral? (consider the previous case study).

**Role Play**

- Each group will have 15 minutes to develop a scenario for 10-minute role play. Advise them to use short and clear conversations to reflect what happens in real life.

  Each group should select one type/category of presumptive TB for role play, and assign 3 or 4 participants to play characters according to the drafted script. Encourage them to be creative and funny

  **Characters**

  1. Urban Health Extension Professionals (health care providers)
  2. Client/ person with presumptive TB cases
  3. Family or community member (close contact of person with presumptive TB )

Ask two groups to perform the role play for the larger group. mily/community members, and the observers, respectively.

1. Debriefing is not a debate; its purpose is to help participants assess and improve their performance. Debriefing questions, by role:**UHE-p:** How did you do to help your client?
2. What helpful attitudes did you convey, and why?
3. What was the most challenging issue during interaction with your clients? How did you manage it?

**Client:**

- What did the health providers do to help you understand your situation in relation to TB?
- What did the UHE-p say to make you decide to seek help?
- What attitudes did the provider convey during your interaction?
- How might these attitudes help a potential TB client?
- Did the provider fail to meet any of your expectations?

**Audience:**

- Did the health provider/UHE-p help the client access health service?
- If you were the provider, what would you have done differently? Why?

Ask the provider/UHE-p which if any of the comments were helpful**.** Conclude the session by asking participants:

- Did you learn anything from this session that you could apply to your work?

  Will the session help you improve presumptive TB case identification and referral?

**Agree/disagree (15 minutes)**

The purpose of this activity is to make participants aware of their feelings about presumptive TB case identification and referral, and to reflect on how these feelings and perceptions may affect their job performance.

1. Post agree and disagree signs on opposite sides of the wall. Instruct each participant to decide independently.
2. Read one statement at a time and ask people to stand by the sign that reflects their answer.
3. Invite a few participants to explain reasons for agreement or disagreement. Participants may change their decision at any time, i.e., if they are convinced by others' responses.

| Sample statement that the facilitator can modify or adapt | Agree | Disagree |
|---|---|---|
| 1. There is strong evidence that HIV epidemic worsens the spread of Tuberculosis. Therefore all HIV clients are presumptive TB cases. | | X |
| 2. If one of the married couple developed TB, They should stop sharing bed till complete cure is ensured to minimize worsening of the illness. | | X |
| 3. Cough of more than two weeks is a **definitive** symptom for TB. | | X |
| 4. UHE-ps cannot help people with TB | | X |
| 5. Exposure to wind/cold especially throw a narrow opening can cause TB | | X |
| 6. Eating and drinking utensils of TB clients should be separated to prevent the spread of TB to other family members. | | X |
| 7. If a pulmonary TB client and other family members are sharing a room, arranging the TB client's sleeping place to the window side is a better option. | | X |
| 8. Isolation TB clients from the general population is not an efficient way of preventing TB transmission. | X | |
| 9. UHE-ps need to use referral slips while referring presumptive TB cases. | X | |

**Summary Questions (10Minutes)**

Summarize the session asking participants to respond to/discuss the following questions.

1. Prioritize/ list the main role and responsibility of UHE-ps on the fight against TB in your assignment area.
2. How do your views help or hinder you to identify and refer presumptive TB cases in the community?
3. How does your feeling influence your interaction with the clients at the community level?
4. How do your views either contribute to increase or decrease stigma and discrimination?

**Facilitator's Resource** Basic objectives of presumptive TB case identification and referral are:

- To investigate all presumptive TB cases and diagnose quickly
- To initiate an effective treatment and hence interrupt the chain of transmission
- To minimize missed opportunities among those visiting the health system

To cure TB patients and prevent mortality and disability **National TB Control Strategies adopted from WHO End TB strategy.**

Ethiopia adopted the DOTS strategy since 1997 after successful pilot program. DOTS Plus and the STOP TB strategies, TB HIV, MDRT TB and Community TB in subsequent years and achieved the Millennium Development Goal concerning TB in 2015. The new "END TB strategy" also integrated with the HSTP of the country with the main aim of ending the TB epidemic by 2035.

The END TB strategy encompasses a package of interventions and it has 10 components organized under three pillars.

**Pillar 1 - Integrated, patient-centered care and prevention:**

a. Early diagnosis of tuberculosis including universal DST, and systematic screening of contacts and High-risk groups
b. Treatment of all people with TB including drug-resistant TB, and patient support
c. Collaborative TB/HIV activities, and manageme
d. nt of co-morbidities
e. Preventive treatment of persons at high risk, and vaccination against TB

**Pillar 2 - Bold policies and supportive systems:**

a. Political commitment with adequate resources for TB care and prevention
b. Engagement of communities, civil sociality organizations, and public and private providers
c. Universal health coverage policy, and regulatory frameworks for case notification, vital registration, quality and ration use of medicines, and infection control
d. Social protection, poverty alleviation and actions on other determinants of tuberculosis

**Pillar 3 - Intensified research and innovation:**

a. Discovery, development and rapid uptake of new tools, interventions and strategies
b. Research to optimize implementation and impact, and promote innovations

**Strategies to identify presumptive TB cases and referral for sputum examination**

- Create community awareness regarding TB and its symptoms
- Increase the awareness of health care workers at health facilities to enable them identify presumptive TB cases
- Screen all patients for TB during their visit to health facilities irrespective of the immediate cases.
- Identify presumptive TB cases from the community and refer them to diagnostic health facilities
- Provide proper sputum smear examination to all presumptive TB cases

***Any person with a history of cough for two or more weeks should submit two spot-spot sputum samples for AFB smear examination!***

**Major activities required for identification of presumptive TB cases**

- Provision of continuous health education and community mobilization
- Identify the presumptive TB cases and refer to diagnostic health facilities for sputum smear examination using the referral slip and follow the result.
- TB contact tracing and evaluation
- Presumptive TB case identification among high risk group such as PLWHA, Diabetes Mellitus, prisoners, children under the age of five years, etc.
- Refer HIV positive patients to health facilities for TB screening.
- Regularly check HIV patients if they are screend for TB in thier most resnt vist
- Coopret with HFs staff to regulry screen for TB to all OPD and antinatal care visiters.

## SESSION THREE: Diagnosis and Treatment of Tuberculosis

**Session Objectives:**

By the end of this session, UHE-ps will be able to equip with the necessary knowledge and skills on TB diagnosis and treatment and clearly describe their role in the general public health service.

**Allocated Time:** 120 Minutes (2:00)

**Enabling objective:**

**By the end of this session UHE-ps will be able to:**

- Describe Methods of Tuberculosis diagnosis and related classifications.
- Explain TB category and aims of TB treatment.
- Describe TB treatment, first line drugs and common side effects Describe TB treatment outcome based on the national guideline.

**Enabling Objective #1:** Describe Methods of Tuberculosis diagnosis and related classification

**Allocated time:** 30 minutes

**Facilitation Method:**

- Slide Presentation (10 Minutes)
- Plenary discussion and reflection (15 Minutes)
- Summary (5 minutes)

**Instruction the slide presentation:**

- Present the session objective and expected outcome
- Explain Methods of TB diagnose being used in Ethiopia in different level.

**Slide #1**

**Methods of TB Diagnosis**

Combinations of TB diagnoses methods are commonly used in Ethiopia to complement each other for definitive diagnosis these include.

1. **Clinical exmination:** implimented in OPDs, differnt clincs, and instituations to screen for bactrological examination and in some instances can be used to make final decions for deficalt cases and or where there is no bacteriological diagnosis.
2. **Bacteriological diagnosis:** Depend on sputum examination which includes AFB microscopy, TB calture and other imminological test like LPA and GeneXpert MTB Rif.
3. **Radiological examination:** The most common diagnosis method is chest X-ray which is a supportive examination to clinical diagnosis.

4. **Pathological examination:** Biopsy and FNA are commonly practiced to diagnose of extra pulmonary TB.

**Slide #2,**

**AFB Examination**

Among bacteriological examinations, TB culture is the gold standard. AFB-sputum smear microscopic examination is the simplest, most rapid, reliable, and cost-effective way to diagnose pulmonary TB. If microscopy and laboratory professionals are available, it is very simple to do this test. It doesn't require high-level training or expensive supplies. For cases with negative sputum smear results and those presumed to be extra-pulmonary TB, there are several investigation options

**Slide #3**

**Classification of TB on the bases of diagnosis:**

Based on the clinical evaluation of cases & laboratory investigation result of biological specimen TB cases can be classified into two:

1. **Bacteriologically confirmed TB cases:**
2. **Clinical TB cases/ Clinically diagnosed TB cases:**

**Bacteriologically confirmed TB cases are** clients from whom a biological specimens are positive by smear microscopy, culture or approved rapid diagnostic test.

**Clinically diagnosed TB cases are** clients who do not fulfill the criteria for bacteriologically confirmed TB but has been diagnosed with active TB by a clinician or other medical practitioner who has decided to give the client a full course of TB treatment.

This definition includes cases diagnosed on the basis of X-ray abnormalities or suggestive histology and extra-pulmonary cases without laboratory confirmation. Clinically diagnosed cases subsequently found to be bacteriologically positive (before or after starting treatment) should be reclassified as bacteriologically confirmed.

- Read the questions below one by one and ask participants to respond. Take at least two responses to each and encourage silent participants to speak.

1. What did you learn from the slide presentation?
2. What other methods of TB diagnosis do you know?
3. Why is smear microscopy technique the preferred TB diagnostic method?
4. Why is diagnosing bacteriological confirmed TB cases easier than clinically diagnosed TB cases?

5. How many sputum samples are required for diagnosing TB? Explain the timing.
6. Do you know of other TB diagnosis methods being used in Ethiopia?
7. What advise should you give a person with presumptive TB before s/he submits spot and morning sputum samples?

**Summary:**

- How will this session help you improve your work?

8. Supplement the discussion if important points on methods of TB diagnosis and categorization are missed.

**Enabling Objective #2:** Explain TB category and aims of TB treatment

**Allocated time:** 35 minutes

**Facilitation Method**:

- Brainstorming and categorization exercise, true/false exercise, plenary discussion

**Brain Storming and Categorization exercise:**

**The facilitator is advised to follow the following instructions**

- Ask participants to discuss TB treatment categories in pairs Ask participants to write answers to the questions below the space provided for each question then.
- Compare answers with 2-3 other people.

| | Statement | Category |
|---|---|---|
| 1 | A client who was declared cured or treatment completed for any form of TB returns to the health facility and is diagnosed for TB is categorized as…? | **Relapse (R)** |
| 2 | A TB client, turned smear-positive while on treatment at the end of the fifth month or later is categorized as…? ? | **Treatment after failure (F),** |
| 3 | A TB client who never had treatment for TB or who took anti-TB drugs for less than a month is categorized as… | **New cases of TB (N),** |
| 4 | A TB client who never had treatment for TB or who took anti-TB drugs for less than a month is categorized as… | **Treatment after lost to follow up (L)** |
| 5 | A client who does not fit in any of the above mentioned categories (e.g., a person who was treated in the past but whose treatment outcome undocumented /unknown) is categorized as… | **Other previously treated (O).** |

**Facilitator's Resource**

**Category of TB cases:**

- After diagnosis and at the time of registration, TB patients are classified based on the presence or absence of previous TB treatment and, if so, the outcome.
- There are two broad TB case definitions namely: New cases of TB (N), and previously treated cases of TB. Previously treated cases are further classified by the outcome of their most recent course of treatment into four categories:

  1. Relapse (R),
  2. Treatment after failure (F),
  3. Treatment after lost to follow up (L), and
  4. Other previously treated (O).

**True of False exercise**

**The facilitator is advised to follow the following instructions.**

- Give each participant two cards of different color; green and red if possible.
- Ask them to write "true" on one and false on other, making sure that all follow the same color scheme, i.e., red for false and green for true.
- Each person will answer the questions below individually. Read statements one by one and note the mix of color cards raised

  1. Lemlem is 17 years old girl, diagnosed smear positive in your health centre and she never had past history of TB treatment, the TB clinic nurse registered her as a **new cases of TB (N) , True**
  2. Balcha, 65 years old veteran, all his sputum examination were negative and diagnosed as TB case by a clinician in the nearby hospital, referred to your health centre for DOT. He had previous successful TB treatment while he was in the military. The TB clinic staff registered Balcha as **Other previously treated (O), False, Since the statues of his previous treatment is known, he should be registered as RELAPSE**
  3. Kiros is 25 years sex worker, co-infected with HIV, she has been on TB treatment in your health centre for 3 months. The TB clinic staff sent you a memo that Kiros has stop coming to collect her medicines. You went to her rented home but she changed her residency, with the help of her fried you found her and convinced her to come back to the health centre. The health centre staff

appreciate your effort and registered Kiros as **Treatment after lost to follow up (L) True**

**Plenary**

- Ask if participants any questions
- What kind of provider attitudes are essential to achieve these objectives without creating stigma and discrimination? Why?
- What are the main objectives/aims of TB treatment?
- Does effective TB treatment reduce the spread of the TB in the community? How?

**Enabling objective #3:** Describe TB treatment regimens, first line anti TB drugs and common side effects that may contribute to adherence

**Allocated time:** 30 minutes

**Facilitation Methods**

- Slide Presentation **(10 minutes)**
- Case Scenario/ Presentation **(20 minutes)**

**Slide presentation:**

**Slide #1**

The aims of treatment of Tuberculosis are:

- To cure the client from TB
- To prevent death from TB disease and its late effects
- To prevent relapse of TB
- To prevent the development of acquired drug resistance, and
- To decrease TB transmission

***Anti-TB formulations***

Most Anti-TB Drugs used in first line TB treatment are prepared as fixed dose combination (FDC)

A) Adult formulations

| Client type | DRUGS | FORMULATION | STRENGTH(mg) | Preparation, route |
|---|---|---|---|---|
| **Adult** (Age 15 years and above) | HRZE | Tablet | 75/150/400/275 | FDC, oral |
| | HR | Tablet | 75/150 | FDC, oral |
| | RHE | Tablet | 150/75/275 | FDC, oral |
| | E | Tablet | 400 | Loose, oral |
| | STM | Powder for injection | 1000 | Loose, Parental |

b) Pedaitric Forumations

| CLIENT TYPE | DRUGS | STRENGTH(MG) | FORMULATION | PREPARATION, ROUTE |
|---|---|---|---|---|
| **Pediatric** ( body weight less than 25kg) | RHZ | 60/30/ 150 | dispersible tab | FDC, oral |
| | RHZ* | 75/50/150 | dispersible tab | FDC, oral |
| | RH | 60/30 | dispersible tab | FDC, oral |
| | RH* | 75/50 | dispersible tab | FDC, oral |
| | E | 100 | dispersible tab | Loose, oral |
| | H | 100 | dispersible tab | Loose, oral |

**N.B The national program has started the implementation TB client kit system for treatment of TB in adults**

**Slide #2**

**Definition of Intensive and Cointnus phase of TB treatment Regimen.**

***Intensive (initial) phase:*** treatment with combination of four drugs for the first 8 weeks for new cases. Treatment with combination of five drugs for the first 8 weeks followed by 4 drugs for the next 4 weeks for previously treated cases.

***Continuation phase:*** follows intensive phase to ensure cure or treatment completion and avoid relapse of the disease after completion of treatment. This phase requires treatment with a combination of 2 drugs for 4 months for new cases, and 3 drugs for 5 months for previously treated cases.

**Slide #3**

Adherence support and monitoring during treatment

**Directly Observed Treatment (DOT)**

- ✓ To ensure optimal administration of all doses of the TB treatment, clients are advised to be supported by trained person selected by the client. This is called directly observed treatment- DOT.
- ✓ National control program recommends observation of the administration of each and every dose of TB treatment by either a health worker, Health extension worker or a community TB treatment supporter.

**The roles of TB treatment supporters:**

- Daily supervise treatment for clients who are not able to follow their DOT at either health facility or health post level
- Educate and support TB clients and family
- Mark on the TB treatment card upon supervising the client taking each dose
- Report any adherence problems encountered by the client
- Assist in tracing clients who interrupted treatment

***Note for the facilitator:*** *Category of clients and TB treatment region including the drugs are subjected to periodic revision based on the international recommendation and available local knowledge of the time. There for please refer the revised national TBL manual for the update version/ detail answer*

***The Standard TB treatment regimen in Ethiopia***

| TB Client type | Standard Regimen | | Client registration groups receiving the regimen |
|---|---|---|---|
| | Intensive phase | Continuation phase | |
| **Drug susceptible TB** clients (New and Previously treated) | 2(RHZE) | 4(RH) | • New TB clients<br>• Relapse<br>• Treatment after LTFU<br>• Treatment after failure of New regimen<br>• Others |
| | 2(RHZE) | 10 (RH) | • New clients with CNS TB (meningitis, tuberculoma)<br>• New TB clients involving vertebra and Osteoarticular space |
| **RR-/M/XDR-TB clients** | Second line drugs | | Confirmed cases of RR-/M/XDR-TB clients |

**Case presentation:**

**The facilitator is advised to follow the instructions.**

1. Divide the class in to four new groups.
2. Distribute the case study and management of side effects according to group (Group 1 and 3 case study #1; Group 2 and 4 case study #2; and instruct them to read and discuss the questions that follow theirs.
3. Provide a flip chart and marker for each group's answers.
4. Instruct each group to post its summary on the wall. Facilitate compare and contrast after gallery walk.

**Scenario 1:** W/ro Ayantu has been diagnosed with bacteriologically confirmed pulmonary TB in the nearby health centre a month ago. She is on directly observed treatment (DOT) and she is now taking RHZE. Since last week she is experiencing anorexia, nausea, joint pain and orange discoloration of her urine. During her visit this morning the TB clinic was too busy with other clients. Due to this, she did not have enough time to consult her concern to health care workers at the health centre. Now W/ro Almaz is worried and thus reluctant to take her medication.

- What advice would you give w/ro Almaz?
- Should you refer her to the health center immediately? Why?
- Which drugs might cause the above signs and symptoms?
- What are the major risks if she interrupts the treatment?

**Scenario 2:** Ato Bogale was clinically diagnosed as a new case of pulmonary TB at one of the referral hospitals 5 months ago. The hospital referred him to the nearby health centre immediately after the diagnosis to receive the treatment. He took RHZE for the first 56 days. Now he is taking RH. Recently he developed burning sensation in the feet. The UHE-ps have come across the above symptom during home visit.

- What advice would UHE-ps give to ato Bogale?
- Should you refer him to the health center immediately? Why?
- Which anti-TB drugs might cause the above symptom?
- What are the major risks if he interrupts treatment at this stage?

5. Randomly select two groups to present their work.

**Facilitator's Resource**

**Management of anti TB related side effects.**

TB drug related side effects and their management. Early notification and proper managements of anti TB related side effects are very important:

- Prevent treatment interruption and improve adherence
- Prevent further complications and suffering
- Improve treatment outcome and save life
- Improve quality of life of TB clients and their families.

**Common side-effects of first line anti TB drugs:**

The side effect of anti-TB drugs are classified into two:

1. Minor side effects which may occur more frequently and can be easily managed symptomatically without interruption of treatment.
2. Major side effects which are very serious and often require treatment interruption but not common.

    - Generally anti-TB drugs have fewer side effects. But the health workers or treatment supporters should monitor clients by asking the presence or absence of those anticipated side effects.
    - Side effects are more common in HIV positive people.

| Side-effects | Drugs | Management | |
|---|---|---|---|
| a) Minor (clients should continue their medications) | | | |
| | | | |
| | Anorexia, nausea, abdominal pain | Rifampicin | |
| Pyrazinamide | Advice to take tablets with small meals if on intensive phase; If it is on continuation phase, take tablets at bed time | | |
| | Joint pain | Pyrazinamide | Aspirin |
| | Orange/red urine | Rifampicin | Reassurance |
| | Burning sensation in feet | Isoniazid | Refer client for treatment |
| b) Major (Stop responsible drug/s) | | | |
| | | | |
| | | | |
| | Deafness | Streptomycin | Refer immediately to health facilities |
| | Itching, skin reaction | Rifampicin or Isoniazid | Refer immediately to health facilities |
| | Dizziness | Streptomycin | Refer immediately to health facilities |
| | Yellowish discoloration of the eye (jaundice) | Most anti-TB drug | Refer immediately to health facilities |
| | Vomiting and confusion | Most anti-TB drug | Refer immediately to health facilities |
| | Visual impairment | Ethambutol | Refer immediately to health facilities |
| | Shock, bleeding from any body part (purpura) and acute renal failure | Rifampicin | Refer immediately to health facilities |

**Enabling Objective # 4:** Describe TB treatment outcome based on the national guideline

**Allocated time:** 25 minutes

**Facilitation methods:** True/false exercise, plenary discussion and reflection

**Reading**

Ask participants to read the statements on TB treatment outcome categorization in the box below.

- Post true and false lable on the opposite sides of the wall.
- Read the setenments one by one or ask a trainee to.
- After each statement, participants should stand by the card s/he sees fit .
- Allow participants to chage position and explain reason they changed.

| Statement | Right | Wrong |
|---|---|---|
| 1. Goytom was a smear negative TB client co -infected with HIV, Died by car accident while at continuation phase of his TB treatment. The health worker counted him with all other **TB deaths** and sent the report to the woreda health office. | X | |
| 2. Alemu was diagnosed as smear positive TB case at the beginning of his treatment and turned out smear negative in the last month of his treatment. The health work should declared and report him as **treatment completed**. | | X |
| 3. Any TB client turned bacteriologically (smear/culture) negative at the end of the treatment is declared as cured. | X | |
| 4. Any TB case with no information about their treatment outcome at the time of evaluation is reported under Not evaluated. | X | |
| 5. Tolosa turned out smear positive at the end of his 5th Month TB treatment, his treatment outcome should be treatment failure. | X | |
| 6. Heramo was assistant Track driver, diagnosed as smear positive TB and took his treatment for 40 days consecutively in your health centre but never comeback back for the last 3 months and the team couldn't get him, his treatment outcome should be documents as not evaluated. | | X |

**Summary (plenary discussion and reflection):**

- What major factors determine treatment outcome?
- How can UHE-ps influence favorable outcomes?
- What obstacles might prevent UHE-ps achieve favorable outcomes? How can you overcome these challenges?
- When do health workers determine the treatment outcome? When do they report outcomes to the health office?

**Facilitator's Resource**

**Cured:** A pulmonary TB client with bacteriologically confirmed tuberculosis at the beginning of the treatment but who was smear- or culture-negative in the last month of treatment and on at least one previous occasion

**Treatment completed:** A TB client who completed treatment without evidence of failure BUT there is no record to show that sputum smear or culture results in the last month of treatment and on at least one previous occasion are negative.

**Treatment failure:** A client whose sputum smear or culture is positive at month 5 or later during treatment.

**Died:** A client who dies for any reason during the course of TB treatment

**Lost to follow up:** A client who has been on treatment for at least four weeks and whose treatment was interrupted for eight or more consecutive weeks

**Not evaluated:** A TB client for whom no treatment outcome is assigned. This includes cases "transferred out" to another treatment unit as well as cases for whom the treatment outcome is unknown to the reporting unit

**TB treatment outcome depend on:**

- The form of TB,
- Sputum follow up examination
- Client condition.

TB treatment outcome is reported a year later in the same quarter of treatment enrolment of the client.

**Major factors that determine treatment outcome**:

1. Proper client counseling, guidance and follow-up
2. Stigma and discrimination
3. Distance of DOT service
4. Continues client education care and support
5. Regular monitoring including bacteriological examination
6. Good documentation and system for retrieval of lost to follow up

**The role of UHE-ps for better treatment outcome**

1. Client education and counseling
2. Better documentation of TB clients on treatment in the catchment area
3. Early retrieval and support for treatment interrupters and lost to follow-ups
4. Regular house visit and client education
5. Empower TB clients and educate the community to tackle stigma and discrimination
6. Supervise, motivate and provide technical support to different client support groups and DOT observers

## SESSION FOUR: Community Tb Care

**Session Objectives:**

By the end of this session UHE-ps will be able to describe the basic principles of community TB care and identify important stakeholders and interrelated packages of UHEP.

**Allocated time**: 75 minutes

**Enabling objectives:** By the end of this session participants will be able to:

- Describe the principles and importance of community engagement for TB prevention and control. Explain the role and responsibilities of stakeholders on community TB care.
- Identify urban health extension packages and programs that have significant impact for TB prevention and control.

**Enabling objective # 1:** Describe the principles and importance of community engagement for TB prevention and control

**Allocated time:** 20 minutes

**Facilitation methods:** Brainstorm, group discussion/plenary

**Brainstorm**

Ask participants to talk about and note the importance of community engagement for TB prevention and community in their areas.

**Group discussion/plenary**

**Discussion questions**

1. What are the objectives of community TB care?

2. Who in your community is important for TB prevention and control?
3. How do you involve the community in your daily activities? What are the benefits of working with them?
4. How can we improve community participation in TB prevention and control?
5. Who is responsible for facilitating community TB care in your area?

- Solicit answers and compliment and refine as needed

**Enabling objective 2**: Explain stakeholders' roles and responsibilities in community TB care

**Allocated time:** 35 minutes

**Facilitation methods:** Group discussion; small group discussion and reflection

**Step 1:** Read the following question to participants and open floor to discussion. List responses on flipchart:

1. Who are the main stakeholders for community TB care in your area? Why?
2. What challenges might UHE-ps expect while working in the community? Are there recommended solutions?
3. What techniques promote community engagement for TB control and prevention?

**Step 2:** Break into four groups and assign each one or two stakeholders. They should discuss and note the assigned stakeholder's roles and responsibilities in community TB care implementation. Each group will write its discussion points on a flip chart and present to the large group.

**Step 3:** Revise list according to other groups' responses; summarize.

**Enabling objective 3:** Identify urban health extension packages and programs that have significant impact on TB prevention and control.

**Allocated time:** 20 minutes

**Facilitation methods:** Brainstorming; card sorting exercise

**Step 1:** Break class in to four groups; make sure they are not the same combination of people as last time.

**Step 2:** Tell participants to brainstorm and identify six health extension packages that have impact on TB prevention and control then write the name of each package on a separate colored card as identified by the group (preferably a yellow card).

**Step 4:** Ask participants to write names of packages that don't have significant impact on TB prevention and control on a separate card (preferably green).

**Step 5:** Ask participants to post each card under the categories of 'significant' and 'less significant' accordingly.

**Step 6:** After each group present its work to the others, discuss each package's link (or lack thereof) to TB prevention and control. Move cards from one category to the other as the group arrives at consensus for each.

- **Step 7:** Ask participants to compare their group work with others; evaluate the color mix in each, and acknowledge the group that had the fewest mix of colored cards. Ask how each package under 'significant' contributes to TB prevention and control. Do those packages contain components that are not relevant to TB prevention and control?

**Summary questions:**

- How will you implement what you've learned about TB prevention and control?

  What challenges do you expect? What can you do to overcome them?

**Role of each stakeholder for Community TB care**

**The community**

- Ensure that all newborns get BCG vaccine at birth.
- Ensure all presumptive TB cases (those who cough for more than two weeks) are referred to health facilities for screening.
- Support and encourage TB clients to adhere to their medications.
- Encourage all contacts of TB clients and HIV-positive individuals to get screened for TB.
- Encourage TB clients to attend laboratory follow-ups per schedule.
- Ensure open windows to allow adequate air flow in residential and office rooms.
- Ensure open windows in public transportation to ensure adequate air flow and reduce TB transmission.
- Teach people to cover mouth and nose during sneezing and coughing and to avoid spitting in

  open field/public places/home.
- Teach people to boil milk before consumption.
- Discourage stigma and discrimination of people who have TB.

**TB clients**

- Take all prescribed medications per schedule and complete.
- Cover nose and mouth during sneezing and coughing.
- Collect sputum in container for proper disposal.
- Get all family members and close contacts screened for TB.
- Open windows to allow adequate airflow and sunlight into rooms.
- Eat nutritious foods.
- Avoid cigarette and alcohol consumption.

**Family members**

- Encourage relatives who have TB to take medications daily and without interruption.
- Provide sputum containers.
- Ensure that all family members are screened for TB.
- Show empathy and care for TB-infected family members and provide them with nutritious foods.
- Open windows to allow air flow and sunlight into rooms.
- Encourage relative who has TB to spend most of his/her time outside.

**Health extension packages that contribute to TB prevention and control**

1. **Hygiene & Environmental Health**
    - ✓ Healthy home environment and housing
    - ✓ Personal hygiene
2. **Family Health Service**
    - ✓ Immunization
    - ✓ Essential nutrition action
3. **Disease Prevention & Control**
    - ✓ HIV and AIDS prevention and control

**Health Education & Communication**

# SESSION FIVE: Introduction to Tb/HIV Co-Infection

**Session Objectives**

By the end of this session the participants will be able to expand their understanding on the relationship between TB and HIV and provide integrated services.

**Allocated time:** 70 minutes

**Enabling Objective:**

By the end of this topic, UHE-ps will be able to:

- Describe TB/ HIV co- infection
- Explain the 3I and other community level activities to decrease the burden of TB/HIV co-infection

**Enabling Objective #1:** Describe TB/HIV co-infection.

**Allocated time:** 30 Minutes

**Facilitation methods:** true/false exercise; summary

**True/false exercise**

1. Post cards with "True" and "False" on either side of the room.
2. Reach each statement one by one. Instruct participants decide on his/her own if the statement is true or false and to stand by the corresponding sign.
3. Ask for volunteers to explain why they answered as they did. Participants may change their mind as they hear each other's explanation and should change positions accordingly

| Statements | True | False |
|---|---|---|
| 1. Tuberculosis (TB) suppresses a person's immunity, which facilitates **transmission** of HIV infection.. | | X |
| 2. The proportion of clinically diagnosed pulmonary TB and EPTB is higher among HIV infected individuals. | X | |
| 3. There is strong relationship between the HIV and TB. If a person with TB remains untreated for long time, s/he could become HIV-positive and be TB/HIV co- infected.. | | X |
| 4. One of the effects of HIV on TB is the diagnostic challenge, requiring improved diagnostic capacity. | X | |
| 5. TB is the leading cause of mortality and morbidity among HIV infected people in Ethiopia | X | |
| 6. HIV negative individuals have more than 50% chance of developing TB in their life time. | X | |

**Summary:**

Ask the following question of the large group and supplement with any missing points.

- What are the main misunderstandings of the community on TB and HIV in your area and how might you correct them?
- What new information about TB and HIV co-infection have you learned

**Enabling objectives #2:** Explain the 3Is and other community level activities to decrease the burden of TB/HIV co-infection

**Allocated Time:** 40 Minutes

**Facilitation Method**

- Slide presentation ( 10 Minutes )
- Plenary /large group discussion (10 Minutes )
- Case study /Group work (20 Minutes)

**Slide Presentation**

Present TB/HIV integrated community level activities (including the 3Is). Each participant is expected to understand the following interventions clearly.

**Slide #1**

**TB/HIV collaborative activities includes 12 interelated lists under 3 thematic areas**

**A. Establish mechanisms for integrated TB and HIV services delivery**

- Set up a coordinating body for TB/HIV activities effective at all levels
- Conduct Surveillance of HIV prevalence among TB clients
- Carry out joint planning for integrated TB and HIV services delivery
- Monitor and evaluate collaborative TB/HIV activities

**Slide #2**

**B. The three Is (3Is) for HIV/TB and earlier initiation of ART to reduce the burden of TB among HIV positive individuals are;**

- Intensify TB case finding and ensure high quality TB treatment
- Initiate TB prevention with earlier initiation ART and Isoniazid preventive therapy
- Ensure Tuberculosis infection control in health care and congregate settings

**Slide #3**

### C. Decrease burden of HIV among TB clients

- Provide HIV testing and counselling to presumptive and confirmed TB clients
- Introduce HIV-prevention interventions for presumptive and confirmed TB clients
- Provide cotrimoxazole preventive therapy for HIV-positive TB clients
- Provide AIDS prevention, treatment, and care services for HIV-positive TB clients
- Provide ART to HIV-positive TB clients

**Large group Discussion**

Questions :

1. How does HIV influence TB transmission and burden?
2. How does TB influence HIV?
3. What activities should be conducted at the community level and how?
4. How can UHE-ps decrease the burden of TB/HIV co-infection in the community?
5. How can UHE-ps decrease the burden of HIV among TB clients?

**Case studies**

1. Divide class into four groups. Two groups will develop practical case studies for HIV-infected individuals in each working area; two groups will develop case studies for known TB cases on treatment follow up. Characters must be based on composite—not actual—clients.
2. The case studies should include:
   - Details of the individual client (sex, age, education, socioeconomic background, behavior, HIV, OI, ART status, TB status and type)
   - Main challenges to services and how they try to manage/overcome them.
3. Select one group from each category to present its case study. Solicit feedback from observers.

**Summary**

- Review the main challenges related to TB/HIV
- Reiterate UHE-ps' role in addressing the burden of TB/HIV co- infection and related stigma and discrimination in their communities.

Ask what they learned from this session and how they will apply it to their actual work

**Faciltator resource**

**Impact of HIV on TB prevention and control**

HIV increases susceptibility to infection with *M. tuberculosis*, the risk of progression to TB disease, and the incidence and prevalence of TB. The life-time risk of HIV-positive individuals for developing TB is 20–37 times more than HIV-negative individuals. The presence of HIV also increases the likelihood of re-infections and relapses of TB. In a population where TB/HIV is common, health services struggle to cope with the large and rising number of TB. HIV and AIDS have many effects on people with TB and control programs; primarily, requiring more resources for diagnosis and treatment; overstretching human resources. They also have the following consequences:

- The stigma attached to TB and HIV hinders people who have TB from seeking health services.
- The relatively high proportion of smear-negative PTB and EPTB in PLHIV complicates diagnosis of TB and requires improved diagnostic capacity.
- Poor treatment outcomes (failure, recurrence, default) and high morbidity and mortality in TB client co-infected with HIV.
- Increased transmission of TB—including drug-resistant strains—among PLHIV and health care workers in health facilities and other congregate settings.
- High rates of adverse drug-drug interactions and side effects.

**Impact of TB on HIV**

In PLHIV, the presence of TB:

- Increases HIV replication, which leads to increased viral load. This results in more rapid progression of HIV disease including development OF WHAT?
- Increases occurrence of other OIs.
- Complicates disease management because of:
  - Pill burden
  - Increased adverse effects
  - Adverse drug-drug interactions and

# SESSION 6: Introduction to MDR TB

**Session Objectives**

By the end of this session participants will be able to equip the necessary skills to deliver MDR TB related services at household and community level.

**Allocated time**: 45 Minutes

**Enabling objective:**

By the end of this topic UHE-ps will able to:

- Describe Multi-drug resistant TB, and the role of UHE-ps in prevention and control of MDR TB.

**Enabling Objective#1:** Describe Multi-drug resistant TB, and the role of UHE-ps in prevention and control of MDR TB

**Allocated time:** 45 minutes

**Facilitation Method**

- Brainstorm **(15 Minutes )**
- Group discussion and reflection (**30 Minutes )**

**Brainstorming (15 min)**

- Post the following definition of MDR Tb and ask participants to brainstorm factors that facilitate the development of MDR TB under Health system, Drug related and client related factors.

  **Multi-drug resistant (MDR) TB is M. Tuberculosis strain resistant to both isoniazid and rifampicin**

| Health system/program related factors | Drugs related factors | Client related factors |
|---|---|---|
| | | |

- Ask one of the participants to present her answer for the plenary and ask the rest of the participants to add more factors. summarize the activity by asking the participants the following question,
  - What is the role of UHE-ps in prevention and control of M**DR TB?**

**Group discussion (30 min)**

- Divide the participants into four groups and tell them to read the following cases scenario and discuss the questions listed below..

**Case Scenario:**

W/ro Leyla had taken first-line anti-TB drugs twice within the last two years but did not recover from the disease. When health workers sent her sputum for a culture and drug sensitivity test, it confirmed a diagnosis of M. tuberculosis resistant to both isoniazid and rifampicin, making her diagnosis MDR TB. Now she is taking second-line drugs for MDR-TB but her sputum hasn't converted yet. She lives with her husband and six children. Her neighbors suspect that she may also be HIV-positive

1. Divide the class into four groups and ask them to discuss the following questions.
   - How might you minimize the community's stigmatization and discrimination against Leyla?
   - How would you advise her to avoid transmitting the disease to others?
   - What measures would you advise her family to take?
2. Each group will record its answers on a flip chart and post it on a wall, then all participants will compare their answers to the other groups and discuss.

**Inform participants that additional orientation/training is required if anyone is assigned to provide treatment follow up and care for MDR TB clients in the community.**

**Facilitator's resource**

Risk factors of developing MDR-TB

| **Health-care provider/program related factors:** | **Drug related factors: inadequate supply or quality** | **Client- related factors: inadequate drug intake** |
|---|---|---|
| Inappropriate guidelines<br>Non-compliance with guidelines<br>Absence of guidelines<br>Poor training<br>Poor supervision<br>No monitoring of treatment provision<br>Poorly organized or funded TB control program<br>Inadequate regimens<br>Lack of DST<br>Poor access to health care | Poor quality<br>Unavailability of certain drugs due to stock-outs of delivery disruptions<br>Poor storage conditions<br>Wrong doses or combinations (manufacture related) | - Poor adherence/default<br>-Lack of or inadequate client information<br>-Treatment not given for free<br>-Lack of transportation money or support<br>-Drug adverse effects/ interaction,<br>-Social barriers<br>-Mal-absorption - Substance/ alcohol dependence |

**To reduce exposure in households:**

- Houses should be adequately ventilated, particularly rooms where people with infectious TB spend considerable time (natural ventilation may be sufficient to provide adequate ventilation)
- Anyone who coughs should be educated on cough etiquette and respiratory hygiene, and should follow such practices at all times
- If smear positive, TB clients should:
  - Spend as much time as possible outdoors
  - Sleep alone in a separate, adequately ventilated room
  - Minimize contact with children(< 5yrs) and immune-suppressed individuals
  - Spend as little time as possible in congregate settings or in public transport

Additional infection control measures for confirmed MDRTB clients:

- While culture positive, MDR-TB clients who cough should always practice cough etiquette (including use of masks) and respiratory hygiene when in contact with people.
- Health service providers should wear particulate respirators (N95) when attending clients in enclosed spaces.
- Family members living with HIV, or family members with strong clinical evidence of HIV infection, should not provide care for clients with culture-positive MDR-TB. If there is no alternative, HIV-positive family members should wear respirators (N95), if available.
- Children under the age of five years should spend as little time as possible in the same living spaces used by culture-positive MDR-TB clients. Such children should be followed up regularly with TB screening and if positive, send sputum sample for culture and drug-susceptibility testing and refer for treatment.
- While culture positive, XDR-TB clients should be **isolated at all times**, and any person in contact with a culture-positive XDR-TB client should wear a particulate respirator (N95). If at all possible, HIV-positive family members, or family members with a strong clinical evidence of HIV infection, should not share a room with culture positive XDR-TB clients.

# UNIT 3: MALARIA PREVENTION AND CONTROL

**Unit Objective:**

At the end of this unit, UHE-Ps will be able to understand the cause, mode of transmission, preventive and control activities of malaria, identify the potential vector of malaria, promote key household behaviors, community actions and diagnose and treatment of malaria using Rapid Diagnostic Test (RDT).

**Specific Objective**

**By the end of this unit UHE-ps will be able to:**

- Explain basic facts and epidemiology of Malaria in Ethiopia.
- Explain major malaria prevention and control interventions.
- Demonstrate Malaria diagnosis and treatment.

**Time Allocated 6:45 hrs**

## SESSION ONE: Basic Facts and Epidemiology of Malaria In Ethiopia

**Session Objective:** At the end of this session, participants will be able to describe the basic facts, and epidemiology of malaria in Ethiopia.

**Allocated Time: 105 min (1:45)**

**Training Materials:**

- Flipchart, flipchart markers and flipchart stand, plaster, LCD projector, laptop computer.
- VIPP Card
- CD/flash disc that have video on Malaria vector and parasite lifecycle.

**Enabling objectives:** At the end of this session, participants will be able to:-

- Explain basic Malaria facts
- Explain epidemiology of malaria in Ethiopia

**Enabling Objective #1:** Explain basic Malaria facts

**Allocated time: 45 mins**

**Facilitation methods:**

- VIPP Exercise (True or false exercise) **15 Minutes**
- Video and summery Discussion (Malaria vector and parasite lifecycle) **30 Minutes**

**True/false exercise**

1. Post cards with "True" and "False" on either side of the room.
2. Read each statement one by one. Instruct participants decide on his/her own if the statement is true or false and to stand by the corresponding sign.
3. Ask for volunteers to explain why they answered as they did. Participants may change their mind as they hear each other's explanation and should change positions accordingly.

| Statement | True | False |
|---|---|---|
| 1. Malaria is a vector borne **bacterial** disease transmitted through the bite of both male and female anopheles mosquitos. | | X |
| 2. Headache, fever, shivering, vomiting and joint pain are the main sign and symptoms of uncomplicated malaria. | X | |
| 3. Plasmodium vivax is the dominant and deadly specious of malaria in Ethiopia where 60% of the land and 80% of the population are exposed. | | X |
| 4. Most deadly epidemics occurred in Ethiopia are caused by plasmodium falciparum. | X | |
| 5. The bite of infected female anopheles mosquito is the only means of malaria transmission. | | X |
| 6. Water bodies and small containers are crucial in the control of malaria since the two out of the four developmental stage of the vector are spent in the water (Egg, larva) | | X |
| 7. Pregnant women, children under five and travelers form non malarious area are the most vulnerable and affected segment of the society and more likely to develop complicated form of malaria. | X | |

**Video**

1. Instruct viewers to take notes as they watch the videos.
2. Show the video on the life cycle of female anopheles mosquito.
3. Explain that this is the vector for the malaria parasite. The vector is a macro animal that lives its own life and transmits the disease while taking blood.

4. Show the video on malaria parasite.
5. Tell viewers that plasmodium is a blood parasite in the protozoan family.
6. Explain that the parasite depends on the hosts (mosquitos and humans) to complete its lifecycle.
7. Summarize the activity by asking the participants what new information did they learn from the exercise and the video?

**Introduction to basic facts on malaria (reading assignment before starting the unit)**

**What is malaria?**

Malaria is a vector borne infectious diseases caused by *Plasmodium* parasites that are spread to people through the bites of infected *Anopheles* mosquito. Of the 5 parasite species that cause malaria in humans, *Plasmodium falciparum* and Plasmodium Vivax are common in Ethiopia.

- Plasmodium falciparum accounts more than 60% of all malaria cases and the most deadly specious in Ethiopia.
- Plasmodium Vivax, accounts about 40% of all cases in Ethiopia

**How malaria transmitted?**

- The malaria parasite typically is transmitted to people by the bit of infected mosquito mosquitoes belongs to the genus *Anopheles*.
- In rare cases:
  - Malaria also may be transmitted from a mother to her fetus before or during delivery ("congenital" malaria).
  - Because the malaria parasite is found in red blood cells, malaria can also be transmitted through blood transfusion.

**What is the vector of malaria?**

The vector of malaria is female anopheles mosquito, mosquito has for stage of development/ life cycle includes: egg, larva, pupa and adult. All the first three development stages are takes place in water and the adult mosquito emerged. Only the female transmitted the disease because of her tendency for a blood meal in order to mature eggs inside her.

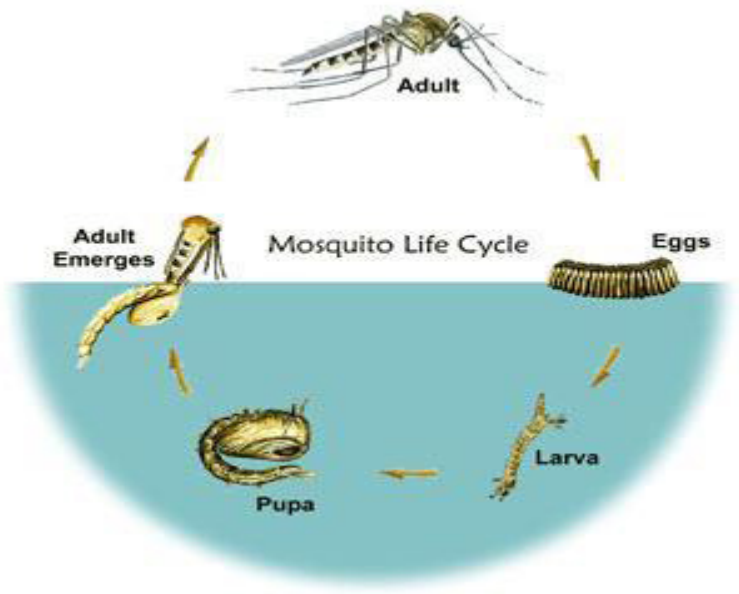



**Fig. 1. Malaria Vector Mosquito life cycle**

## What is the cause of malaria (malaria parasite: lasmodia)

Malaria is caused by protozoan blood parasites of the genus *Plasmodium*, single cell organisms that cannot survive outside of the host/s.

There are five specious of plasmodium

1. *Plasmodium Falciparum* is responsible for the majority of malaria deaths globally and is the most prevalent species in sub-Saharan Africa.
2. *Plasmodium Vivax,* is the second most significant species and is prevalent in Southeast Asia and Latin America.
3. *Plasmodium Ovale*
4. *Plasmodium Malariae:*
5. *Plasmodium knowlesi*

The last three represent only a small percentage of infections.

Malaria parasite needs two hosts to complete its live cycle humans and the mosquito

**What are the common Sign and Symptoms of uncomplicated Malaria?**

The signs and symptoms of malaria in most cases began 8–25 days following infection. The classic symptom of malaria is occurrence of sudden coldness followed by shivering and then fever and sweating. The general sign and symptoms of malaria include:

- Headache,
- Fever,
- Shivering,
- Joint pain,
- Vomiting,
- Hemolytic anemia,
- Jaundice.

If left untreated, malaria can lead to complications and death.

**Who is the most affected segment of the society by malaria?**

- Children under 5 years
- Pregnant women
- Travelers from none malicious area (migratory workers)

**Enabling Objective #2:** Explain the epidemiology of malaria in Ethiopia

**Allocated time: 60 minutes**

**Facilitation method**

- Slide presentation **(15 minutes)**
- Group work and plenary discussion **(45 minutes)**.

**Instruction for the slide presentation**

1. Give a brief presentation on the global burden of Malaria

- Which part of the world most affected by malaria ( Consider Global Morbidity and Mortality figs).
- Show the continental map of malaria to appreciate the distribution.

2. Give a brief presentation on the national burden of Malaria

- Show the national Map of Malaria (Endemic areas, areas where only seasonal malaria transmission, areas were malaria transmission and epidemic could occur under specific conditions and none malarious areas)
- Proportion of the land and percentage of the population exposed to malaria in Ethiopia.

**Group work**

**The facilitator is advised to follow the following steps**

**Step 1:** Divide the class in to four groups and facilitate a seating arrangement optimum for group discussion. Each team should seat far apart as much as possible to minimize Disturbance.

**Step 2:** Encourage trainees to actively participate and provide the flip chart and markers for each group.

**Step 3:** Explain and distribute the following Questions for each group. Provide a resource/ references for groups who may not have adequate information and resource on give topic.

**Group I:**

1. What are the two most common types of malaria parasite in Ethiopia?
2. Why Ethiopia is affected by malaria and which part of the world we belong to, consider the geographical zone, latitude and longitude features of the country in your discussion.
3. How you understand and rate the malaria situation in your area (Woreda/Kebele)?
1. Is malaria your concern? Why?

**Group II:**

1. Which malaria parasite infection is most deadly and requires special attention?

1. Which part of the country is endemic for malaria, prone to sporadic, seasonal epidemics?
2. How you understand and rate the malaria situation in your area (Woreda/Kebele)?
3. Is Malaria your concern? Why?

**Group III:**

1. Who are more susceptible for complicated malaria and requires special attention?
2. Discuss and list big (catastrophic) Malaria epidemics happened in Ethiopia you may know/ heard about it.

- Identify the part of the country most affected by the epidemics (Province/ Region/Zone district)
- What was the contributing factor for the epidemic and for the high deathtoll?
- How you understand and rate the malaria situation in your area (Woreda/Kebele)?
- Is Malaria your concern? Why?

**Group IV:**

**Discuss the impact of malaria in Ethiopia:**

- Health, Social and Economic impact of Malaria in Ethiopia (please discuss the impact of malaria on the health system and its historical background, populations size, settlement pattern and its economic implications).
- How you understand and rate the malaria situation in your area (Woreda/Kebele)?
- Is malaria your concern? Why?

**Step 4:** Advise each group member to writ the summery of their discussion on the flip chart in a clear and visible handwriting.

**Step 5:** After the **20 minutes** discussion and write up of the summary, inform each group expected to post the flipchart on the wall **for 25 minutes plenary discussion**.

**Step 6:** Invite all group members for a gallery walk, one flip chart at a time, invite the group members to briefly present their work. Encourage other group members and the participants to compliment.

**Step 7:** Advice each team members to writ on the flip chart if important ideas are proposed form the group discussion, and repeat Step 6 and 7 the remaining three groups.

**Step 6:** Summarize the topic by recapping the enabling objective and supplementing missing points in each group discussion and presentation.

**Facilitator resource**

Malaria is one of the leading causes of morbidity and mortality in Ethiopia. Due to the topography and climatic condition of the nature of malaria transmission in most part of Ethiopia is unstable. Hence, there is no well-developed immunity in all ages. Children under five years of age and pregnant women are at greater risk of acquiring and having more serious malaria illness.

**Global burden of balaria**

According to the latest WHO estimates, (December 2015), there were 214 million cases of malaria in 2015 and 438 000 deaths.

Sub-Saharan Africa continues to carry a disproportionately high share of the global malaria burden. In 2015, the region was home to 88% of malaria cases and 90% of deaths.

**Epidemiology of malaria in Ethiopia**

About 75% of the land and 60% of the population is exposed to malaria in Ethiopia. Ethiopia is generally considered as a low- to- moderate malaria transmission intensity country. Malaria epidemiology is greatly affected by climate change. Due to the unstable and seasonal transmission of malaria in the country, protective immunity of the population is generally low and all age groups are at risk. Prevalence of malaria is estimated to be 1.3% (Ethiopia Malaria Indicator Survey 2011).

1. **Factors affecting malaria transmission in Ethiopia**

## 1.1 Environmental factors

- **Altitude (elevation):-**Temperature decreases as altitude increases. Thus transmission is lower at higher altitudes. The altitude at which transmission stops varies from country to country and with vector and parasite species, but is generally between 2000-2500m. In Ethiopia, areas above 2500m are considered malaria free.
- **Rainfall: -** Water is important to the mosquito lifecycle so rainfall has a large effect on malaria transmission. When there is no rainfall eggs will dry up and there will be no breeding sites. In periods of very heavy rainfall or flooded rivers etc eggs and larvae may be washed away. Consistent rainfall can result in numerous puddles and breeding sites for the mosquitoes. Seasonal malaria is closely linked to rainfall.
- **Temperature and humidity:-** At high temperature and humidity levels the life cycle of the mosquito is shortened, i.e. develops from an egg to adult in the shortest possible time meaning the mosquito populations rapidly proliferate. These conditions can lengthen the life of the adult mosquito, meaning more older mosquitoes that are able to transmit malaria.
- **Urbanization:** Rapid unplanned urban development can create many new breeding grounds for malaria vector.

### 1.2 Host factors

- **Age and immunity:** In highly endemic areas, children under five years of age and pregnant women are the most at risk, because they have week immunity .

### 1.3 Vector and parasite factors

- **Plasmodium species:** Different species of plasmodium cause different levels of illness. Plasmodium falciparum causes the more severe burden both in terms of morbidity and mortality.
- **Strain of species:** Different species also have different thresholds of temperature for development.
- **Virulence, resistance:** Various strains of parasite can occur within the same parasite species. These might be found in different geographical areas or in the same area.
- **Vector behavior:** Whilst there are around 60 anopheles species that can transmit malaria there are usually only 1 – 4 species that cause the bulk of the transmission in any one area. Vector behavior will be explained in the next chapter.

## Session two: Major malaria prevention and control interventions

**Session Objective:** At the end of this session, participants will able to equip with the necessary knowledge and skills on key actions and behaviors that help to prevent and control malaria at household and community level.

**Allocated Time: 90 Mins (1:30) hrs**

**Enabling objectives:** At the end of this session, participants will able to:

- Explain major malaria vector control interventions
- Describe the importance of early diagnosis and treatment of malaria

**Enabling Objective #1:** Explain major malaria vector control interventions

**Allocated time: 50 minutes**

**Facilitation Method:**

- Group discussion and Presentation **(50 minutes )**

The facilitator is advised to follow the following steps for the group work.

**Steps:**

**Step 1:** Tell participants to discuss thoroughly the malaria prevention and control activities that are

being implemented in Ethiopia.

**Step 2**: Explain that in this session they will address key actions and behaviors to prevent and control malaria at household and community level.

**Step 3:** Review the session and enabling objectives.

**Step4:** Divide the class in to four groups and make sure that the group members are intermixed and different from the previous group.

**Step5:** Provide flipchart and Markers for each group; advise the group members to write summary of their discussion on the flipchart in a clear and visible handwriting.

**Discussion points:**

**Group I: General discussion on Malaria Prevention and Control**

- List and discuss priority Malaria prevention and control activities being implemented in Ethiopia.
- Evaluate the identified activities based on:
    - Effectiveness
    - Applicability in the local community.
    - Safety (Human and Environmental Safety)

**Group II: Discuss Long Lasting Insecticide treated Nets (LLINS):-**

- What do households and community members need to do in regards to appropriate handling and utilization of LLINs?
- Who should get priority to sleep under LLINs?
- What are the barriers in regard to behavior and practice change on LLINS?
- What are key messages and actions about LLINs to promote to the community?

- **Group III: Discuss environmental management, IRS and larviciding:-**

1. What are the common malaria mosquito breeding sites at household and community level?
2. When and where should larviciding be used?
3. What advise do you give to the community to effectively benefit from the sprayed Insecticide

4. What do households and community members need to do in regards to environmental management?
5. What are the barriers in regard to behavior and practice change on environmental management?

- **Group IV: Discuss the criteria and requirements to implement IRS in a given village.**

1. What are the criteria to implement IRS in a given community?
2. What key message do you give to the community? Developed the key messages you want to promote to the community clearly and precisely.

**Step 6:** Invite the representatives of each group to come out and present their work using flip chart.

**Step 7:** Listen each presentation and invite supplements form other participants and summarize each presentation, address the missing points and summaries the topic.

**Enabling Objective #2:** Describe the importance of early diagnosis and treatment of malaria.

**Allocated time:** 40 Minutes

**Facilitation Method:**

- VIPP Exercise **(30 minutes)**
- Session summary **(10 minutes)**

**Instructions:**

- Post cards with "True" and "False" on either side of the room.
- Reach each statement one by one. Instruct participants decide on his/her own if the statement is true or false and to stand by the corresponding sign.

1. Ask for volunteers to explain why they answered as they did. Participants may change their mind as they hear each other's explanation and should change positions accordingly

| Statement | True | False |
|---|---|---|
| 1. The reason why people delayed to seek care for malaria symptoms are lack of awareness, considering fever as miner illness, confusion with other self-limiting illness are among the few. | X | |
| 2. Early diagnosis and treatment of malaria cases increases the chance of survival. Diagnosis can be made using RDT, micro-copy or clinical. | X | |
| 3. The role of UHE-ps is only prevention and control of malar-ia at the community level, and there is nothing to do on the diagnosis of malaria. | | X |
| 4. Children under five and pregnant women are at higher risk of complication and death due to malaria when there is delay in diagnosis. | X | |
| 5. When there is outbreak of malaria, there is no need to conduct diagnosis of every case; mass fever treatment is an option. | X | |
| 6. RDT is a simple but requires blood, so that, the test should be conducted in laboratory settings only. | | X |
| 7. When malaria outbreak reported in areas where malaria has never been reported, the UHE-ps should not give much emphasis, since the outbreak will be controlled naturally. | | X |
| 8. More children with malaria are reported in certain village, where previously none malarious, it can be considered as an indicator of imported case build up. | | X |
| 9. If a pregnant woman became positive for malaria with RDT test, she must wait until she gave birth to take anti malaria drugs in order to prevent the fetus from unintended side effects of the drugs. | | X |
| 10. Drinking alcohol (areki), eating raw garlic and similar remedies, if properly administered, can prevent someone form getting malaria. | | X |

**Summary**

Ask each trainee which key message from the session s/he will convey to the community.

## Facilitator note

### Key Messages for the community

1. Malaria is caused by the bite of anopheles mosquito.
2. Leveling and filling of swampy and marshy areas helps to control the breading of mosquito.
3. All family members shall sleep under LLINs always to prevent malaria infection. Priority shall be given to pregnant women and children (< 5 years) whenever there is shortage of nets. Children will not be suffocated when they sleep under nets since it has enough holes for free air circulation.
4. Wash LLINs lightly every three months.
5. All houses in malaria area shall be sprayed every 6 months. Do not plaster sprayed houses in the next 6 months.

**Facilitator Resource**

**1.Early treatment seeking**

- It is important to identify signs and symptoms of malaria and go to a health facility immediately;
- A person who has signs and symptoms of malaria has to be tested using RDTs/ refer to health center.
- Advise care takers to cool the body temperature of a febrile child by applying wet sponge. Advise care takers to give additional fluid to prevent dehydration.
- Emphasise that
    - o if treatment is discontinued, the person will not be fully cured and the disease may relapse in a more severe form;
    - o if there is no improvement after treatment within three days or if the sick person gets severely ill, s/he should go back to the health facility;
    - o Traditional medicine is not proven to cure malaria

**2.Malaria prevention mainly vector control**

- Prevention of malaria is by far better to avoid the suffering caused by the illness and the high cost and inconvenience of getting treatment;
- Major vector control methods are:
- Environmental management,
- LLINs,
- IRS and
- Chemical larviciding;

**3.Environmental management**

- Identify the number and distribution of mosquito breeding sites;
- Prepare a sketch map of the breeding sites and keep it at a health post;
- Empower households and community to identify breeding sites and take necessary actions within their compounds and immediate surroundings;
- Type of environmental management activities:
    - o Land leveling and filling of swampy and marshy areas;
    - o Drainage;
    - o Cleaning and clearing ditches and irrigation canals;
    - o Covering of water harvesting ponds and water containers, such as pots, wells, barrels, etc;

**4. LLINs**

- Identify households that need replacement or supply of LLINs and facilitate their availability.
- Sleeping under LLIN protects against mosquito bite that causes malaria;
- Ensure availability of LLINs in every household in malarious areas based on family size.
- The insecticide in the LLIN kills mosquitoes and other insects but does not harm children and adults;
- Sleep under the LLIN throughout the year including in those months when mosquitoes don't breed much;
- Hang the LLIN properly. It should be hung in such a way that it does not allow any mosquito to enter;
- Wash your LLIN every three months using water and ordinary soap (do not use detergent/omo) and dry it under shade;
- Make sure that the net does not have a hole or opening. If you find hole or tear on the LLIN, mend it immediately using needle and thread. When used carefully, a net may serve for five years;
- Women and children living in Malarous areas shall sleep under LLINs always since they are the most vulnerable groups.

**5. Larviciding**

- Water collections that cannot be managed by environmental modification measures can be treated with larvicides.
- The success of larvicides will depend on the identification of all mosquito breeding sites and their distribution in the entire potential area and followed by sustained weekly spray of larvicidal chemical on sites that are positive for mosquito larvae.
- The most common water soluble chemical used for larviciding in our country is temephos (Abate). Temephos is non-toxic for human and aquatic life when applied at the recommended dosage.
- Water bodies that will be not be used by human or animal can be treated with used motor oils.

**IRS (Indoor Residual insecticide Spray)**

Insecticide(s) for IRS are selected based on evidence of effectiveness and

and must:

- Kill more than 90% of the mosquitoes that make contact.

Note, however, that mosquitoes can develop resistance to the insecticide used in IRS. If People in the community experience a high number of mosquito bites even if their houses are sprayed, or there are many mosquitoes resting inside sprayed houses, these could be early signs of resistance and should be reported to the supervisor/ Woreda Health Office.

- Remain effective at killing mosquitoes for a long time – that is, they must be long-lasting.
- Be safe for humans and domestic animals.
- Be acceptable to the community.

**Commonly used insecticides**

- Residual insecticides for IRS are generally in the form of powders or liquids.
- For indoor spraying purposes, the water-dispersible powder is the most effective form.
- Most insecticides come in pre-weighed sachets; one sachet is to be used per one spray pump of eight litre capacity.

**Insecticides used for IRS in Ethiopia**

| Name of insecticide | Chemical type | **Dosage** (in grams per square metre) |
|---|---|---|
| Malathion | Organophosphorus | 2 $g/m^2$ |
| Fenitrothion | Organophosphorus | 1 or 2 $g/m^2$ |
| Propoxur | Carbamets | 1 or 2 $g/m^2$ |
| Bendiocarb | Carbamets | 0.2–0.4 $g/m^2$ |
| Deltamethrin | Synthetic pyrethroids | 0.025–0.05 $g/m^2$ |
| Permethrin | Synthetic pyrethroids | 0.5 $g/m^2$ |
| Lambdacyhalothrin | Synthetic pyrethroids | 0.025–0.05 $g/m^2$ |
| Cypermethrin | Synthetic pyrethroids | 0.5 $g/m^2$ |

**Inform the community members that their houses are going to be sprayed.**

- Educate the community that the spray is very important to control Malaria epidemic.
- The current spray will not leave mark/dirt on the wall.
- Please don't plaster, paint, cover or wash the wall after sprayed.
- Cover with water impermeable materials (plastic sheets) and put in the middle of the house /take out all food items, drinks and utensils during the preparation for the spray.

## Session Three: Malaria Diagnosis and treatment

**Session Objective:** At the end of this session, participants will be able to demonstrate how to diagnose malaria using RDT and how to treat/ refer Malaria cases

**Allocated time: 3:30 hrs**

**Enabling objective:** At the end of this session, participants will be able to:

- Describe methods of malaria diagnosis and assess the severity of cases, based on clinical signs and symptoms.
- Demonstrate malaria diagnosis using RDTs.
- List anti-malaria drugs for uncomplicated malaria and their dosage..
- Describe uncomplicated malaria treatment and required care for malaria clients

**Enabling Objective #1:** Describe methods of malaria diagnosis and assess the severity of cases, based on clinical signs and symptoms.

**Allocated time: 40 minutes**

**Facilitation Method:**

- Brainstorming and small group discussion **(15 minutes)**
- Plenary discussion **(25 minutes** )

**Brainstorming and small group discussion:**

**Instruction**

**The facilitator is advised to follow the instructions**

1. Tell the trainees to read the discussion questions individually and brainstorm for few minutes.
2. Tell the trainees to discuss their understanding in pairs with other participant seated next to them and try to answer the questions one by one.
3. Advice the participants to document their discussion points to contribute in to the large group discussion.

**Discussion questions:**

a. How many types of Malaria diagnoses methods are being used in Ethiopia? List them?

b. What are the advantages and disadvantages of each diagnosis method identified?

c. Which malaria diagnosis method is applicable at community level by UHE-ps?

d. What are the clinical signs and symptoms of uncomplicated malaria?

e. What are the clinical signs and symptoms of severe (complicated) malaria?

f. What danger sings mean and why we assess the danger signs?

g. What are the danger signs? List them?

1. After 15 minutes of brainstorming and discussion in pair, advise the participants to start plenary discussion for the coming 25 minutes.
2. Invite one group to stand up and present their discussion questions, allow them to present only one question. Make two presentations per question if the time allows you to do so, Invite other participants to compliment. Repeat this step to all the above listed questions.
3. Summarize the topic by repeating:
   - The types /methods of malaria diagnosis available in Ethiopia
   - How you can identify cases of malaria?
   - The common sign and symptom of uncomplicated Malaria
   - The criteria to assess the severity of malaria / the danger signs.

**Facilitator's Resource**

**Signs and symptoms of malaria**

- Fever (or a history of fever within the last two to three days).
- Shivering (body shaking).
- Profuse sweating.
- Headache and pains in the back, joints, and all over the body

**How to identify cases of malaria**

You can recognize malaria by asking the right questions and looking for the important signs.

**Enabling objective #2:** Demonstrate malaria diagnosis using RDTs

- ***Ask:*** Ask questions and listen to what the client has to say (if the client is a young child, listen to the parent or guardian). If the client (or parent) does not mention fever, ask whether there has been a fever at any time during the past 2–3 days. Clients who have had fever during the last 2–3 days may have malaria. If your catchment area is non-malarious, ask for travel history of the client who shows signs and symptoms of malaria, most importantly fever.
- ***Look***: Examine the client for symptoms of malaria. Measure the temperature with a thermometer. If the temperature is more than 37°C, the client has a fever. (If you do not have a thermometer with you, feel the forehead with the back of your hand. If the forehead feels hot, the client probably has a fever).
- ***Check***: In addition to fever, malaria clients can show the following signs and symptoms: loss of appetite, refusal to breastfeed (child), weakness, nausea, vomiting, headache, joint pains, muscle aches. If you see any of these features you should think about malaria and act immediately. If there is no fever and no history of fever during the past 2–3 days, the client does not have malaria.

**Danger signs of severe malaria**

- Convulsions (fits)
- Anemia,
- Repeated vomiting
- High fever (above 39°C),
- Severe dehydration (look for sudden weight loss, loose skin, sunken eyes, dry mouth)
- Drowsiness or confusion, and
- Reduced urine output

If the client has one or more of these signs, the client might have severe malaria. The client's life is in danger. Urgent treatment is needed to save the client's life so refer immediately to the nearest health center.

**Allocated time: 70 minutes**

**Facilitation Method:**

- Introductory slid Presentation **(20 minutes)**
- Demonstration **(50 minutes)**
- **Summary (10 minutes )**

**Slid presentation**

**Slide #1**

**What is RDT**

- RDT is a Rapid Diagnostic Test for malaria using antigens of the malaria as a marker**.**
- RDT is a fast and simple diagnostic techniques
- One RDT kit is used only for one sample and disposes the kite after conducting test for one blood sample.
- The RDT we are using in Ethiopia is multi specious, that mean it can identify phalciperum and none phalciperum specious.
- What is the safety measure while handling the sample and conducting the RTD test
- Where and how you dispose the kit the biomedical west after you conduct the test.

**Slide #2: Preparations**

- According to the national guideline, that malaria treatment at community level/health post, or referral should be based on RDT test results.

- **Procedures for using RDT**

1. Check the expiry date on the package. Do not use RDTs that have expired.
2. Put on gloves before beginning, Use a new pair of gloves for each client. Do not re-use gloves.
3. Open RDT package and remove the contents:

- The blood-transfer device ( may be capillary tube, straw, loop, pipette)
- Discard packing material and the 'desiccant' sachet

4. Remove the test cassette and write client's name on it.

**Slide #3: Taking Blood Sample.**

1. Open the alcohol swab and clean the client's third or fourth finger with alcohol
2. Once the client's finger is dry, open the lancet. Prick the client's finger.
3. Discard the lancet in a sharps-only container (Safe box) immediately after using it.
4. Turn the 'client's' arm so their palm is facing downward. Squeeze the pricked finger and allow a drop to well up below the finger-tip as.
5. Use the loop or capillary tube or straw or the pipette to collect the drop from underneath.

**Slide #4: Conduct the test**

1. Add the drop of blood to the sample window (square hole labeled with the letter A), the blood needs to reach and be absorbed by the pad at the base of the square hole. If the blood is mostly deposited on the plastic edges of the well, but does not reach the pad, the test will not work correctly.
2. Add 6 drop of the buffer solution to the round hole labeled B. Hold the bottle vertically when adding the buffer solution to ensures the correct drop size.
3. Wait for the correct duration of time (15 or 20 minutes) after adding buffer before reading the test results.
4. Discard the blood-collection device, (e.g. capillary tube, gloves) safely after use to avoid possible contamination.

**Demonstration:**

**Steps**

**Step 1:** Divide class into six groups (make sure grouping is different from previous session). Place a table in center of room.

**Step 2:** Give each group 2 or 3 RDT kits and printed procedures and recording tool. Instruct them to read procedures before beginning.

**Step 3:** A volunteer from each group will be tested. Assist each team as needed

**Step 4:** Advise each team to consider all possibilities as they interpret results. If the test result is invalid due to error in the procedure or faulty equipment, instruct them to retest.

**Step 6:** Demonstrate a positive test result (assuming that no trainees will have a positive result)

**Test interpretation**

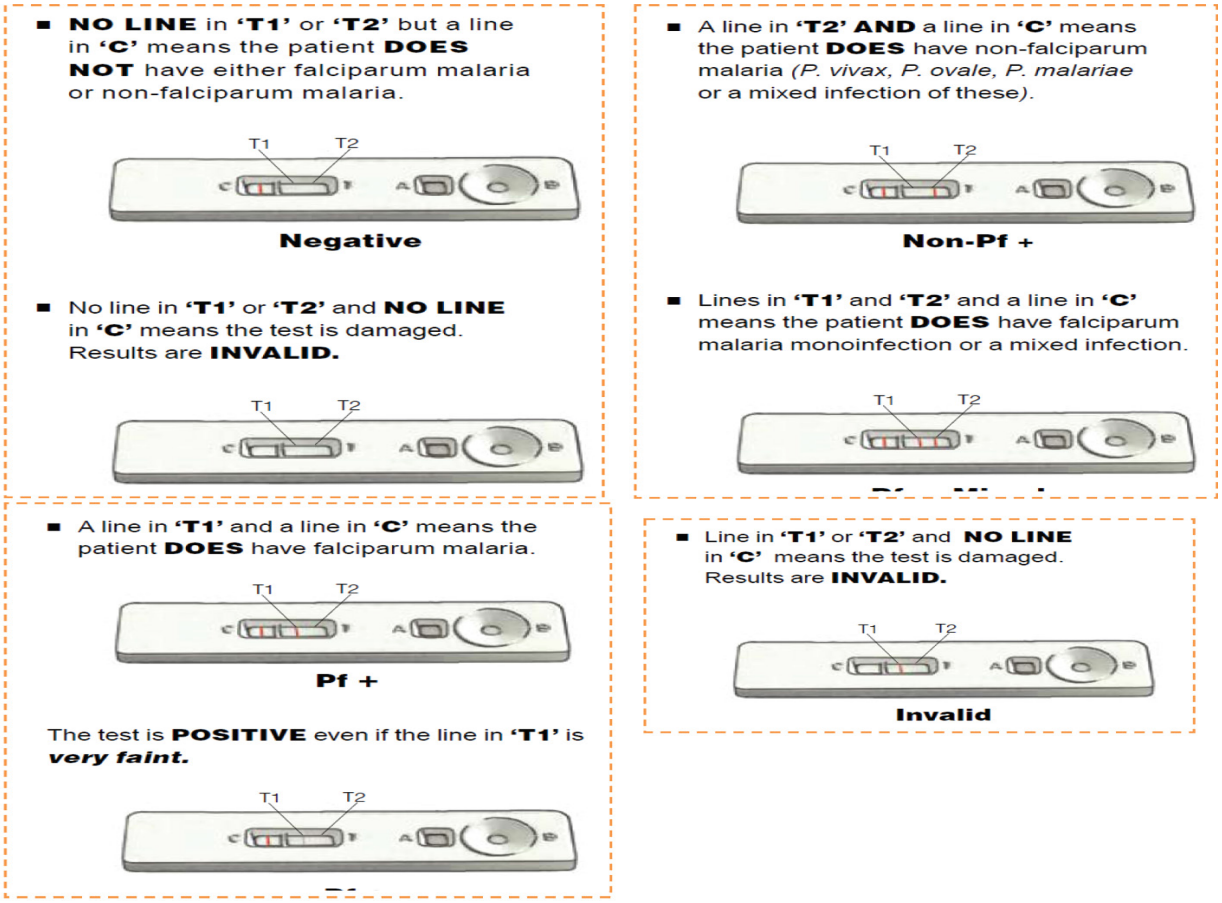



**Table 2 Malaria RDT interpretation chart**

| Results | Control Line C | Test lines T1 | Test lines T2 |
|---|---|---|---|
| | | *P. falciparum* | *P. vivax* |
| Negative | ▮ | | |
| Positive: *P. falciparum* only | ▮ | ▮ | |
| Positive: *P. falciparum* only or mixed with other species | ▮ | ▮ | ▮ |
| Positive : non-*P. falciparum* (*P. vivax*) | ▮ | | ▮ |
| Invalid | | ▮ | |
| Invalid | | ▮ | ▮ |
| Invalid | | | ▮ |

**Summary**

Ask each team to present its work and note:

1. Observation of the procedure
2. Impression op RDT test
3. Findings and interpretation
4. Safety requirement they followed

**Step 7:** Supplement missing points and comment performance of each team. Assign each a score based on the performance checklist below.

**Performance checklist for the RDT demonstration**

UHE-ps IRT, Checklist for Demonstration Session on Malaria Diagnosis using RDT

Town/city _____Zone/Sub city _____Region/CityAd _____

Group _____

Name of Group Members:

_____ _____

_____ _____

_____ _____

| Skills | Team Performance | | | |
|---|---|---|---|---|
| | Best | Good | Acceptable | Unacceptable |
| Knowledge of all procedure, required tools and consumables to conduct RDT test for malaria | | | | |
| Work space management (Neatness, work arrangement before starting, optimal flow of work from one to the other end of the table) | | | | |
| Appropriate placement of required materials and consumables (Procedures, Kit, buffer, lancet/ Surgical bled blood transferring tube, gloves, and proper disposal of packing materials) | | | | |
| Team Work (equal engagement of all team members, harmony | | | | |
| Skill of the team members ( blood taking and transferring skills: exact drops of blood and buffer in the middle of the well ) | | | | |
| All team members follow the procedure correctly | | | | |
| Reading and interpretation skill of the result (all team members correctly read the negative and positive test results) | | | | |
| Reporting and documentation skill (informing the client about the test result, required actions based on the test result, registration and reporting). | | | | |

**FacilitatorResource: Introduction to rapid diagnostic tests (RDTs) for malaria**

The Ethiopian national guidelines state that malaria treatment at community (health post) level, or referral from the community level (health post) to the health center, should be based on RDT test results. RDTs test whether a person with malaria-like symptoms actually has malaria by testing the blood of the client for chemical substances produced by malaria parasites. Malaria parasites produce proteins called antigens. RDTs detect malaria antigens, so if they are present, the person will test positive. If malaria antigens are not present, the person will test negative.

**How to use an RDT to get a malaria test result**

Here is the checklist that you must follow when you are using an RDT for malaria diagnosis.

1. Check the expiry date on the package. Do not use RDTs that have expired.
2. Put on gloves before beginning (Figure 3.1.). Use a new pair of gloves for each client. Do not re-use gloves.

Figure 3.1. Put on new gloves before starting each RDT.

3. Open the RDT package and remove the contents. The blood-transfer device — it could be a capillary tube, straw, loop, pipette or other device —is used to collect blood and transfer it to the test cassette. (Once the packet is opened, the 'desiccant' sachet which absorbs moisture from the atmosphere in the package should be discarded.) The test cassette (shown later, in Figure 7.8) is used to conduct the test. The square hole labeled 'A' is where you add the blood. The round hole labeled 'B' is where you add the buffer.
4. Write the client's name on the cassette (Figure 3.2.)

Figure 3.2. Write the client's name on the cassette.

5. Open the alcohol swab and clean the patient's third or fourth finger with alcohol (Figure 3.3.). This is to prevent infection. Other fingers may be used if necessary. Ask the patient: 'Are you right-handed or left-handed?' If the patient is right-handed, choose a finger on their left hand. If the patient is left-handed, choose a finger on their right hand.

Figure 3.3. Clean the patient's finger with alcohol.

6. After cleaning the finger with the alcohol swab, the finger must be allowed to air dry. After using the alcohol swab, place it on its wrapper and set it aside on the table. You will use it again to stop the bleeding after you collect the patient's blood.

7. Once the patient's finger is dry, open the lancet. Prick the patient's finger, preferably towards the side of the pulp (ball) of the finger. Discard the lancet in a sharps-only container immediately after using it (Figure 3.4.).


Figure 3.4. The lancet used in the RDT must be put in a 'sharps only' safety box.

8. Turn the 'patient's' arm so their palm is facing downward. Squeeze the pricked finger and allow a drop to well up below the finger-tip as in Figure 3.5. Use the loop or capillary tube or straw or the pipette to collect the drop from underneath. Once you have collected a sufficient amount of blood, you may hand the alcohol swab back to the patient and show him or her how to use it to stop the bleeding.

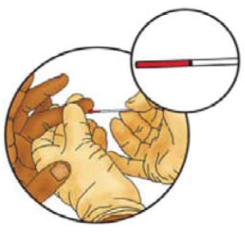


Figure 3.5. Drawing blood with a capillary tube.

9. Use the device (capillary tube, straw, loop, pipette or other) to add the drop of blood to the sample window (square hole labeled with the letter A, see Figure 3.6.). The blood needs to reach and be absorbed by the pad at the base of the square hole. If the blood is mostly deposited on the plastic edges of the well, but does not reach the pad, the test will not work correctly. Deposit the blood in the correct place using the capillary tube, straw, loop, pipette or other. Adding too much or too little blood can cause the test to give an invalid result or be difficult to read.

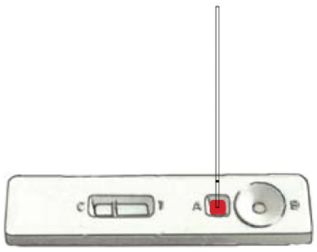


Figure 3.6. Adding blood to the RDT cassette.

10. Add the buffer solution to the round hole labeled B. Hold the bottle vertically when adding the buffer solution, as in Figure 3.7. This ensures the correct drop size.

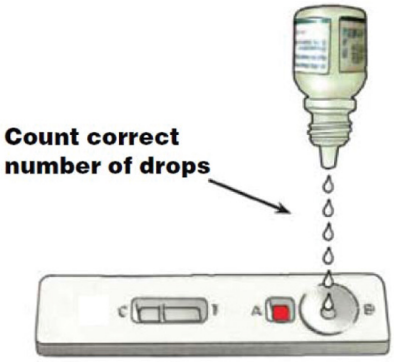



Figure 3.7. Adding the buffer solution.

11. (xi) Wait for the correct duration of time (15 or 20 minutes) after adding buffer before reading the test results.

12. Discard the blood-collection device (e.g. capillary tube) safely after use.

13. Remove and discard your gloves at this time. To avoid possible contamination, the used gloves should be discarded in the non-sharps container before you do anything else.

**Enabling Objective #3:** Describe the different anti-malaria drugs and the dosage given to uncomplicated malaria.

**Allocated time: 40 Minutes**

**Facilitation Method:**

- Slide presentation **(30 minutes)**
- **Summery (10 minutes)**

**Slide #1:**

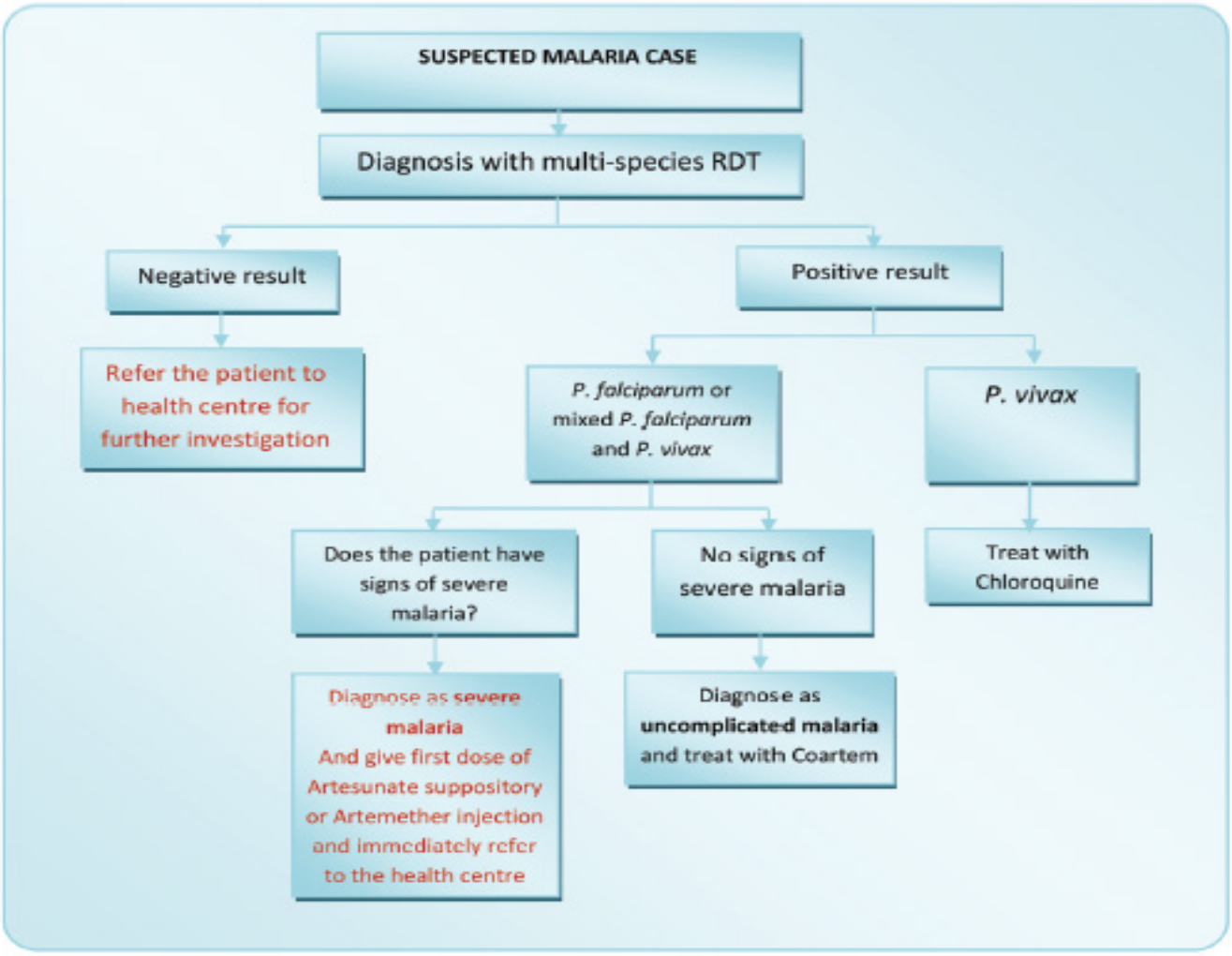
Main Anti Malaria Drugs being used in Ethiopia are:

- Coartem
- Chloroquine
- Quinine

**Summary of Malaria treatment steps**

1. Take client history, including any travel to malarial areas.
2. Listen carefully to what client says.
3. Conduct a physical examination, measure temperature, blood pressure, and pulse rate.
4. Consider if there is another obvious cause of fever other than malaria.
5. Test for malaria parasites using multi-species RDTs (if you have kit and have been trained to use it).
6. Treat the client according to the RDT result.
7. If you do not have RDTs, evaluate the client based on client's history and physical examination.

Present and discuss the following schematic diagram of Malaria treatment




**Slide # 2: Uncomplicated malaria treatment and required dose.**

Coartem treatment doses and schedules by body weight and age.

| Weight (kg) | Age | Day 1 | | Day 2 | | Day 3 | |
|---|---|---|---|---|---|---|---|
| | | Morning | Evening | Morning | Evening | Morning | Evening |
| 5–14 | 4 months–2 years | 1 tablet | 1 tablet | 1 tablet | 1 tablet | 1 tablet | 1 tablet |
| 15–24 | 3–7 years | 2 tablets | 2 tablets | 2 tablets | 2 tablets | 2 tablets | 2 tablets |
| 25–34 | 8–10 years | 3 tablets | 3 tablets | 3 tablets | 3 tablets | 3 tablets | 3 tablets |
| 35+ | 10 + years | 4 tablets | 4 tablets | 4 tablets | 4 tablets | 4 tablets | 4 tablets |

**Slide # 3**

Chloroquine treatment doses (tablets or syrup) and schedules by body weight and age.

| Weight (kg) | Age | Day 1 | Day 2 | Day 3 |
|---|---|---|---|---|
| 5–6 | less than 4 months | ½ tablet *OR* 5 ml syrup | ¼ tablet *OR* 5 ml syrup | ¼ tablet *OR* 2.5 ml syrup |
| 7–10 | 4–11 months | ½ tablet *OR* 7.5 ml syrup | ½ tablet *OR* 7.5 ml syrup | ½ tablet *OR* 5 ml syrup |
| 11–14 | 1–2 years | 1 tablet *OR* 12.5 ml syrup | 1 tablet *OR* 12.5 ml syrup | ½ tablet *OR* 7.5 ml syrup |
| 15–18 | 3–4 years | 1 tablet *OR* 15 ml syrup | 1 tablet *OR* 15 ml syrup | 1 tablet *OR* 15 ml syrup |
| 19–24 | 5–7 years | 1½ tablets *OR* 20 ml syrup | 1½ tablets *OR* 20 ml syrup | 1 tablet *OR* 15 ml syrup |
| 25–35 | 8–11 years | 2 tablets | 2 tablets | 1 tablet |
| 36–50 | 12–14 years | 3 tablets | 3 tablets | 2 tablets |
| 51+ | 15 + years | 4 tablets | 4 tablets | 2 tablets |

**Slide #4**

**Pregnant women and Malaria Treatment**

Pregnant women are at high risk of developing severe malaria. Malaria during pregnancy can cause:

- Premature labour, stillbirth or abortion.
- Severe anaemia in the mother.
- The baby that is born may have low birth weight.

Therefore, you must give effective anti-malaria treatment to pregnant women with malaria immediately. Pregnant women in the first trimester (the first three months) of pregnancy should NOT take Coartem. During the first trimester give oral quinine three times a day for 7 days. However, you can give Coartem if there is no quinine, or if you strongly believe that the mother may not comply with the seven days of quinine treatment.

- The first dose should be given under your direct supervision.
- If vomiting occurs within 30 minutes after swallowing the drug, the dose should be repeated with a replacement dose to ensure completion of treatment.
- Advise the client to take food while taking the drug, as quinine might cause low blood sugar (hypoglycaemia).

**Quinine treatment doses by body weight and age.**

| Weight (kg) | Age | Dosage to be given daily | |
|---|---|---|---|
| | | 200 mg tablets | 300 mg tablets |
| 4–6 | 2–4 months | ¼ | - |
| 6–10 | 4–12 months | ⅓ | ¼ |
| 10–12 | 1–2 years | ½ | ⅓ |
| 12–14 | 2–3 years | ¾ | ½ |
| 14–19 | 3–5 years | ¾ | ½ |
| 20–24 | 5–7 years | 1 | ¾ |
| 25–35 | 8–10 years | 1½ | 1 |
| 36–50 | 11–13 years | 2 | 1½ |
| 50+ | 14 years and above | 3 | 2 |

**Slide #5 Side effects of anti-malaria drugs**

| Drug Name | Frequently observed Side effects | Actions of UHEP |
|---|---|---|
| Coartum | No report | • Advise the client to take fatty foods and fluids.<br>• Don't give Coartum for:<br>- Pregnant mother in the first trimester<br>- Children less than 5kg and younger than of 5 months |
| Chloroquine | Stomach upset, blurred vision,<br>nausea, headache<br>Pruritis, nail and mucous membrane discoloration, photophobia | • Inform the client to tolerate and continue taking the treatment.<br>• Refer the client if the client develops pruritis, nail and mucous membrane discoloration, alopecia and photophobia.<br>• Don't give Chloriquine with birth control piles |
| Quinine | hypoglycemia (low blood sugar level), Ringin in the ear, Tremors,<br>Nausea, headache,<br>Blurred vision | Advised the client to: -<br>• Continue the treatment, the symptoms are short lived while on treatment,<br>• Take fluids and eat food rich in sugar / carbohydrate |

**Summery questions**

1. What is the first anti malaria drug for uncomplicated malaria cases positive with p.Vivax specious?
2. Which anti malaria drug found in tablet form only
3. What is your drug of choice for a 10 years old child client RDT test positive of P. Falciparum?
4. A febrile client had joint pain and vomiting for the last two days and what do you do if your repeat RDT test result becomes negative.

**Enabling Objective#4:** Describe how to treat uncomplicated malaria and required care for different age groups and in pregnant mothers.

**Allocated time: 40 minutes**

**Facilitation Method**

- Case study **(15Minutes)**
- Group discussion and summary **(25 Minutes)**

**Instruction for the cases study and group discussion**

1. Divide the class into four groups and inform them that they are going to discuss in groups on the presented case scenario.
2. Ask the groups to write their answers on flipcharts for the questions in the case studies. Give 10 minutes for discussion and 5 minutes for each group to present their answers.

**Case scenario 1: For Group I**

Beka is a five-year-old boy. Beka and his family are living in your catchment area, whichis malarious. The mother says he was well until this morning when hewoke up and said he was feeling tired and refused his breakfast. When the mother touched him, he felt hot and she gave him ½ a tablet of Paracetamol. When you examined Beka, you found a well-nourished 18-kg child, not pale, alert and with temperature of 38.5°C measured with the thermometer under his armpit. You did RDT test and the result was positive for P. Falciparum malaria. In the rest of the examination, Beka is normal.

**Questions:**

1. What is Beka's diagnosis?
2. What treatment will you give him? And what dose?
3. What will you advise Beka's mother?

**Case Scenario 2: For Group II**

While you are on home visits, you come to know that Delta is sick and sleepy, she is 18 years old women,

she has persistent vomiting, fever and shivering in the last 2 days, she has mild dehydration, body weakness and sick looking. While you are asking why she didn't visit the health center, her Mather told you in secrecy that she is pregnant may be 3 moths and the persistent vomiting could be because of her pregnancy. She don't want to be seen in public till she officializ her marriage. The catchment area is known by its seasonal Malaria transmission. . Her mother says that the Desta was well except the morning sickness until yesterday. Her temperature is 39.5°C measured with the thermometer under her armpit. No neck stiffness, bleeding or any discharge.

You do not have RDT kits available with you.

**Questions**

1. What will you do for Desta?
2. What anti-malarial drug and supportive treatment will you give to Desta?
3. What advise do you give to Desta and her mother?

**Case scenario # 3, for Group III and IV**

Ayele is a 30 years old man with 70 kg body weight, living in Addis Ababa, you found him at his home during your regular home visit with sick looking. He told yo that he has got oil seed farm in Metema, Gondar. He was there before 3 months for the last harvest. He had malaria while he was there and now started feeling it again 2 days ago and went to the nearby private clinic, the health care providers at the clinic conducted all type of test they have in the clinic from blood, stool, urine and sputum samples. According to his personal report, all turns out negative and sent back home with anti-pain and antibiotics. His fever record is 39 degree centigrade and managing it with the help of the anti-pain. You manage to get RDT and the test result is positive for vivax.

1. What is Ayele's diagnosis?
2. How did he get sick by this time?
3. Why did the clinic missed Ayele's diagnosis?
4. What treatment will you give Ayale?
5. What Advice will you give Ayele?

**Summary:**

Recap and summaries the session by asking the following questions

- Describe how to diagnose malaria?
- What are the signs and symptoms of sever malaria and what supportive treatment you give while processing the referral ?
- Describe the different anti-malaria drugs to uncomplicated malaria?
- Describe how to treat uncomplicated malaria and give supportive treatment?

**Facilitatorresource**

**Case study #1:**

1. Uncomplicated malaria is the diagnosis of Beka.
2. Coartem is the correct treatment for a child of five years. The full dose is 12 tablets. Beka takes two tablets in the morning and two tablets in the evening for three days. You give two tablets to swallow immediately and give the remaining 10 tablets to Beka's mother to take home.
3. Advise Beka's mother on the following issues:
    - Tell her the reason for giving the drug.
    - Demonstrate to her on how to give the correct dose.
    - Tell her to watch while Beka is taking each dose of the drug.
    - Explain that the drugs must be finished even if Beka feels well.
    - Advise her on when to return if Beka does not improve.

**Case study # 2:**

- Paracetamol for the high fever.
- Oral quinine three times a day (should be taken in 8 hours interval) for 7 days. The first dose should be given under supervision while processing her referral.
- Strongly advise Desta not to discontinue the treatment unless told by the clinician.
- Strongly advice Desta and her mother to go to the health center for further diagnosis immediately.
- Advise Desta to take fluid as much as possible and foods especially rich in fat/carbohydrate) while taking the drug.

**Case study #3**

- Vivax Malaria
- Relapse form previous infection
- Since Addis Ababa is non malarious health workers used to forget the diagnosis of Malaria and fail to ask travel history.
- Chloroquine, A total of 10 tablets four three days ( 4 tablets for two days and 2 tablets for the third day)
- Whenever, he fills such a kind of symptom, to tell his previous infection and travel history without fear.

# ANNEXES

## Annex 1: Pre and Post- Test MCQs

**Choose the correct answers**

1. Which of the following groups are most at risk population in Ethiopia?

a) pregnant women, military personnel, divorced women and discordant couple

b) University students, widowed women, bachelors

c) Teenagers, traders, waitress, musicians

d) FCSWs, track drivers, daily laborers

e) a and d

2. As a provider, which of the following items do you need to carry out HIV testing?

a) HIV test kit, gloves, microscope, timer, syringe and needle

b) HIV test kit, marking pen and bleach

c) Lancets, pipette, SOP and sharp disposal bin

d) All except 'a''

3. A successful HIV treatment requires adherence of

a) 75-80 %

b) > 95%

c) 100%

d) none of the above

4. Adherence to ART can be defined as ability of a person to strictly follow a treatment plan; take medications at right times and frequencies but not necessarily follow some restriction s on food and other medications

a) True

b) False

5. One of the following HIV prevention services is not being provided by the Urban Health Extension -Professionals (UHE-Ps)

a) Targeted HTC

b) Home based HTC

c) Adherence counselling and defaulter tracing

d) CD4 Count and ART

e) Referral linkage to ART and care and support

6. One of the following is not part of comprehensive management of STI

a) Effective case management

b) Condom promotion and supply

c) Offering PIHTC

d) Health education / individual risk reduction counselling

e) Partner tracing

f) None of the above

7. Tuberculosis (TB) can be transmitted through:

a) Contaminated water

b) Ingestion of raw milk

c) Inhalation of aerosolized droplets from coughing, sneezing and spiting by people with active pulmonary TB

d) All of the above

e) b and c

8. A person who infected with TB stays infected for life and may develop the disease at any time in the future

a) True

b) False

9. cough is the most important symptom of extra- pulmonary TB

a) True

b) False

10. TB can be caused by a bacterium called Mycobacterium bovis

a) True

b) False

11. While visiting your clients, suppose, you realized that one of the family members ha had persistent cough for more than 2 weeks but no other worrying signs and symptoms. what would be your first action to help the person according to National TB case Finding Policy?

a) Take history, document his case and refer him to the Health Center as soon as possible

b) Treat him with cough syrup

c) Encourage him to do aggressive physical exercises to get rid of coughing

d) All of the above

e) None of the above

12. Which of the following is/ are cause of urethral discharge in Ethiopia?

a) N. gonorrhea

b) C.Trachomatis

c) M. genitalum

d) All of the above

e) None of the above

13. TB suppresses a person`s immunity which facilitates transmission of HIV infection

a) True

b) False

14. Pregnant women, children under five and travelers from non- malarious areas are the most vulnerable and affected segment of the society to develop complicated form of malaria.

a) True

b) False

15. The common sign and symptoms of uncomplicated malaria include:

a) Dizziness, sneezing, diarrhea and heart burn

b) Headache, fever, shivering, joint pain, vomiting and signs of anemia

c) Cough, abdominal cramps, high blood pressure and coma

d) All of the above

e) None of the above

16. The role of the UHE-Ps is often limited to malaria- prevention and control activities. Therefore, they are not expected to do RDT

a) True

b) False

17. _____ accounts for more than 60 % of all malaria cases and the most deadly species in Ethiopia

a) Plasmodium vivax

b) Plasmodium ovalae

c) Plasmodium falciparum

d) a and b

e) All of the above

18. Counselling for STI control include all except,

a) Counselling for treatment adherence

b) Counselling for correct and consistent use of condoms

c) Counseling for partner treatment

d) counselling for HIV testing

e) All of the above

f) None

19. The following body parts can be affected by TB infection except,

a) Lungs

b) Large intestine

c) Skin

d) Glands and lymph nodes

e) None

20. One of the following is not result of poor adherence to ART

a) Disease progression

b) Emergence of resistant viral strains

c) Complete viral suppression

d) Continuous destruction of CD4 cell

**Answers**

| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
|---|---|---|---|---|---|---|---|---|---|
| d | d | b | b | **d** | **f** | **e** | **a** | **b** | **a** |
| **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** |
| a | d | b | a | **b** | **b** | **c** | **e** | **e** | c |

# Annex 2: **A check-list for daily evaluation**

- **How useful is this training to help you reflect on your current knowledge and experience to identify how you can improve what you do in your work?**

  **Very useful** **Useful** **Partially useful** **Not useful**

- **How useful is this training to help you identify how to re-orient your attitudes to better do your job?**

  **Very useful** **Useful** **Partially useful** **Not useful**

- **How useful is this training to help you identify and analyse broader social factors that may affect different clients and**

  **groups you are meant to reach?**

  **Very useful** **Useful** **Partially useful** **Not useful**

- **How useful is this training to help you expand knowledge and identify how to use it with different clients and groups you are meant to train?**

  **Very useful** **Useful** **Partially useful** **Not useful**

- **How useful is this training to help you improve your skills to apply CBT approach in providing services to your clients?**

  **Very useful** **useful** **Partially useful** **Not useful**

- **How relevant are the methods in addressing ASK and ELC?**

  **Very relevant** **relevant** **Partially relevant** **Not relevant**

- **other comment**

  _____
  _____
  _____
  _____
  _____

# Annex 3: A check-list for end-course evaluation

- **How useful is this training to help you reflect on your current knowledge and experience to identify how you can improve what you do in your work?**

  **Very useful** **Useful** **Partially useful** **Not useful**

- **How useful is this training to help you identify how to re-orient your attitudes to better do your job?**

  **Very useful** **Useful** **Partially useful** **Not useful**

- **How useful is this training to help you identify and analyse broader social factors that may affect different clients and**

  **groups you are meant to reach?**

  **Very useful** **Useful** **Partially useful** **Not useful**

- **How useful is this training to help you expand knowledge and identify how to use it with different clients and groups you are meant to train?**

  **Very useful** **Useful** **Partially useful** **Not useful**

- **How useful is this training to help you improve your skills to apply CBT approach in providing services to your clients?**

  **Very useful** **useful** **Partially useful** **Not useful**

- **How relevant are the methods in addressing ASK and ELC?**

  **Very relevant** **relevant** **Partially relevant** **Not relevant**

- **other comment**

  _____
  _____
  _____
  _____

Major Communicable Diseases Prevention and control

**Facilitator's Guide**