Federal Ministry of Health

Urban Health Extension Program Integrated Refresher Training

Module Four

Major Communicable Diseases Prevention and control

Participant's Guide

February 2017

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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.

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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 Enabling objective: Describe the basic facts and epidemiology of HIV/AIDS 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 Enabling objectives: Identify priority populations for to provide HIV prevention services Analyze Post-Exposure Prophylaxis (PEP) 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 Enabling objective: Demonstrate pre HIV test counseling Demonstrate HIV testing 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 Enabling objective: Describe adherence and retention to care and treatment and the required support Describe the linkage between HIV and nutrition and nutritional screening assessment 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 Enabling objective: Describe basics of common STI's and the relation between STISTI and HIV 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 Group work 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 Brain storming and small group discussion	Flip chart, marker, flip chart stand, LCD projector and lap top computer Reach protocol hard copies for all participants and list of priority population 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, Role play, structured feedback, discussion	Flip chart with stand, white board, and white board marker HCT protocol algorithm for pre- and post-test Scenarios of different cases 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, 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 1: HIV / AIDS and STI Prevention and Control

Unit Objective

This unit is designed to enable the Urban Health Extension professionals (UHE-ps) to have the knowledge, skills and attitude to be able to create awareness on prevention treatment and care of sexually transmitted infections including HIV, 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 participants:

- The facilitator will give you a brief presentation on the global and national burden of HIV/AIDS

Group work

You will break into four groups. Each group will answer a set of questions, below ***Group 1***

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

Group 2

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 and AIDS in urban and rural areas differ?
4. Are you concerned about HIV and AIDS? Why?

Group 3

1. Discuss what should be done in response to HIV and AIDS in Ethiopia:
    - At the individual level
    - At the family and community levels
    - At the health facility level
    - At the policymaker level
2. Are you concerned about HIV and AIDS? Why?

Group 4

1. Discuss the health, social, and economic effects of HIV and AIDS in Ethiopia.
2. Is HIV and AIDS your concern? Why?

Each group will have 15 minutes to discuss and summarize its answers on a flipchart. Each group will present its work. You will be encouraged to comment and ask questions.

Basic facts of HIV/AIDS

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.

- 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

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

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)

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.

Epidemiology of HIV/AIDS

Global burden

HIV infection is a worldwide epidemic – a pandemic – affecting people everywhere.

HIV infection is a worldwide epidemic that affects people 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.

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

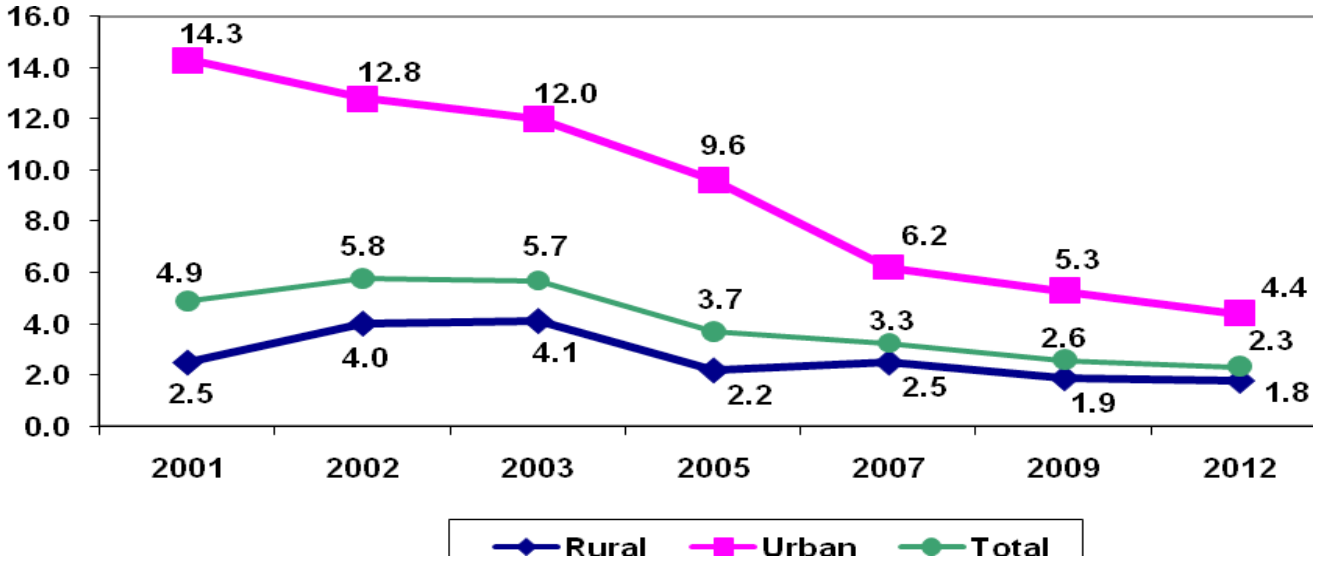


Figure 1 Trends of HIV Prevalence (%) among ANC Clients in Urban and Rural Sites in Ethiopia, 2001-2012

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

Allocated Time: 60 minutes

1. The facilitator will give you cards with statements on them. You will decide if you card belongs under "**Risk of HIV infection"** or the "**Vulnerability to HIV infection**" category, based on a case study below, which the facilitator will read.

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 go 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 don't know what to do.

2. The facilitator will ask you to explain why you posted your card where you posted it. Then s/he will post the definitions of risk and vulnerability. After you discuss these definitions, you will be given a chance to change your answer.

Discussion questions:

- How do the issues on the cards affect risk in real life for a girl like the one in our case study?
- 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?
- 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 issues and their connection?

Session two: HIV prevention intervention

Session Objective: by the end of this training 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, flip chart marker, flip chart stand, LCD projector and lap top computer
- Participant's guide

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

1. With the person next to you, list the vulnerable-to-HIV groups in your community
2. When you have finished, your facilitator will give you a copy of Priority Populations for HIV Testing in Ethiopia, developed and circulated by FMOH. Compare your list to it (discuss the similarities and differences).
3. Discuss how you are currently providing HIV-related services to these each group of people. What tools are you using to reach priority populations with HIV-prevention interventions?
4. The facilitator will conclude the session with a plenary discussion.

List of Priority Populations for HIV Testing in Ethiopia

1. Pregnant women with unknown HIV status and their partners
2. Laboring mothers with unknown HIV status and their partners
3. Postpartum mothers with unknown HIV status 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.

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

Allocated Time: 30 min

1. Brainstorm the discussion questions below individually.
2. Turn to the person next to you and answer the questions one by one. Be sure to capture your discussion points for the plenary session.

Discussion questions

- What /why PEP is 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.

3. The facilitators invite one pair to present its discussion point on a single question. This will be repeated till all discussion questions are addressed.

Note on Post-exposure prophylaxis (PEP) :

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 it.

Allocated time: 40 min

1. The class will be divided into four groups. The first two groups will work on the first two questions; the others on the last two.

2. Discussion questions:

    1. What are the principles of infection prevention?
    2. What are you doing to prevent infection while providing services like HCT and family planning, i.e., Depo injections?
    3. How do you manage waste generated during service provision (e.g., HCT waste)?
    4. What needs to be improved to ensure appropriate waste management and disposal?

Note on infection prevention:

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 sanitizers gels. 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 training session the 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)

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 (2:30 minutes)

1. You will be divided into four groups.
2. Each group discusses the process of pre-HIV test counseling, and writes the steps on a flip chart.
3. Compare your answers with National HIV Pre-test Counseling Guideline and review what was missing in your list.
4. Discussion questions

   ✓ 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 counseling and testing (HTC)?

5. One group will present the answers for the above questions and the other groups will contribute.
6. Talk about what you have learned from this activity and the importance of providing HCT services to the community.

Pre-test HIV counseling role play: 90 min.

1. You will be given a copy of the observer checklist.
2. With the person sitting next to you, read one step/activity in the observer checklist and discuss why each issue is important to the counseling process. What consequences might happen if they weren't addressed?
3. You will be divided 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.
4. Use the checklist to provide structured feedback. Feedback is not to attack; it is to help the provider assess and improve performance.
5. The facilitator will give your group a scenario.
6. One group will perform its role play for the rest of the participants.
7. Using the structured feedback approach, 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…")
8. When the role play and discussion is completed, you will be asked questions depending on your role:

Service provider

- ✓ Which part of the pre-test counseling 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?

Client

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

Observers

- ✓ 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 which suggestions will help him/her do a better job of pre-test counseling.

Enabling objective 2: Demonstrate post-test HIV counseling protocol

Allocated time: 120 minutes (2:00)

1. Divide into four groups.
2. Each will discuss and list the counseling step and issues to be addressed during post-HIV test counseling.
3. The facilitator will give you the standard post-test counseling guidelines; compare it with your group's list. Discuss and respond to following discussion questions:
   - ✓ 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 respond to the above two questions; the others will contribute.
5. Reflect upon what you learned from this activity and its importance for providing post-test counseling services to the community.

Post-test HIV counseling role play

Instruction for the role play

1. You will be provided a copy of observer checklist; discuss in pairs.
2. Your facilitator will ask each pair to read one step/activity in the checklist. Why is this indicator important to the post HIV-test counseling process? What consequences might there be if you skipped this indicator?
3. Divide 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.
4. Use the checklist to provide structured feedback. Those who play the role of the client will also offer constructive feedback.
5. The facilitator will give you the case scenarios which expand upon through role play.
6. One group will perform its role play for the rest of the participants.
7. Use the structured feedback approach, beginning with what was done well and what could be improved. ("If I were the provider, I would do this and also include...")

The facilitator will ask the following questions to the person indicated

Service provider

- ✓ Which part of the post-HIV test 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?

Client

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

Observers

- ✓ Did the UHE-p meet the needs of the client?
- ✓ What would you do differently to meet the client's needs?

Finally, ask the service provider which suggestions will help her/him to do a better job of post-HIV test counseling?

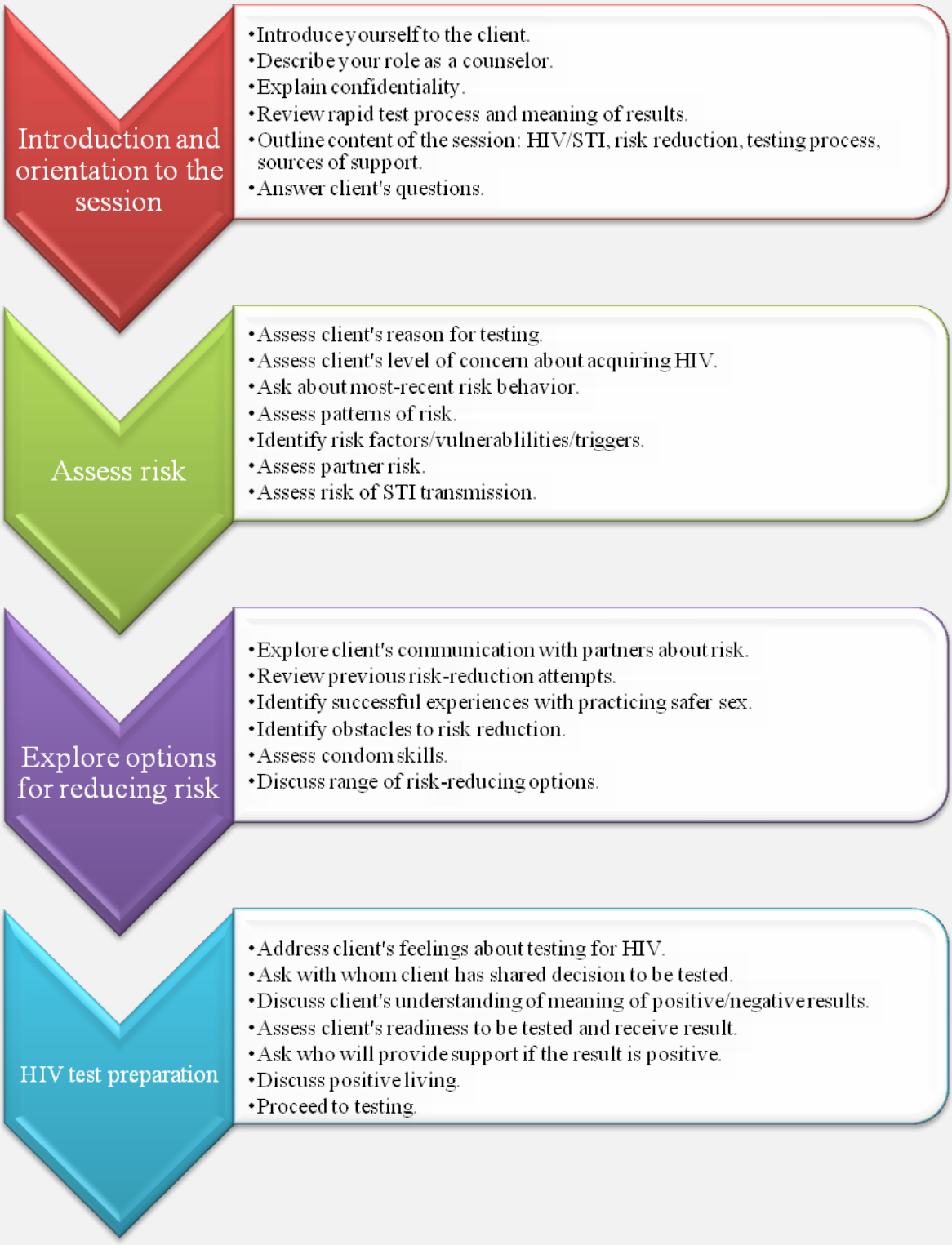
Scenarios for role play:
Scenario 1: Test wife and family of Bekele.
Bekele complained of repeated infections and was referred to HCT by a UHE-p. He agreed and was tested at the UHE-p office. He turned out to be HIV-positive. He has a wife and two children, ages 7 months and 5 years. He also has hidden 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 care (ANC). Last year, the couple separated for approximately 4 months. During that time, Abera had unsafe sexual relations with someone who he later found out was HIV-positive.

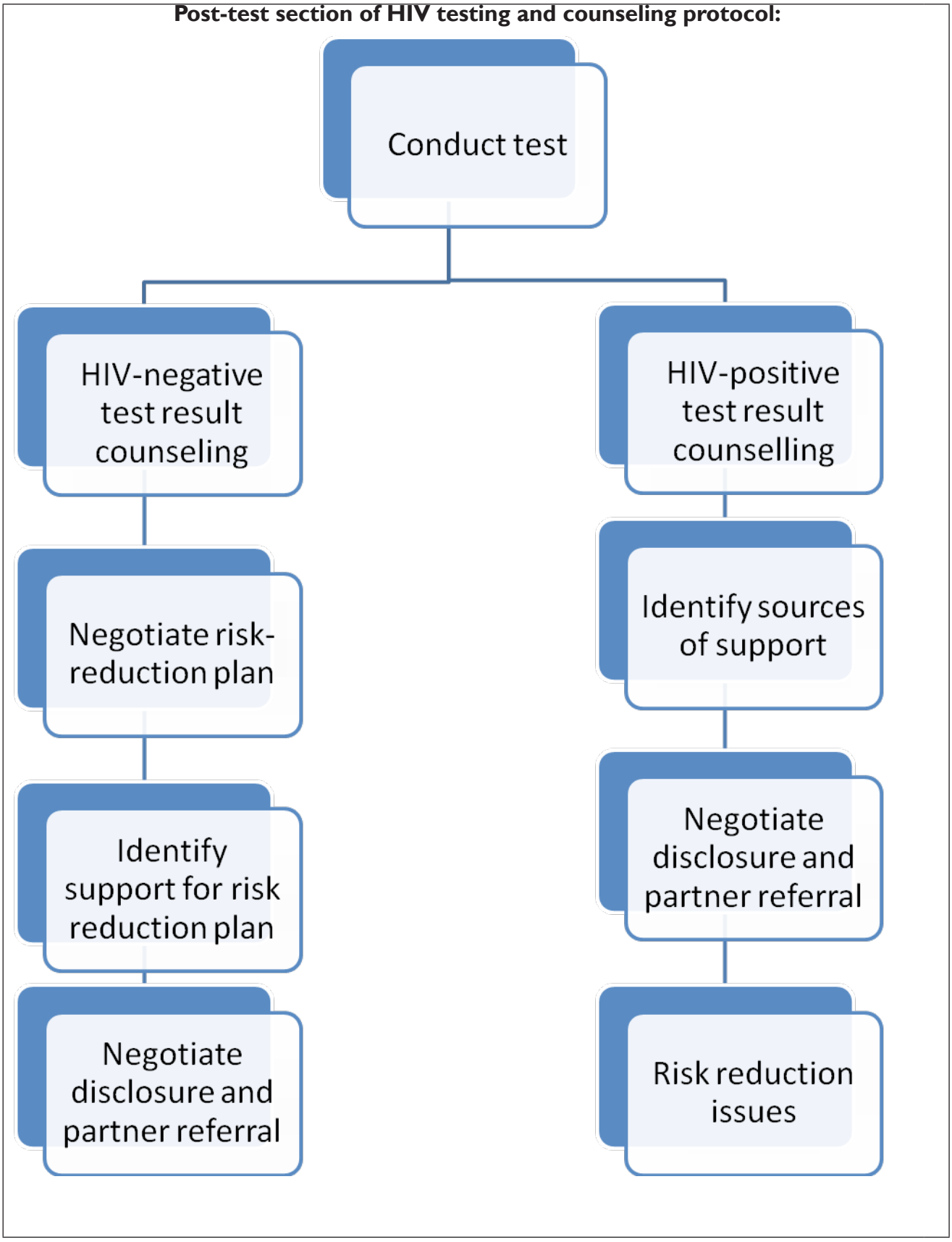
Scenario 3: Disclosing results to discordant couples (for post-HIV test counseling)
A couple came to a UHE-p for HCT service because they planned to have a child. The UHE-p tested them and found that the husband is negative and the wife is positive.

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:



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 successful 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 result		
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 the test results are available		
Provide results clearly and simply		
Review meaning of the result		
Allow the client to absorb the meaning of the result		
Explore the client's understanding of the result		
Assess how the 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		
Explore client's access to medical services		
Identify needed medical referral		
Discuss support groups/post-test clubs		
Explore client's feeling about telling partner about his/her HIV status.		
Remind the client his/her status does not indicate the partner 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 to refer partner for testing		
Assess client's plan to reduce risk of transmission to partners		

Enabling Objective 3: Demonstrate Rapid HIV testing

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

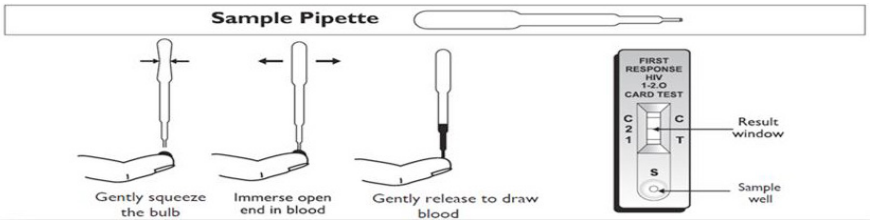
1. Write the procedure you follow while conducting HIV testing.
2. The facilitator will randomly select five participants to explain what they wrote
3. The facilitator will distribute all supplies needed for rapid testing and will ask a few participants to demonstrate the testing using prepared sample.
4. The facilitator will demonstrate the rapid HIV testing using the already known serum samples brought from the health facility/regional lab.
5. A UHE-p will be asked to demonstrate the procedure again.

Reference resource: HIV Test Algorithm

First Response®1&2 HIV Rapid Test

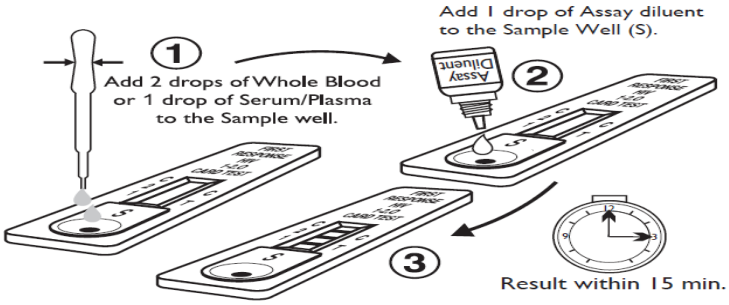
i. Remove the test device and sample pipette from the foil pouch and place it on a flat, dry surface

ii. Specimen collection and test procedure

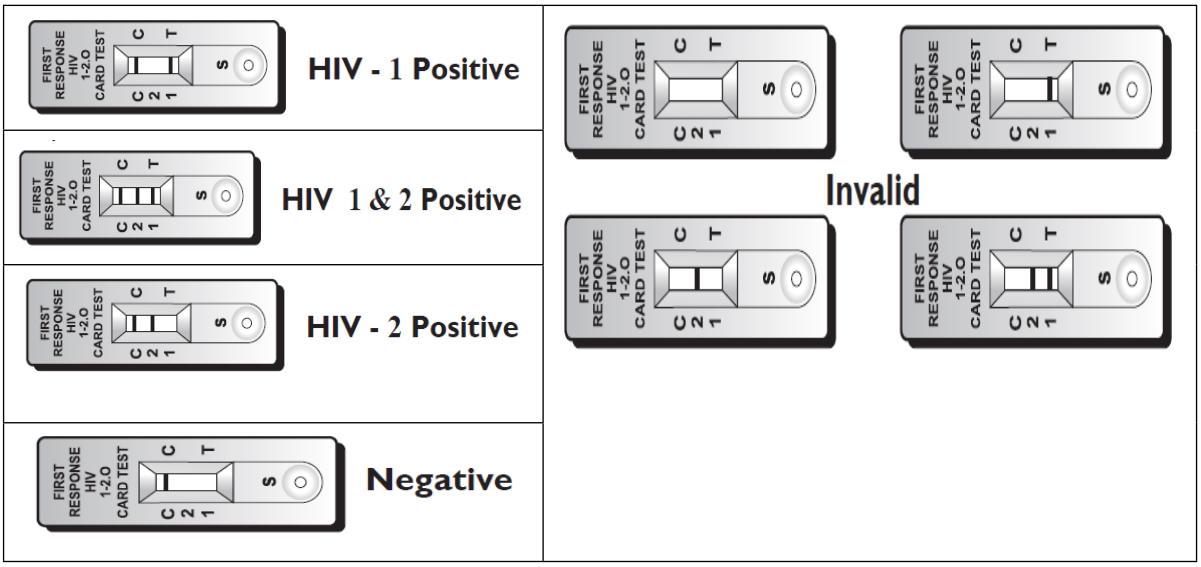


iii. Slowly add 20 µL (two drops) of whole blood or 10 µL of plasma (one drop) to the sample well (S) using the sample pipette. Dispose used sample pipette as a biohazard waste.

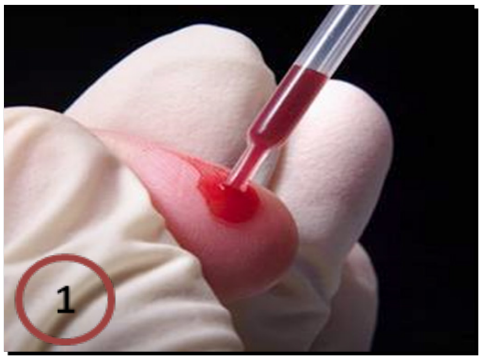
iv. Add 35 µL of (one drop) of the assay diluents to the sample well



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

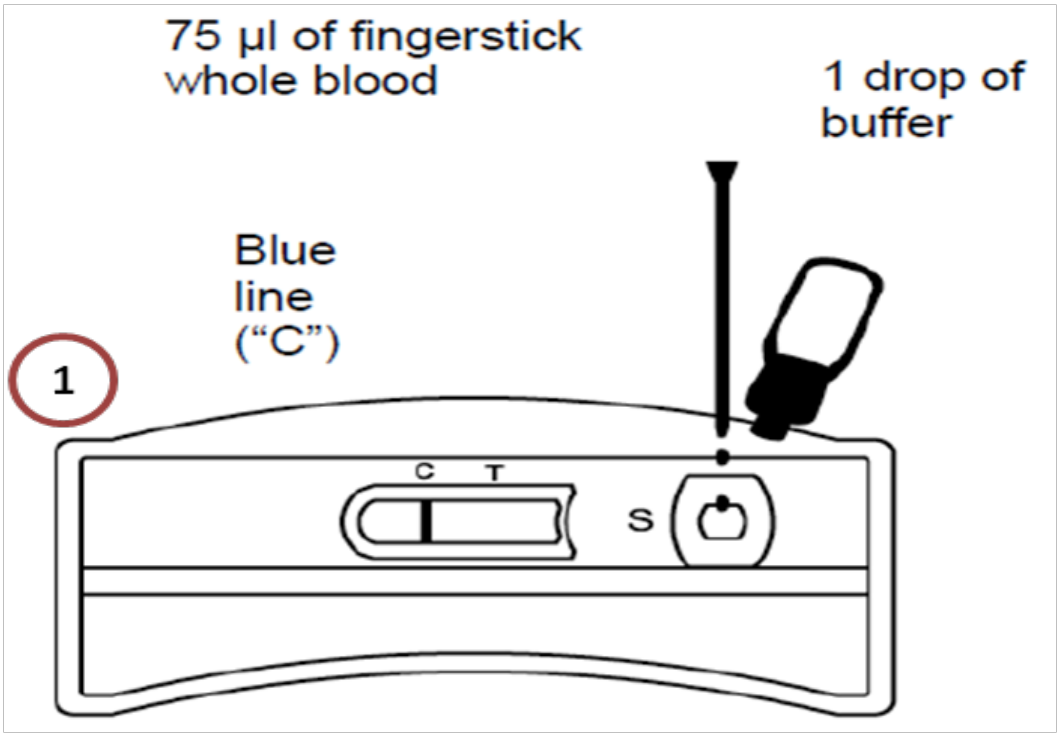
Reactive

Invalid

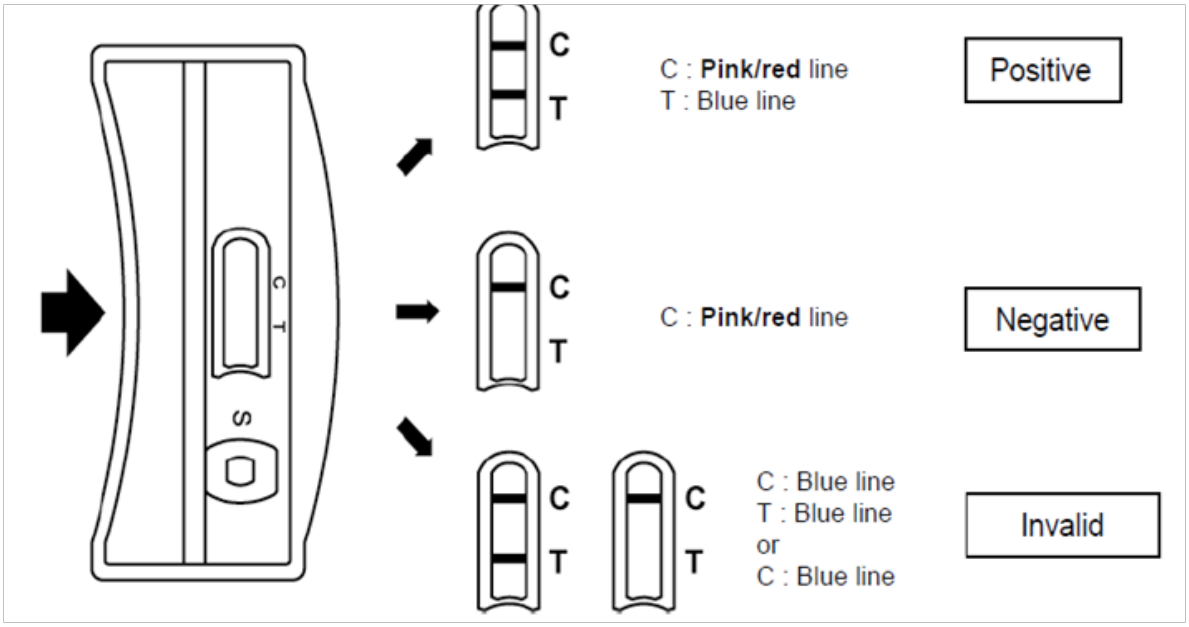
5

Result interpretation

Vikia HIV1/2

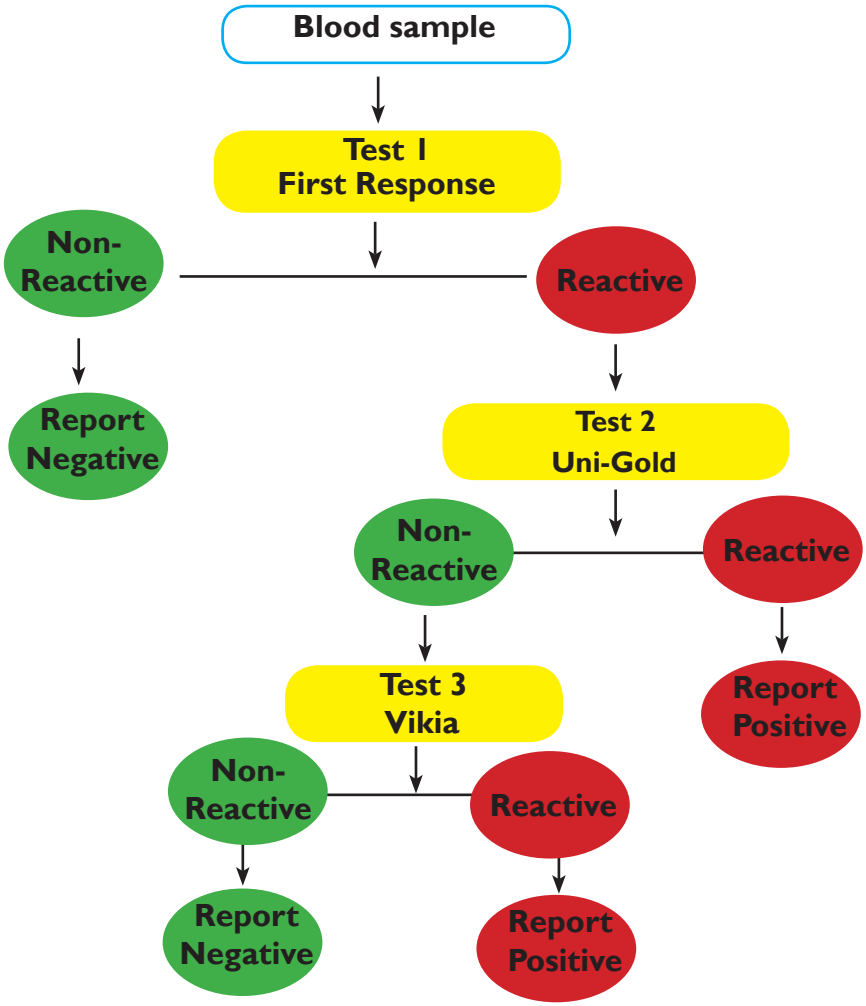


2 **Interpret test result at 1-30 minutes. (no longer than 30.results after 30 minutes**



3 **Result Interpretation**

Rapid HIV Testing Algorithm in Ethiopia



Possible outcomes of the rapid 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

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 Minutes

Facilitation method:

- Brainstorming
- Group discussion
- Role play

Brainstorming

1: Brainstorm meaning of adherence. Discuss the definitions suggested and compare them to the definition that the facilitator will write on flipchart.

2: Brainstorm the definition of retention in care. Discuss the definitions suggested and compare them to the definition that the facilitator will write on flipchart.

3 Break into four groups and answer the following questions as directed by the facilitator.

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

b. How can UHE-ps enhance adherence?

c. What supportive attitudes should providers cultivate to improve client adherence?

d. What essential knowledge should providers have? Why?

e. What essential knowledge should clients have? Why?

f. How else might we support adherence and retention?

Read the resources on adherence to ART and retention in care from the participant manual listed below with your group and discuss.

Role play

Step 1: Refer your participant manual for adherence counseling tool and case study. One person will play a client and one a UHE-p. The rest will observe. Read and discuss the tool and the case study, then begin role play.

Case study

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 weeks because 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 will perform its role play; the others will provide structured feedback.

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 adherence ART

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 advice ▪ Knowledge of consequences 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 ▪ PLHIV who started ART ▪ 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. ▪ Explain importance of feeling comfortable asking questions and being honest about any problems. ▪ 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 client. Adherence is a shared decision.
Assessing HIV medications and adherence status	▪ Which facility is providing you the ART/care and support service? ▪ When did you start ART/care and support? ▪ How are you taking the drugs? Doses, frequency, timing? Discuss timing of pill and any food restrictions. What reminder strategies the client is using? ▪ Did you miss any dose in the previous week, month? How many times/ doses if yes? ▪ What were the reasons for missing? ▪ Ask client to explain why it is important to take all of his/her medicines. ▪ Did you disclose your HIV status and ART? ▪ If yes, whom? If no, why? ▪ What particular side effects may occur with the regimen the person is taking (e.g. diarrhea, nausea, headaches, peripheral neuropathy? ▪ Who can help you withstand the difficulties associated with HIV treatment? ▪ From whom do you want to keep your HIV status private? ▪ Where will you store the pills (privacy concerns but safe and easy)
Adherence plan and Follow up	▪ Schedule follow-up appointment to review. ▪ Refer the client if necessary

ARV side effect management

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 ▪ Place cold cloths on the eyes ▪ Rub the base of the clients head or your temples with your thumbs ▪ Take a warm bath ▪ Avoid coffee, cola, tea ▪ Take paracetamol	▪ The clients vision becomes blurry ▪ Paracetamol does not relieve the pain ▪ Headaches are frequent ▪ Neck is stiff
Diarrhea	▪ Eat frequent small meals ▪ Eat easy foods: bananas, rice, toast ▪ Avoid milk products ▪ Do not eat spicy or greasy foods ▪ Drink lots of clean water and tea ▪ Take ORS (oral rehydration salts)	▪ There is blood in the stool ▪ When there is fever ▪ There is more than 4 watery or soft bowel movements per day ▪ Thirsty but cannot eat or drink properly
Dry mouth	▪ Rinse your mouth with clean salted ▪ water ▪ Suck on crushed ice or sip clean water ▪ 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. ▪ Eat frequent small meals. ▪ Eat bland foods (rice, porridge) ▪ Take sips of tea or ORS until vomiting stops. ▪ Do not eat greasy or spicy foods	▪ Sharp pains in stomach ▪ Have a fever ▪ Vomiting blood ▪ Vomiting lasts more than 1 day ▪ 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. ▪ Both of your feet are swelling.
Dizziness	▪ If dizzy, sit down until it goes away. ▪ Try not to lift anything heavy or move quickly. ▪ 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 ▪ Wash with unscented soap and water ▪ Avoid hot baths or showers ▪ 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 ▪ Keep feet uncovered in bed ▪ Walk a little, but not too much ▪ Soak feet in cool water ▪ Rub feet and hands	▪ The tingling does not go away or gets worse ▪ The pain prevents you from walking

Enabling objective ≠ 2: Describe the linkage between HIV and nutrition and screen for nutrition status (45 min)

Allocated time: 45 Min

Discuss the following questions in pairs

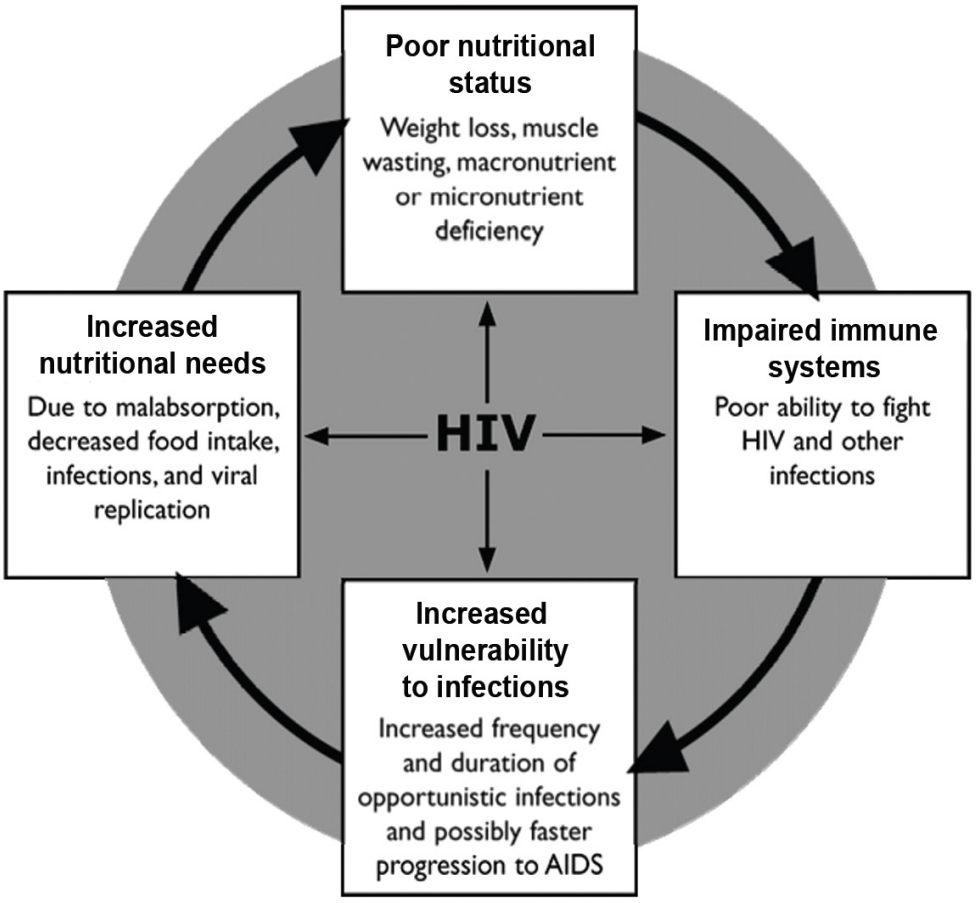
- What is the link between malnutrition and PLHIV?
- How do you assess nutritional status of PLHIV at household level?

HIV and nutrition resources to be printed and distributed toparticipants:

The Inter-connection 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.



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

1. Discuss the questions below with the person sitting next to you.

   - What are the issues to be discussed to promote positive living?
   - Why are PLHIV more susceptible to OIs? How would you advise PLHIV to avoid OIs?
   - Why is HIV re-infection a concern? How can PLHIV avoid re-infection?

1. Present your discussion point to the class, partake in discussion.

Reference 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

Training materials: Flip chart, marker, flip chat stand, LCD projector, lap top computer

Enabling objective;

- Describe basics of common STI's and the relation between STI and HIV
- Describe the importance of syndromic management of STIs and how to identify STI cases and refer to the health centre for treatment

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

Allocated time: 45 min

1. Answer the following questions with the person sitting next to you.
   - ✓ 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. Present your discussion points to the plenary as directed by the facilitator. A slide show on common STIs and signs and symptoms and their relationship to HIV and AIDS will follow.

   Note on STI

Chlamydia

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

Gonorrhoea

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

Chancroid

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

Trichomoniasis

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

Genital herpes (Herpes)simplex)

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

HPV(Genital warts)

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

Syphilis

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

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

1. Review the syndromic management table listed below.
2. Review and discusses the case study and questions following it with the person sitting next to you.

Cases study:

While conducting routine house visits, you find a 22-year-old young man complaining of a yellow discharge with burning pain on urination. He has had these complaints for the past five days.

(a) What syndrome does this young man present?

(b) What will you do?

Reference note

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 client 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.

Sexually transmitted infection syndromic management

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 Bacterial vaginosis	Refer to health centre
		Candidiasis	Refer to health centre.
		Gonorrhoea Chlamydia	Refer to health centre Counsel and refer for HIV and syphilis testing Include partner tracing
Urethral discharge	Urethral discharge, dysuria, frequent urination	Gonorrhoea Chlamydia	Refer to health centre Offer HIV testing and counseling and refer for syphilis testing Consider HIV-related illness Consider partner tracing
Genital ulcer	Genital sore	Syphilis, Chancroid	Refer to health centre Promote and provide condoms Consider HIV-related illness; offer HIV testing and counseling 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 Chlamydia	Refer to health centre. Consider HIV-related illness Consider partner tracing
Scrotal swelling	Pain and swelling of the scrotum	Gonorrhoea Chlamydia	Refer to health centre. Consider HIV-related illness Consider partner tracing
Inguinal bubo	Painful enlarged lymph nodes on the groin	Lymphogranuloma venerum (LGV) Chancroid	Refer to health centre Consider HIV-related illness; offer HIV testing and counseling Educate on STIs, HIV and risk reduction
Neonatal Conjunctivitis	Swollen eyelids, eye discharge in newborns and infants	Gonorrhoea Chlamydia	Refer to the nearest health centre for management

UNIT TWO: TUBERCULOSIS PREVENTION AND CONTROL

Unit objective:

By the end of this unit UHE-ps will 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 clients and their families for better adherence and prevention of MDR TB emergence.

Specific objectives:

By the end of this unit, UHE-ps are expected to achieve the following specific objective s:

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.

Time allocated: 8:25 hrs

Session 1: 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 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

True or false exercise

1. The facilitator will read the statements below, one at a time.
2. After each statement is read, decide if you think it is true or false, and go stand by the appropriate

card (stating 'true' or 'false') on either side of the wall. Do not discuss the question with other participants.

3. The facilitator will ask random participants why they answered each question as they did.
4. The facilitator will supplement any missing points and explain why each question is true or false.
5. You can read the statements ahead of time and record your answer in the appropriate column

True / false activity

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

Slide presentation on basic facts and epidemiology of TB

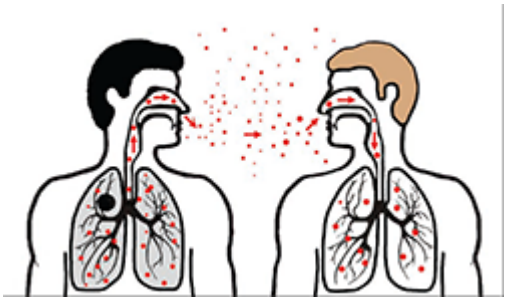
1. Basic Facts about Tuberculosis:

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.

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.



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%)

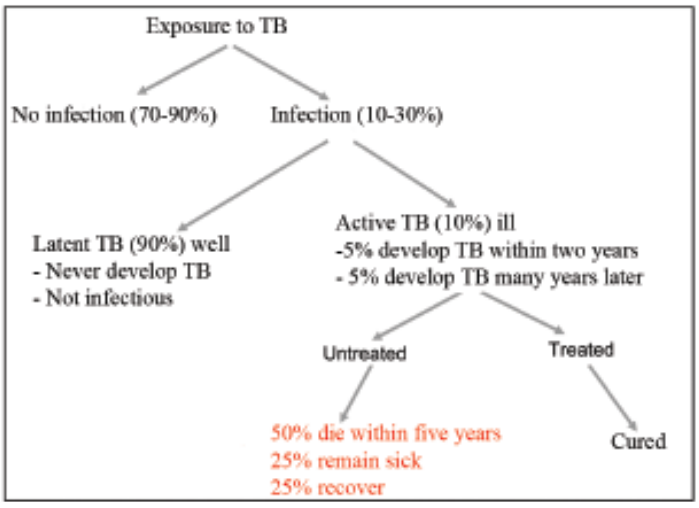


Fig: Schematic diagram showing the natural history of TB (adapted form blended learning for HEP communicable diseases volume II page 5)

Types of TB diseases

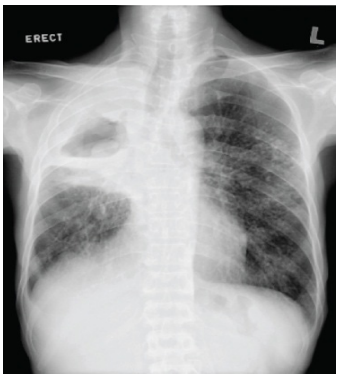
Tuberculosis cases can also be classified in to two based on the sites of the affected organ/tissue

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

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, shown in the picture below).
- 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).

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, unexplained weight loss
- 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, diarrhoea or constipation, mass in the abdomen, fluid in the abdominal cavity (ascites).

Tuberculous meningitis: Headache, fever, vomiting, neck stiffness and mental confusion of insidious onset.

2. Epidemiology of Tuberculosis

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

Break into four groups and discuss and present the following questions:

- Which segments of the society are at higher risk of contracting TB infection? Why?
- What contributing factors facilitate the spread of TB in your community?
- Are stigma and discrimination against people who have TB a concern in your community? Why do people discriminate against and isolate people who have TB?
- What are the major effects of TB on individuals, family, and communities?

What facilitates for TB transmission in your community?

- Overcrowded living conditions
- Poor ventilation at home, on public transport, in schools, health facilities, entertainment facilities, at meetings, etc.
- High rate of HIV infection in immunocompromised people
- Under nutrition

What are sources of TB infection?

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

Who is at risk of contracting TB in Ethiopia?

- People who have close contact with active TB cases
- Children under the age of five and elderly people
- PLHIV
- People with diabetes
- People who have had transplants, on immune-suppressant medicines, chemo/radiation for certain conditions.
- Undernourished, debilitated, and people living in crowded situations (prison inmates, refugees,

schools,

Socio-economic impact of TB

- Causes morbidity and mortality
- Lost earnings (poverty)
- Stigma and discrimination
- Disruption of family life
- Disruption of education
- Burdens health system
- Unhealthy and stressed communities

Session 2: 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 skill to identify and refer presumptive TB cases in their community.

Allocated time: 125 minute

Materials

- Flipchart, flipchart stand, laptop, LCD projector, marker, and masking tape
- sample statement or questions for attitude exercise
- Copies of referral slip & presumptive TB case register

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
- Demonstrate how UHE-ps attitude or feeling affect their interaction with clients and the community.

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

Allocated Time: 45 minutes

1. You will break into four groups; each will be assigned a number.
2. Pick a leader to facilitate the discussion and secretary/ writer.
3. Read the case study below, then answer your group's set of questions. Make sure that all members agree before writing the answer on the flip chart.
4. When all questions have been answered, consider and discuss each group's responses. Ask questions of each other and comment.

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:

Questions

Group 1

- Calculate the number of TB cases expected in the woreda for a given year.
- How many presumptive TB cases do 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 will ask to identify and refer those presumptive TB cases.

Group 2

- Calculate the number of TB cases expected in the woreda for a given year.
- How many presumptive TB cases do you need to identify and refer to get the number of expected cases?
- Discuss and list the main strategies and activities used to identify presumptive TB cases in the woreda.
- Is there a chance that the actual number of cases will be greater than the expected cases? If yes, discuss, list reasons why, and identify potential sources of imported cases.

Group 3

- Calculate the number of TB cases expected in the woreda for a given year.
- How many presumptive TB cases do 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.
- Discuss and list segments of the population and time and effort needed to identify and refer more presumptive TB cases.

Group 4

- Calculate the number of TB cases expected in the woreda for a given year.
- How many presumptive TB cases do 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.
- Discuss and list segments of the population and time and effort needed to identify and refer more presumptive TB cases.

The facilitator will ask summary questions of the plenary

Enabling Objective #2: Identify and refer presumptive TB cases in the community.

Allocated time: 80 Minutes

Break into four groups and brainstorm and discuss the following questions.

- List the four types/categories of presumptive TB.

What challenges arise during presumptive TB case identification and referral? (consider the previous case study).

Role play

1. Select one type/category of presumptive TB you may encounter in your work, then draft a short role play script based on that category. Use short and clear conversations that reflect communication in your community, but feel free to use humor and creativity to make your performance interesting.
2. Three or four people, depending on the characters in your script, will rehearse the role play. Characters may include UHE-ps, client/ presumptive TB cases, family or community members/ close contact of person with presumptive TB.
3. Two groups will be asked to perform their role play for the larger group. After, debrief participants who played the role of UHE-p, client, family/community members, and the observers, respectively.

Debriefing questions by role:

UHE-p

- What did you do to help your client?
- What helpful attitudes did you convey, and why?
- 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 UHE-p convey during your interaction?
- How might these attitudes help a potential TB client?
- Did the UHE-p fail to meet any of your expectations?

Observers

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

1. The purpose of this activity is to make you aware of your feelings about presumptive TB case identification and referral, and to reflect on how these feelings and perceptions may affect your job performance.
2. Decide if you agree or disagree on each statement and stand by the corresponding sign posted by the course facilitator on the opposite side of the wall.

3. You may be asked to explain the reason for your response to a give statement, but no one will be judged for his/her opinion.

4. You can change your decision at any time, e.g., if you are convinced by the reasons given by other participants.

Statements	Agree	Disagree
1. There is strong evidence that HIV epidemic worsens the spread of Tuberculosis. Therefore all HIV clients are presumptive TB cases.		
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.		
3. Cough of more than two weeks is a **definitive** symptom for TB.		
4. UHE-ps cannot help people with TB		
5. Exposure to wind/cold especially throw a narrow opening can cause TB		
6. Eating and drinking utensils of TB clients should be separated to prevent the spread of TB to other family members.		
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.		
8. Isolating TB clients from the general population is not an efficient way of preventing TB transmission.		
9. UHE-ps need to use referral slips while referring presumptive TB cases.		

Summary questions

1. Prioritize/list the main roles and responsibilities of UHE-ps related to TB.
2. How do your views help or hinder your ability 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?

   How do your views contribute to or decrease stigma and discrimination?

Session 3: 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 hrs)

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

- The facilitator will presents slides on TB diagnosis methods used at various levels in Ethiopia.

Note on TB diagnosis

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.

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

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 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.

The facilitator will ask the following questions:

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?
8. How will this session help you improve your work?

Enabling objective #2: Explain TB category and aims of TB treatment

Allocated time: 35 minutes

Categorization exercise

- Read the following TB case descriptions and categorize each by the definition you've learned.
- Compare your answers with 2 or 3 fellow trainees and discuss differences.

	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…?	
2	A TB client, turned smear-positive while on treatment at the end of the fifth month or later is categorized as…? ?	
3	A TB client who never had treatment for TB or who took anti-TB drugs for less than a month is categorized as…	
4	A TB client who never had treatment for TB or who took anti-TB drugs for less than a month is categorized as…	
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…	

True or false exercise

1. The facilitator will give you two different-colored cards and will instruct you to write 'true' on one and 'false' on the other.
2. As the facilitator reads the following cases, hold up the card with the word "true" if you think a statement is correct and 'false' if you think it isn't correct.
3. This is not group work; respond on your own.

- Lemlem is 17-year-old girl who was diagnosed smear-positive in your health center. She has no TB treatment history. The TB clinic nurse registered her as a **new case of TB (N).**
- Balcha, a 65-year-old veteran's sputum examinations were negative and diagnosed as TB case by a clinician in the nearby hospital, referred to your health center 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).**

- Kiros is a 25-year-old sex worker who is HIV-positive. She has been on TB treatment at your health center for 3 months. The TB clinic staff sent you a memo that Kiros has stopped coming to collect her medicines. You went to her home but she changed her residency. Her fried helps you find and convince her to return to the health center. The health center staff registers Kiros as **treatment after loss- to-follow-up (L).**

Questions for plenary discussion

- 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 affect adherence

Allocated time: 30 minutes

Slide presentation:

The facilitator will presents slides on TB treatment regimens and first line anti TB drugs

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.

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

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 • Relapse • Treatment after LTFU • Treatment after failure of New regimen • Others
	2(RHZE)	10 (RH)	• New clients with CNS TB (meningitis, tuberculoma) • 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:

Break in to four new groups and read the assigned case study and management of side effects related to anti TB drugs.

Group 1 and 3 will work on case study #1; Group 2 and 4 will work on case study #2 Write your group's answers to the questions following the case studies and main points for management of common side effects on a flipchart to be posted on the wall.

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?

Each group will present its responses to the large group during the plenary session.

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

Allocated time: 25 minutes

True or false exercise

1. The facilitator will read the statements below, one at a time.
2. After each statement is read, decide if you think it is true or false, and go stand by the appropriate card (stating 'true' or 'false') on either side of the wall. Do not discuss the question with other participants.
3. The facilitator will ask random participants why they answered each question as they did.
4. The facilitator will supplement any missing points and explain why each question is true or falseww

Statement	Right	Wrong
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.		
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**.		
Any TB client turned bacteriologically (smear/culture) negative at the end of the treatment is declared as cured.		
Any TB case with no information about their treatment outcome at the time of evaluation is reported under Not evaluated.		

Tolosa turned out smear positive at the end of his 5th Month TB treatment, his treatment outcome should be treatment failure.		
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.		

Summery (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?

Session 4: 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

Brainstorm and list the importance of community engagement for TB prevention and community in your area.

Group 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?

Enabling Objectives #2: Explain stakeholders' roles and responsibilities in community TB care

Allocated time: 35 minutes

The facilitator will ask the following questions and write responses on a flip chart:

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?

You will break in to four groups and be assigned one or two stakeholders from the list. Discuss and note the roles and responsibilities of your assigned stakeholder in community TB care implementation.

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

Allocated time: 20 Minutes

1. You will split into four groups and brainstorm the six health extension packages that have impact on TB prevention and control.
2. Write the name of those packages that have an impact on yellow cards (1 package per card).
3. Write the names of packages that don't have a significant impact on TB prevention and control on green cards (1 package name per card).
4. Post each card under the categories of 'significant' and 'less significant' accordingly.
5. The facilitator will lead you in a discussion and analysis of the card sort.

Summary questions:

- How can you implement what you have learned in the TB prevention and control?
- What challenges do you expect? What can you do to overcome them?

Session 5: 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: 30 Minutes

True or false exercise

1. The facilitator will read the statements below, one at a time.
2. After each statement is read, decide if you think it is true or false, and go stand by the appropriate card (stating 'true' or 'false') on either side of the wall. Do not discuss the question with other participants.
3. The facilitator will ask random participants why they answered each question as they did.
4. The facilitator will supplement any missing points and explain why each question is true or false

Statements	True	False
1. Tuberculosis (TB) suppresses a person's immunity, which facilitates **transmission** of HIV infection.		
2. The proportion of clinically diagnosed pulmonary TB and EPTB is higher among HIV infected individuals.		
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..		
4. One of the effects of HIV on TB is the diagnostic challenge, requiring improved diagnostic capacity.		
5. TB is the leading cause of mortality and morbidity among HIV infected people in Ethiopia		
6. HIV negative individuals have more than 50% chance of developing TB in their life time.		

Summary questions:

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

Allocated Time: 40 Minutes

Slide presentation

Slide 1

TB/HIV collaborative activities include 12 interelated lists under 3 thematic areas:

A. Establish mechanisms for integrated TB and HIV service delivery

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

Slide 2

B. The 3 Is 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 TB 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

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

Case studies

1. Divide 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. One group from each category will be asked to present its case study; observers will ask questions and give feedback.

   The facilitator will summarize by asking group questions.

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

Materials

- Flipchart, Flipchart stand, LCD, marker, masking tape

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 UHEPs in prevention and

control of MDR TB.

Allocated time: 45 minutes

Brainstorming (15min)

Read the definition of MDR TB described below,

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

Brainstorm general factors that influence TB treatment in Ethiopia as a whole. A volunteer will be asked to put each factor into the appropriate column, below, which the facilitator will have posted.

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

The group will discuss and refine the list, then talk about the role of UHE-ps in preventing the spread of MDR TB.

Case study

Read and evaluate the following case study on your own

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.

Break into four groups and 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?

Write answers on a flip chart and post on a wall; each group will stop at each flipchart and compare its answers to the others.

Please be informed that additional orientation/training is required to provide treatment follow-up and care for MDR TB clients in the community.

Summary question for TB module:

- Which TB module training sessions are applicable to your work?
- What challenges to implementing MDR TB activities in the communities do you anticipate? How might you overcome them?

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 participants will be able to:

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

Allocated time: 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)

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

- Describe the basic facts about Malaria
- Explain the epidemiology of malaria in Ethiopia

Introduction to basic facts on malaria *(read the next three information sheets 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 is most deadly species in Ethiopia.
- Plasmodium vivax accounts about 40% of all cases in Ethiopia

How malaria transmitted?

Typically the malaria parasite is transmitted to people by bites from infected *anopheles* mosquitoes.

In rare cases:

- Malaria 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, which has four development stages: egg, larvae, pupae, and adult. The first three stages take place in water. Only the female transmits malaria because it is she who needs blood to mature the eggs inside her.

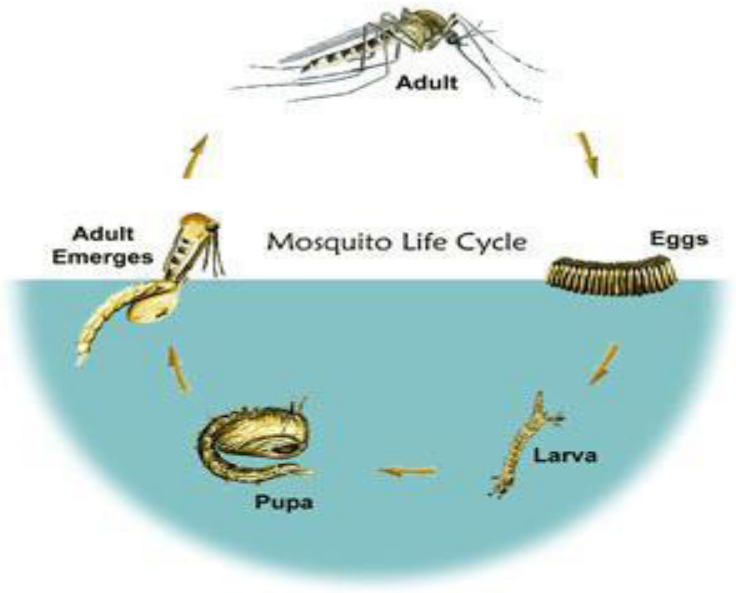


Fig. 1. Malaria Vector Mosquito life cycle

What is the cause of malaria? (malaria parasite: plasmodia)

Malaria is caused by protozoan blood parasites of the genus *plasmodium*, a single-cell organisms that cannot survive outside a 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 (human and mosquito) to complete its lifecycle.

What are the common signs and symptoms of uncomplicated malaria?

The signs and symptoms of malaria in most cases begin 8–25 days following infection. The classic symptom of malaria is 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 most affected by malaria?

- Children under 5 years
- Pregnant women
- Travelers from non-malarial areas (migratory workers)

Enabling Objective #1: Describe basic facts about Malaria

Allocated time: 45 minutes

True or false exercise

1. The facilitator will read the statements below, one at a time.
2. After each statement is read, decide if you think it is true or false, and go stand by the appropriate card (stating 'true' or 'false') on either side of the wall. Do not discuss the question with other participants.
3. The facilitator will ask random participants why they answered each question as they did.
4. The facilitator will supplement any missing points and explain why each question is true or false.

Statement	True	False
Malaria is a vector borne **bacterial** disease transmitted through the bite of both male and female anopheles mosquitos.		
Headache, fever, shivering, vomiting and joint pain are the main sign and symptoms of uncomplicated malaria.		
Plasmodium vivax is the dominant and deadly specious of malaria in Ethiopia where 60% of the land and 80% of the population are exposed.		
Most deadly epidemics occurred in Ethiopia are caused by plasmodium falciparum.		
The bite of infected female anopheles mosquito is the only means of malaria transmission.		
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)		
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.		

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

Allocated Time: 60 minutes

The facilitator will give a short presentation on malaria. Following that, you will break into four small groups.

Each group will be given a set of questions. Discuss and write answers on a flip chart.

Group 1

4. Why is Ethiopia affected by malaria? Which part of the world do we belong to? Consider geographical zone, latitude, longitude, and features of the country in your discussion.
5. How do you understand and rate the malaria situation in your area (woreda/kebele)?
6. Is malaria your concern? Why?

Group 2

5. Which part of the country is endemic for malaria? Which part is prone to sporadic, seasonal epidemics?
6. How do you understand and rate the malaria situation in your area (woreda/kebele)?
7. Is malaria your concern? Why?

Group 3

- List the major (catastrophic) malaria epidemics that have happened in Ethiopia.
- Identify the part of the country that are most affected by the epidemics (province/region/zone district)
- What factors contributed to the epidemic and high death toll?
- How you understand and rate the malaria situation in your area (woreda/kebele)?
- Is malaria your concern? Why?

Group 4

- Discuss the health, social, and economic effects of malaria in Ethiopia.
- How do you understand and rate the malaria situation in your area (woreda/kebele)?
- Is malaria your concern? Why?

When all groups have posted their answers, each will briefly present its work. Other group members and the participants are encouraged to comment. Each group should add new ideas suggested by others to its notes.

Session two: Major Malaria prevention and control intervention

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

Training Materials:

- Flipchart, flipchart markers and flipchart stand, plaster, LCD projector, laptop computer.

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

Divide into four groups. Discuss and record your answers to the questions that the facilitator provides your group.

Group 1

- Discuss and list priority Malaria prevention and control activities being implemented in Ethiopia.
- Discuss priority malaria prevention and control activities in Ethiopia.
- Evaluate identified activities based on:
    - Effectiveness
    - Applicability to local community
    - Safety (human and environmental)

Group 2

- What do households and community members need to know about appropriate handling and use of long-lasting insecticide treated nets (LLINs)?
- Who should get priority to sleep under LLINs?
- What are barriers to LLINs behavior and practice changes?
- What are key LLIN messages and actions for the community?

Group 3

- What are the common malaria mosquito breeding sites at household and community levels?
- When and where should larvacide be used?
- How can the community benefit from sprayed insecticide?
- What do households and community members need to for environmental management?
- What are barriers to environmental management behavior and practice changes?

Group 4

- What are the criteria to implement IRS in a given community?
- What key message should you convey to the community? Develop clear and precise key messages.

One person from each group will present answers to the others, who are encouraged to ask questions and make comments.

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

Allocated time: 40 Minutes

1. True or false exercise
2. The facilitator will read the statements below, one at a time.
3. After each statement is read, decide if you think it is true or false, and go stand by the appropriate card (stating 'true' or 'false') on either side of the wall. Do not discuss the question with other participants.
4. The facilitator will ask random participants why they answered each question as they did.
5. The facilitator will supplement any missing points and explain why each question is true or false.

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.		
2. Early diagnosis and treatment of malaria cases increases the chance of survival. Diagnosis can be made using RDT, microcopy or clinical.		
3. The role of UHE-ps is only prevention and control of malaria at the community level, and there is nothing to do on the diagnosis of malaria.		
4. Children under five and pregnant women are at higher risk of complication and death due to malaria when there is delay in diagnosis.		
5. When there is outbreak of malaria, there is no need to conduct diagnosis of every case; mass fever treatment is an option.		
6. RDT is a simple but requires blood, so that, the test should be conducted in laboratory settings only.		
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.		

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.		
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.		
10. Drinking alcohol (areki), eating raw garlic and similar remedies, if properly administered, can prevent someone from getting malaria.		

Summary question

What are the most important messages learned in this session for you to convey to the community?

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

Training Materials:

- Participant's guide/copy of RDT procedure, RDT kit, gloves, Safety box and Sample ACT (Coartem ®), Quinine and Chloroquine.
- Flipchart, flipchart markers and flipchart stand, plaster, LCD projector, laptop computer.

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

Read and ponder the discussion questions below by yourself. Then turn to person next to you and discuss and note answer for each.

Discussion questions

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

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

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 are the danger signs? What do they indicate?

After 15 minutes you will reconvene and review answers with the larger group. Make sure that you clearly understand the following.

- The types/methods of malaria diagnosis available in Ethiopia
- How to identify cases of malaria
- Common signs and symptoms of uncomplicated malaria
- Criteria for assessing severity of malaria/danger signs

Enabling objective #2: Demonstrate malaria diagnosis using RDTs

Allocated time: 70 minutes

Slid presentation

Slide #1

What is RDT?

- The rapid diagnostic test is fast, simple, and uses malaria antigens as a marker**.**
- Use 1 RDT kit per sample. Dispose kit after test.
- The RDT used in Ethiopia is multi-specious, meaning it can identify phalciperum and non- phalciperum species.
- What are the safety measures for handling sample and conducting the RTD?
- How and where should you dispose of the kit/biomedical waste after you conduct the test?

Slide 2: Preparations

According to the national guideline, community and referred malaria treatment should be based on RDT results.

Procedures for using RDT

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

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

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

Slide 3: Taking Blood Sample

- Open the alcohol swab and clean client's third or fourth finger.
- When client's finger is dry, open the lancet and prick client's finger.
- Discard lancet in a sharps-only container (safe box) immediately after use.
- Turn the client's' arm so his/her palm is facing down. Squeeze pricked finger and allow a drop to well up below finger-tip.
- Use the loop/capillary tube/straw/pipette to collect the drop from underneath

Slide 4: Conduct test

- Add the drop of blood to the sample window (hole labeled 'A') and make sure that blood reaches and is absorbed by pad at base of hole. If the blood is mostly deposited on the plastic edges of the well and does not reach the pad, the test will not work correctly.
- Add 6 drops of buffer solution to the hole labeled 'B'. Hold bottle vertically when adding the buffer solution to ensures correct drop size.
- Wait 15–20 minutes before reading test results.
- Discard the blood-collection materials (capillary tube, gloves) safely to avoid contamination.

Practical Session/Demonstration:

1. Divide into six groups. Each will get a RDT kit, procedure paper, and recoding format. Reread the above procedure before starting.

2. Ask one person on your team to volunteer to have finger pricked for blood sample. Interpret the observation with all possibilities of the teat result. Repeat the procedure if the test result is invalid due to error in the procedure or faulty equipment.

3. Facilitator will demonstrate a positive test result (assuming that no trainees will have a positive result).

Note to the participants: How to read different possible test results

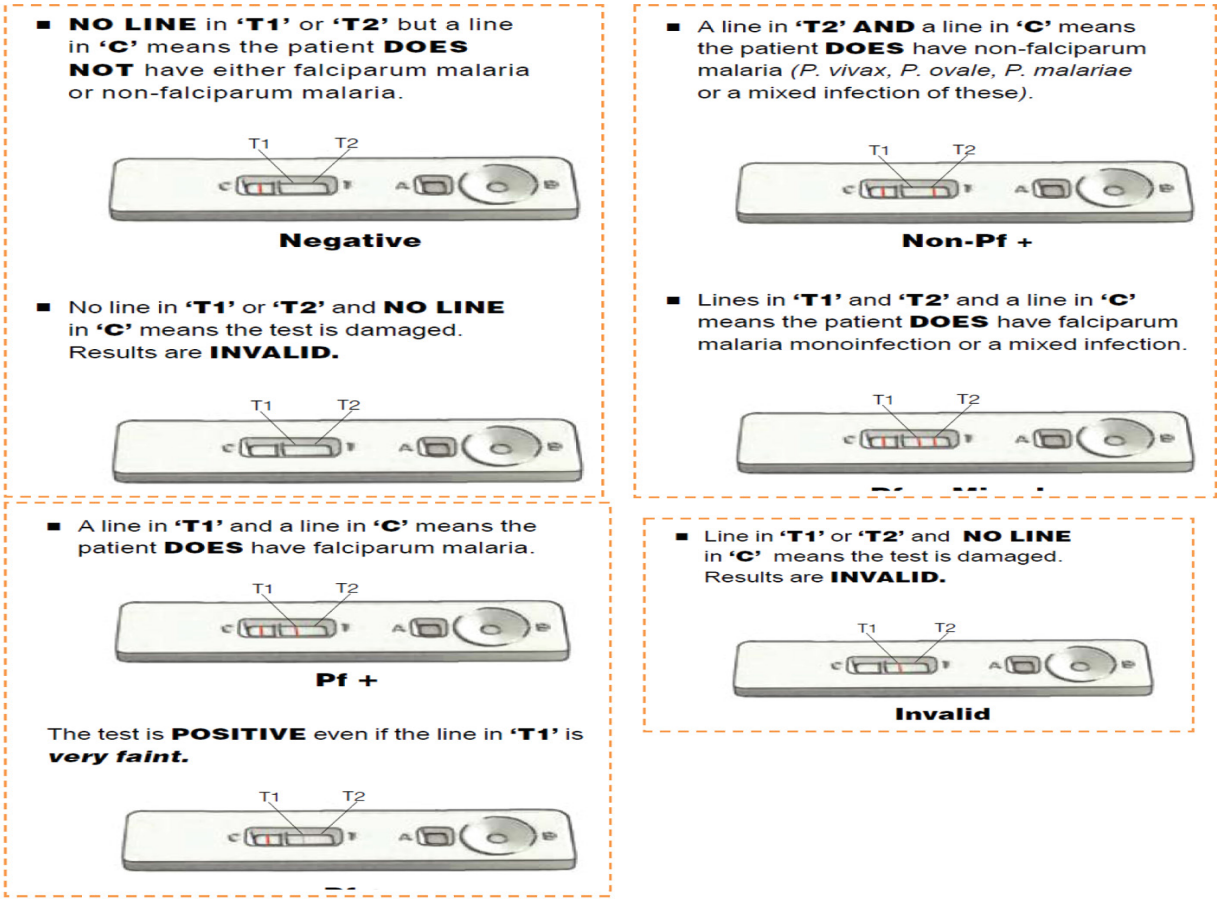


Table 7.2 Malaria RDT interpretation chart

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

Each team will present its work by discussing the following

- Observation of the procedure
- Impression op RDT test
- Findings and interpretation
- Safety requirement they followed

The facilitator will comment on each team's performance and correct as necessary.

Checklist for 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:

_____ _____

_____ _____

_____ _____

Checklist for each team

Item	Mark with symbols
1. Working table /platform	
2. Lab marker/pencil	
3. Pair of gloves for each trainee	
4. Alcohol for cleaning	
5. Cotton swab	
6. Lancets	
7. Safety Box	
8. Capillary tube/loop/pipette	
9. RDT cassette (check expiry date)	

10. Buffer solution	
11. Procedure (list of activities)	
12. Reporting and Recording formats	

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

Allocated time: 40 Minutes

Slide presentation

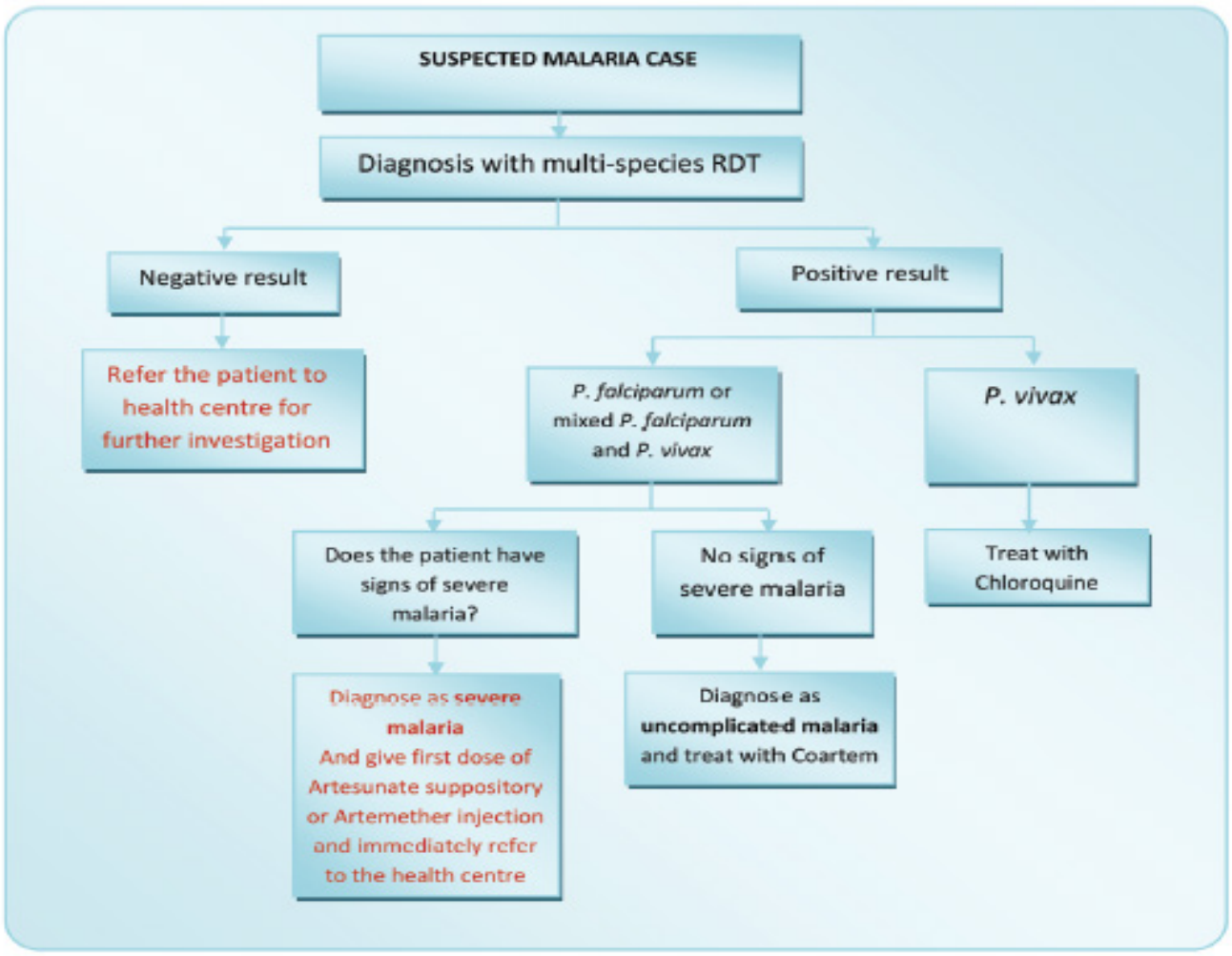
Slide #1: Main Anti Malaria Drugs being used in Ethiopia are:

- 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 labor, stillbirth, or abortion.
- Severe anemia in the mother.
- The baby 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 (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 7 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.
- Advice client to take fatty, sugary food with the drug, as quinine might cause low blood sugar (hypoglycemia).

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 #: Side effects of anti-malaria drugs

Drug Name	Frequently observed Side effects	Actions of UHEP
Coartum	No report	• Advise client to take fatty foods and fluids. • Don't give Coartem to: - Pregnant mother in the first trimester - Kids less than 5kg and younger than 5 months
Chloroquine	Stomach upset, blurred vision, nausea, headache Pruritis, nail, and mucous membrane discoloration, photophobia	• Urge client to tolerate and continue treatment. • Refer to clinic if client develops pruritis, nail and mucous membrane discoloration, alopecia, and photophobia. • ***Don't give chloroquine with birth control pills***
Quinine	Hypoglycemia (low blood sugar level), ringing in the ear Tremors Nausea, headache Blurred vision	Advise client to: • Continue treatment; symptoms are short-lived • Take fluids and eat food rich in sugar / carbohydrate

Summery questions for the plenary

1. What is the first anti-malaria drug for uncomplicated cases positive with p.Vivax specious?
2. Which anti-malaria drug is found in tablet form only?
3. What is your drug of choice for a 10-year-old child who has an RDT test positive of P. Falciparum?
4. A febrile client had joint pain and vomiting for the last two days. What do you do if the 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: 60 Minutes

Case study and group discussion

Break into four groups. Each will discuss and summarize its assigned case study.

Group 1 case study

Beka is a five-year-old boy. He and his family live in your catchment area, which is malarial. His mother says he was well until this morning when he woke, said he was feeling tired, and refused breakfast. When his mother touched him, he was hot and she gave him ½ a tablet of paracetamol. When you examine Beka, you find 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. Everything else about his examination is normal.

Questions

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

Group 2 case study

While making home visits in a catchment area known for seasonal malaria transmission, you find 18-year-old Desta, who is sick and sleepy. She has persistent vomiting, fever, and shivering for the last 2 days. She is mildly dehydrated, weak, and sick looking. When you ask why she hasn't visited the health center, her mother tells you that she is about 3 months pregnant and the persistent vomiting could be related. Desta doesn't want to be seen in public until her marriage is official. Her mother says that, except for the morning sickness, Desta was well until yesterday. Her temperature is 39.5°C measured with the thermometer under her armpit. She has no neck stiffness, bleeding, or discharge. You have no RDT kits 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 will you give Desta and her mother?

Group 3 and 4 case study

Ayele is a 30-year-old man who weighs 70 kg and lives in Addis Ababa. During a regular visit, you find him at home and looking sick. He tells you that he has an oil seed farm in Metema, Gondar, and has just returned after 3 months for the last harvest. He had malaria while there and started feeling it again 2 days ago. He went to the nearby private clinic, where the health care providers conducted all types of tests including blood, stool, urine, and sputum samples. According to his personal report, all were negative and he was sent home with pain medication and antibiotics. His fever record is 39 degrees centigrade; he is managing it with the pain medication. You manage use an RDT kit and the result is positive for vivax.

Questions

1. What is Ayele's diagnosis?
2. How did he get sick?
3. Why did the clinic miss Ayele's diagnosis?
4. What treatment will you give Ayele?
5. What advice will you give Ayele?

Summary questions

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

Major Communicable Diseases Prevention and control

Participant's Guide