USAID/E, Preventive Care Package for HIV/AIDS Project

Trainee’s Manual

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### Acronyms

<table>
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<th>Acronym</th>
<th>Description</th>
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<tr>
<td>HIV</td>
<td>Human Immuno Deficiency Virus</td>
</tr>
<tr>
<td>PLHIV</td>
<td>People Living with Human Immuno Deficiency Virus</td>
</tr>
<tr>
<td>OI</td>
<td>Opportunistic Infection</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>BPCP</td>
<td>Basic Preventive Care Package</td>
</tr>
<tr>
<td>IPC</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>RNA</td>
<td>Ribonucleic Acid</td>
</tr>
<tr>
<td>DNA</td>
<td>Deoxyribonucleic Acid</td>
</tr>
<tr>
<td>ARV</td>
<td>Anti Retroviral</td>
</tr>
<tr>
<td>NRTIs</td>
<td>Nucleoside Reverse Transcriptase Inhibitors</td>
</tr>
<tr>
<td>NNRTIs</td>
<td>Non – Nucleoside Reverse Transcriptase Inhibitors</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>FMOH</td>
<td>Federal Ministry of Health</td>
</tr>
<tr>
<td>STD</td>
<td>Sexually Transmitted Disease</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
<tr>
<td>ORS</td>
<td>Oral Rehydration Solution</td>
</tr>
<tr>
<td>ART</td>
<td>Anti Retro Viral Treatment</td>
</tr>
<tr>
<td>SWS</td>
<td>Safe Water System</td>
</tr>
<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>ARI</td>
<td>Acute Respiratory Infection</td>
</tr>
<tr>
<td>ORT</td>
<td>Oral Rehydration Therapy</td>
</tr>
<tr>
<td>IV</td>
<td>Intravenous</td>
</tr>
<tr>
<td>STH</td>
<td>Soil Transmitted Helminthes</td>
</tr>
<tr>
<td>LLITN</td>
<td>Long Lasting Insecticide Treated Net</td>
</tr>
<tr>
<td>ITN</td>
<td>Insecticide Treated Net</td>
</tr>
<tr>
<td>EDHS</td>
<td>Ethiopian Demographic Health Survey</td>
</tr>
<tr>
<td>CPT</td>
<td>Cotrimoxazole Preventive Therapy</td>
</tr>
<tr>
<td>IPT</td>
<td>Isoniazid Preventive Therapy</td>
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The Manual

This manual is designed to help Health Care Providers to educate People Living with HIV (PLHIV) about preventing Opportunistic Infections (OIs) using the products and information provided with Basic Preventive Care Package for HIV/AIDS (BPCP).

The overall objectives of this manual are the following:

- To increase knowledge of health care providers on prevention of common opportunistic infections using the Basic Preventive Care Package (BPCP) approach
- To provide health care providers the necessary skills on the use of BPCP kit components for prevention of common opportunistic infections
- To equip health care providers with Interpersonal Communication (IPC) skills and enable them to promote and facilitate discussions with PLHIVs on the benefits of BPCP products and services

The manual is arranged into Five Chapters, namely;

- Chapter One: Biology and Epidemiology of HIV/AIDS
- Chapter Two: BPCP for Prevention of Opportunistic Infections
- Chapter Three: Products in the BPCP kit
- Chapter Four: Other Prevention Practices for PLHIV
- Chapter Five: Interpersonal Communication for BPCP

Each session will provide the following:
- Objectives of what health care providers should learn in each session
- Demonstrations of proper usage of products in BPCP kit for prevention of OIs
- Important notes to remind health care providers on areas of emphasis or clarification
Chapter I: Biology and Epidemiology of HIV/AIDS

Objectives

By the end of this chapter participants will be able to:

- Describe the essential biology of HIV virus as it relates to HIV infection
- Describe the basic futures of HIV epidemiology in general and in Ethiopia

1.1 Basic Biology of HIV

HIV Structure

HIV is different in structure from other retroviruses. It is around 120 nm in diameter and roughly spherical. HIV is composed of two copies of single-stranded RNA enclosed by a conical capsid comprising the viral protein p24 (viral core). The single-strand RNA is tightly bound to the nucleocapsid proteins, p6, p7 and enzymes that are indispensable for the development of the virion, such as Protease, Reverse Transcriptase and Integrase.

The viral core is in turn surrounded by a plasma membrane of host-cell origin which is also called the viral envelope. It is composed of two layers of fatty molecules and a complex HIV protein called the envelope protein that sticks out of the envelope surface. The envelope consists of a cap called gp120 and a stem called gp41.

HIV Life Cycle

1. **HIV binds on to specific primary “receptors”**:

HIV can only replicate inside human cells. The process typically begins when a virus particle bumps into a cell that carries on its surface a special protein called CD4. The spikes on the surface of the virus particle stick to the CD4 receptors and allow the viral envelope to fuse with the cell membrane. Measuring the number of CD4 cells or “CD4 count” is one of the main ways of monitoring HIV progression.

2. **HIV Breaks open and releases RNA and reverse transcriptase**

HIV effectively injects itself into the cell, by fusing with the cell membrane and then passing through it. Once it enters the cell, the virus breaks open and releases its RNA and the enzyme (reverse transcriptase) that converts it into DNA. The process of viral replication is
highly error prone. The likelihood that the genetic message may be incorrectly copied is high. This results in a high mutation rate for HIV.

3. **Making and Integrating Viral DNA into the host’s DNA**

After replication the viral DNA is then integrated into the persons normal DNA in the cell nucleus forming HIV provirus. HIV provirus may lie dormant within a cell for a long time. Blocking reverse transcriptase is the basis for two important classes of antiretroviral (ARV) Drugs – the Nucleoside Reverse Transcriptase Inhibitors (NRTIs) and the Non – Nucleoside Reverse Transcriptase Inhibitors (NNRTIs).

4. **Hijacking the cells Machinery to Make the Virus**

The Viral DNA now effectively “hijacks” the cell’s machinery to produce the various viral components. The viral components are then assembled into viruses that are released from the cell – potentially to go on and infect other cells. As part of the production process, some of the initial viral material produced is cut or refined to make the final components by an enzyme called protease. Protease inhibitors are another major class of ARV.

**HIV and the Immune System**

HIV attacks the immune system at the same time the immune system attacks it. Both virus and CD4 and other immune cells are produced and destroyed at a rapid rate. As the HIV disease progresses, the viral level rises and the CD4 level falls. Tests to measure viral load and CD4 count are used to monitor disease progression. HIV does not cause death directly, rather, it impairs the immune system and makes the person susceptible to other organisms that are easily fended off by the normal immune system. Because these normally benign organisms take advantage of the opportunity of an impaired immune system they are called opportunistic infections.

**The Natural Course of HIV Infection**

The course of infection can be divided into three phases:

- **Early or acute phase**: HIV replicates rapidly and viral levels get quite high, some people will have flu like symptoms. Eventually the immune system kicks in sufficiently to lower the viral levels and “sero-conversion” occurs.

- **Long asymptomatic phase**: for many years, typically seven to ten years, the virus is in check and people go about their daily routines with no symptoms at all and are unaware that they are infected unless they get an HIV test

- **Symptomatic/AIDS phase**: eventually, however, HIV takes its toll and CD4 levels drop making the body susceptible to other infections and eventually the severe symptoms of AIDS.

A person living with HIV is most likely to infect another when their viral load is very high, in other words during the early or acute phase or the symptomatic phase.
HIV testing tests for circulating antibodies, not the virus itself. In early stages of infection when HIV levels are high, an HIV test result may be negative because the antibody levels have not yet raised high enough to be detected. The infectiousness of a person is directly related to the viral load which changes over the course of the disease and relates to the amount of virus shed in the semen or vaginal secretions.

1.2 HIV/AIDS Epidemiology

Global Trends and Distribution of HIV

Since the early 1980's global HIV prevalence has increased to almost 40 million people – roughly 1% of adults of the reproductive age. The greatest numbers of infected people are in Sub Saharan Africa with very high rates of infection especially in southern Africa and to a lesser extent Eastern Africa. At the extreme are countries such as Botswana, where prevalence is about 30% of adults.

Trends of HIV in Ethiopia

Over the past 25 years the HIV epidemic has gone through four distinct phases.
- To date, the prevalence of HIV among the age group 15-49 years has decreased from 2.4% in 2001 to 2.1% in 2007.

Current situation of HIV in Ethiopia

- About 980,000 People living with HIV (890,000 adults and 92,000 children)
- More than 100,000 people were estimated to acquire HIV each year in Ethiopia.
- HIV prevalence in the general population (aged 15-49) estimated at 2.1% with HIV prevalence higher among women (2.6%) than men (1.7%).
- HIV prevalence remains higher in urban (7.7%) settings compared to rural (0.9%).
- There were estimated 65,000 children (<14 years) who were HIV positive in 2007.
- Infection rates were the same for girls and boys.
- There were estimated 75,500 pregnant women who were HIV positive in 2007.

Major factors influencing the spread of HIV in Ethiopia

Biological factors:
- Infection with an STI increases exposure to HIV infection.
- The risk of acquiring HIV among women is much higher than men due to their biological makeup.
- In the 2002 BSS, less than 10% of the general population knew about the possibility of mother-to-child transmission of HIV and the availability of preventive medication.
- HIV Discordance - most discordant couples are unaware of their HIV status.

Behavioral factors:
- Multiple/Casual sexual relationships increase HIV risk.
• Early initiation of sex associated with HIV risk.
• Non condom use in especially non-cohabiting relations increases the risk of HIV infection.

Economic factors
• Poverty influences people to engage in transactional/commercial sex & intergenerational sex. Many studies have shown that Ethiopian girls often have sexual relations with men who are on average ten or more years older.
• HIV/AIDS also contributes to poverty since it affects the most productive populations.
• Low access to health care and education and heavy workloads create a low socioeconomic status for Ethiopian females which results in many entering into prostitution.

Socio-economic factors
• Some cultural expectations have negative consequences for HIV transmission e.g. support for early marriage, multiple sexual partners, submissiveness of women.
• High divorce rates (mainly as a result of early marriage and childlessness create a low socioeconomic status for Ethiopian females which results in many entering into prostitution.
• Media exposure and western “modernization” exposing people to drug abuse, child trafficking, etc.
• Stigma and discrimination: Persons with HIV infections taken as out casts in society. This leads to denial and may affect access to HIV services.
• High risk groups mix with the general population and this has effect on HIV transmission.

High risk population and vulnerable groups
• The latest data for the sex worker population is from the early 1990s. It is known that there has been an increase in the number of sex workers in the country, an increase in the utilization of sex workers, and that the median age of the sex worker population is decreasing.
• FHI found out that the number of sex workers who see five or more partners per week is increasing: 14.7% in 1989 to 45.1% in 2002 to 34.6% in 2005.
• Uniformed services, truckers, refugees and displaced peoples, street children, daily laborers, students and other mobile populations are the most vulnerable.
Chapter II – Basic Preventive Care Package (BPCP) for prevention of Opportunistic Infections (OIs)

Objectives

By the end of this chapter participants will be able to:

- Explain the common opportunistic infections and their prevention methods
- Describe the benefits of basic preventive care package to prevent OIs

2.1 Opportunistic Infections

An opportunistic infection is an infection caused by pathogens (bacterial, viral, fungal or protozoan) that usually do not cause disease in a healthy person, i.e. someone with a healthy immune system. A compromised immune system, however, presents an "opportunity" for the pathogen to infect.

Immunodeficiency or immunosuppression can be caused by:

- AIDS or HIV-infection
- Malnutrition
- Recurrent infections
- Chemotherapy for cancer
- Skin damage
- Antibiotic treatment
- Medical procedures

Opportunistic infections are the predominant causes of morbidity and mortality among HIV-infected patients. Main areas affected are the nervous, gastro-intestinal and respiratory systems, and the skin. These infections include:

- *Pneumocystis jirovecii*, previously known as *Pneumocystis carinii f. hominis*
- *Candida albicans*
- *Herpes zoster*
- *Staphylococcus aureus*
- *Streptococcus pyogenes*
- *Pseudomonas aeruginosa*
- *Toxoplasma gondii*
- *Cytomegalovirus*
- *Cryptococcus*
- *Kaposi's Sarcoma*

The level of immunity determines the occurrence and type of opportunistic infections. In general milder infections, such as herpes zoster and other skin infections, occur early whereas serious life-threatening infections such as CNS toxoplasmosis and Cryptococcal meningitis occur later with severe immunity. Some life threatening infections, such as pneumonia and TB, may occur early as well as later. When TB occurs later it is atypical, more disseminated and more extra pulmonary.
2.2 Basic Preventive Care Package (BPCP) for HIV/AIDS

Basic Preventive Care Package is a compilation of products, services, trainings and communication materials needed to prevent opportunistic infections among PLHIV. The Basic Care Package helps to prevent the most common OIs, such as diarrhea, pneumonia, malaria and others, affecting PLHIV due to unsafe water, poor hygienic practices and other infectious causes.

Ethiopia has accomplished a lot in terms of reducing the prevalence of HIV infection as well as improving access to HIV care and treatment services. There is apparent decrease in the occurrence of new HIV infections in the country from 2.4% in 2001 to 2.1% in 2007 (WHO's Ethiopian Epidemiological Fact Sheet on HIV and AIDS). With support from the United States Agency for International Development (USAID), the Federal Ministry of Health (FMoH) in collaboration with international and local partners, this project has developed the “HIV Preventive Care Package” for PLHIV.

The BPCP includes the following products:

- Six bottles of WuhaAgar, a water disinfectant, which kills the germs found in water.
- 24 sachets of WuhaAgar Tellel (PUR), a water purifier and disinfectant.
- Four bars of soaps for proper hand washing and to help develop behavior of using soap during hand washing
- One 20 Liter Water Vessel for proper storage of safe drinking water
- Two mosquito nets that are treated with insecticide to kill and repel mosquitoes and prevent malaria.
- A pack of condoms for prevention of other strains of HIV, STIs and pregnancy
- Four de-worming tablets for prevention of intestinal worms
- Two sachets of ORS for prevention of dehydration due to diarrhea

The BPCP includes additional educational materials and trainings on the following preventive methods:

- Benefits and use of the products provided in the BPCP
- Proper steps of hand washing for prevention of diarrheal disease
- Healthy diet practices for prevention of malnutrition and OIs
- Benefits of adhering to treatment for positive living
- Proper condom use?

Benefits of Basic Preventive Care Package

Though most PLHIV use Anti Retroviral Therapy (ART), Opportunistic Infections (OIs) are the leading causes of sickness and death among PLHIV. Thus the use of ART has to be complemented with other healthy practices that contribute to the quality and longevity of life among PLHIVs. Accordingly, the BPCP is important to:

- Minimize additional and preventable illnesses;
- Reduce hospitalizations and deaths;
- Enable PLHIV to have better and healthier lives;
- Lessen progression of HIV infection;
- Avoid costly curative services.
Chapter III – Basic Preventive Care Package Commodities and Their Benefits

Session 1 - Safe Water System for Prevention of Diarrhea

Objectives:
By the end of this session, participants will be able to:
• Explain the relationship between diarrhea and HIV
• Describe function of Safe water system for prevention of diarrhea
• Demonstrate the correct use of WuhaAgar and WuhaAgar Telel to disinfect water and safe storage.

Overview of diarrhoea
Diarrhea is the passage of three or more loose or liquid stools per day, or more frequently than is normal for the individual. It is usually a symptom of gastrointestinal infection, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking-water, or from person to person as a result of poor hygiene. Infection is more common when there is a shortage of clean water for drinking, cooking and cleaning.

Severe diarrhea leads to fluid loss, and may be life-threatening, particularly in young children and people who are malnourished or have a weak immune system.

The most common pathogens that cause diarrhea include:

• **Viruses.** Common viruses that cause diarrhea are Norwalk Virus, Cytomegalovirus, Viral Hepatitis and Herpes Simplex Virus. Rotavirus is the most common cause of acute childhood diarrhea. Viral diarrhea spreads easily.

• **Bacteria.** Common bacterial causes of diarrhea include *Escherichia coli*, *Campylobacter, Salmonella, Shigella and Vibrio cholerae*.

• **Parasites.** Contaminated food or water can transmit parasites to your body. Parasites such as *Giardia lamblia, Entamoeba histolytica and Cryptosporidium* can cause diarrhea.

• **Medications.** Many medications can cause diarrhea. The most common are antibiotics. Antibiotics destroy both good and bad bacteria, which can disturb the natural balance of bacteria in your intestines. This disturbance sometimes leads to an infection with bacteria called *Clostridium difficile*, which can also cause diarrhea.

Relationship between diarrhea and HIV
Diarrhea is a common opportunistic infection and common cause of morbidity among PLHIV. Diarrhea can be particularly severe, frequent and sometimes dangerous for PLHIV because their immune system is weakened by HIV and unable to fight the pathogens that cause diarrhea. The same pathogens are responsible for diarrhea among HIV negative and positive people, though the frequency of the infection may be different for different species among HIV positive and negative people. The most common pathogens responsible for
diarrhea in PLHIV are: *E. coli, Strongyloides stercoralis, Aeromonas, Shigella, Cryptosporidium, Salmonella, Campylobacter and Isospora belli.*

### Water Treatment Methods in Prevention of diarrhoea

<table>
<thead>
<tr>
<th>Physical treatment methods</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
</table>
| 1. **Boiling:** To heat water to boiling (occurs at a temperature of 100 degrees Celsius) at which water escapes from the surface of the boiling water through water vapor. | • Effective in improving water quality and preventing disease when done properly  
• Universally available  
• Universally practiced for cooking                                      | • High cost for fuel  
• Flat taste due to the removal of oxygen  
• Recontamination possible  
• Environmentally harmful                                                     |
| 2. **Filtration:** Straining the water through a cloth or a porous material to collect the sedimentation. | • Simple to use  
• Improves taste of water  
• Improves appearance of water                                               | • High cost for maintenance  
• Need to replace filter  
• Recontamination possible                                                   |
| 3. **Settling:** Allowing the water to sit for a period of time to allow the particles/sediment to sink to the bottom of the bucket. | • Simple to use  
• Improves appearance of water                                               | • Time consuming  
• Does not remove parasites  
• Recontamination possible                                                   |

### Chemical Treatment Methods

<table>
<thead>
<tr>
<th>Chemical Treatment Methods</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
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</table>
| 1. **Chlorine tablets:** Chlorine tablets are added to the water to kill pathogens. | • Simple to use  
• Kills pathogens  
• Residual disinfection benefits                                                 | • Relatively expensive  
• Treated water may have a chlorine taste                                       |
| 2. **Dilute sodium hypochlorite (WuhaAgar):** A measured amount of liquid sodium hypochlorite is added to the water to kill pathogens. | • Simple to use  
• Kills pathogens  
• Residual disinfection benefits  
• Relatively inexpensive                                                        | • Needs filtering to remove parasitic cysts  
• Does not improve appearance of water                                           |
| 3. **Disinfection, coagulation, flocculation (WUHAAGAR TELLEL):** kills pathogens and causes bigger particles to aggregate into clumps and sink to the bottom of the container. | • Residual disinfection benefits  
• Improves visual appearance of water  
• Removes bacteria, viruses and parasitic cysts                                 | • Several step process  
• Relatively expensive  
• Treated water may have a chlorine taste                                        |
**Safe Water Systems – Chemical disinfection**

Safe Water System (SWS) is a household-based water quality intervention in response to the need for inexpensive, alternative means of water treatment and storage. The components of SWS include water treatment at home with a specifically designed point-of-use water treatment methods including chemical disinfection; safe storage; a container that has a narrow mouth and a tight fitting lid to prevent recontamination and behavior change techniques regarding water treatment, storage and hand hygiene.

**Goals of the SWS**

- To improve microbiological quality of water at a household level by means of a sustainable technology
- To decrease death and sickness from contaminated drinking water
- To improve hygienic behaviors related to water use

**Components of SWS**

1. **WuhaAgar (WaterGuard)**

   WuhaAgar is a 1.25% sodium hypochlorite solution (dilute bleach) that is used to disinfect water and make it safe for drinking without boiling. WuhaAgar can be available in kiosks, health facilities, pharmacies, drug shops and other retail outlets.

   The product is alkalinized and lasts about 18 months if unopened. Once opened, the solution can last for 30 – 45 days. Water treated with WuhaAgar remains safe as long as it is not re-contaminated.

   **How to Use WuhaAgar**

   - Pour one capful of WuhaAgar into 20 liter clear water. Add 2 cupfuls if the water is cloudy or turbid;
   - Cover the container and shake thoroughly until WuhaAgar is completely mixed with the water;
   - Wait for 30 minutes until the chemical disinfects the water;
   - Your water is now safe to drink.

**Important:**

- *It is important to explain that even if water looks clear it doesn’t mean it is safe to drink. It can carry germs which can cause serious disease.*
- *Water should be treated with WuhaAgar every time a water container is refilled. Water should be treated year round for effective prevention of diarrhea.*
- *WuhaAgar should only be used in home storage containers and is not suitable for treating water in large water storage tanks, wells or boreholes.*
- *WuhaAgar should be kept in a cool, dry place and out of reach of children.*
2. *WuhaAgar Tellel (PUR)*

WuhaAgar Tellel is a powder chemical contained in a small sachet. It is designed to purify and disinfect turbid water especially found in rural and remote areas to improve water safety. WuhaAgar Tellel is different from water guard in its capability to isolate mud and other insoluble particles from water that is already turbid. It is especially used in remote areas of the country where there is poor sanitation and poor water system.

WuhaAgar Tellel is proven in reduction of bacteria, viruses, and protozoa in Water; removal of heavy metals and pesticides; residual protection against contamination and a proven health impact. It is also easily acceptable by users because of visual improvement in the water, ease of handling and long shelf life.

**How to use WuhaAgar Tellel**

- Open the sachet,
- Add the contents to an open bucket containing 10 liters of water,
- Stir for 5 minutes,
- Let the solids settle to the bottom of the bucket,
- Strain the water through a cotton cloth into a second container, and
- Wait 20 minutes for the chemical to kill disease causing microorganisms.

**Precautions when using WuhaAgar Tellel**

- Keep the sachet from the reach of children
- Properly dispose the plastic cover to avoid toxicity of children
- Don’t contaminate the powder with foods and other ingested materials
- Don’t touch your eyes and mouth area with PUR contaminated hands
- Do not use Tellel (PUR) sachet if it is expired or busted
- Don’t inhale or ingest the PUR powder
- In case of ingestion consult a doctor by taking the sachet
- In case of contact with skin or eye, rinse thoroughly with water

3. *Safe Water Vessel*

Drinking water should be stored in a clean and designated safe water vessel. A safe water vessel should have a lid, a narrow mouth, and a spigot to prevent recontamination of water once it is treated.

The best option for safe water storage is the 20 liter safe water vessel shown on the picture. This modified storage vessel has been designed with a narrow mouth, a lid, and a spigot to prevent recontamination during storage.
Advantages of the 20 Liter Safe Water Vessel

- Available to PLHIVS through the Basic Preventive Care Package (BPCP)
- Reduce risk of recontamination
- Easy to clean
- Durable
- Standard volume for WuhaAgar dosing

Cleaning Recommendations

The vessel should be washed thoroughly each time it is emptied before new water is added.

Frequently asked questions and answers

1. Why does my water taste like chlorine and what can I do about it?

   Treat water in the evening for the following day, so that the taste dissipates overnight.

   And

   Many people associate the smell of chlorine with water that is safe to drink.

2. Can I just use commercially-prepared bleach instead?

   No, because the concentration varies so it is difficult to know how much bleach is safe for use. In contrast, WuhaAgar is formulated specifically for drinking water.
**Objectives:**

By end of this session participants will be able to:

- Explain benefits of proper hand hygiene for OI prevention
- Describe the critical times for hand washing
- Demonstrate proper hand washing steps

**Benefits of Hand washing**

Hand washing is the number one prevention against spread of infection and can help protect PLHIV against micro-organisms that can cause opportunistic infections. These microbes can be transmitted by touching another person, an object or surface that has been contaminated by someone else. Food and animals are other vectors that can accumulate germs.

Washing both hands properly at certain times throughout the day helps prevent diarrhea, acute respiratory tract infections (ARIs), skin infections and other OIs. It is important to wash hands with soap and clean water particularly during the critical hand washing times to prevent diarrhea and other OIs.

**Critical Times for Washing Hands**

- Before preparing or eating food
- After using the toilet
- After cleaning up a child
- When attending to someone who is sick
- After handling uncooked foods, particularly raw meat, poultry, or fish
- After blowing your nose, coughing, or sneezing
- After handling an animal or animal waste
- After handling garbage
- When treating a cut or wound

**Proper Hand Washing Steps:**

1. Put your hands together under pipe water or pouring water
2. Lather thoroughly with soap, covering all surfaces including under nails
3. Rinse hands with plenty of water

4. Dry your hands completely with a clean towel if available or air dry
Session 3 - Oral Rehydration Solution (ORS) for prevention of Dehydration due to Diarrhea

Objectives:

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

- Describe the importance of ORS to prevent dehydration among PLHIV
- Describe proper use of ORS?

Oral rehydration therapy (ORT) involves the replacement of fluids and electrolytes lost during an episode of diarrheal illness. Diarrheal illnesses are pervasive worldwide, and they have a particularly large impact in the developing world. Diarrhea is a common opportunistic infection and common cause of morbidity for PLHIV. It can be particularly severe, frequent and sometimes dangerous for PLHIV by causing dehydration. Children under the age of five are also the major victims and account for over 3 million deaths a year due to dehydration associated with diarrheal illness. The World Health Organization (WHO) estimates that over one million deaths are prevented annually by ORT. An oral rehydration solution (ORS) is the cornerstone of this treatment. Between 90 and 95 percent of cases of acute, watery diarrhea can be successfully treated with ORT.

ORS is a sodium and glucose solution that is widely used to treat acute diarrhea, especially in children, but also for adults. ORS reduces the severity of diarrhea and vomiting, the number of hospitalizations, the need for costly intravenous (IV) fluid treatment and the length of illness. The four ingredients of ORS (glucose, sodium chloride, potassium chloride and trisodium citrate) in the reduced concentrations yield an effective solution for re-hydration and for the prevention of dehydration.

ORS is responsible for saving the lives of millions of people worldwide. This inexpensive and readily available intervention reduces death and suffering from dehydration caused by diarrhea.
Objectives:
By the end of this session participants will be able to:
- Explain the use of de-worming to prevent malnutrition
- Describe proper administration of de-worming agents

Parasitic infections contribute to a range of health problems including malnutrition, anemia, and slow cognitive development. Around 2 billion people worldwide harbor schistosomiasis and Soil Transmitted Helminthes (STHs) – otherwise known as intestinal worms. 300 million people, 50% of them school-aged children, are severely ill due to worms. Intestinal worms account for an estimated 11-12% of the total disease burden for school-aged children (5 to 14 years) in low-income countries. Regular de-worming allows people to avoid the worst effects of chronic worm infections, even without an improvement in sanitation conditions. New research is also showing the impact of STHs on the clinical burden of HIV/AIDS and Malaria, both of which are highly prevalent in Ethiopia.

Burden of Worm Infestation in Ethiopia
Several studies show that Ascaris lumbricoides (roundworm) is the most prevalent intestinal parasite, with an average prevalence around 56%, followed by Trichuris trichuria, hookworm and Strongyloides stercoralis. While there is less data specifically about STHs and people living with HIV/AIDS a recent study in southwest Ethiopia found 53% of people living with HIV/AIDS had an intestinal parasitic infection, compared to 42% of an HIV-negative control group.

De-Worming
Regular de-worming even without visible symptoms allows people to avoid the worst effects of chronic worm infections particularly in PLHIV. Thus, adult PLHIV and children aged 12 months or above who have not been de-wormed in the previous six months should be encouraged to take de-worming tablets without stool examination.

There are two main types of anti-helminthes (de-worming tablets) with Mebendazole and Albendazol being the more appropriate tablet for Ethiopia given the particular epidemiology for the country. Mebendazole and Albendazol have been fully approved for use in Ethiopia by the Drug Administration Control Authority. Regular use of inexpensive de-worming tablets has been shown to improve the health of individuals suffering from worm infestations, with reduction of transmission in school-aged children having positive externalities for reduction of the disease burden in the entire population.

Efficacy of de-worming was demonstrated by a World Health Organization (WHO) assessment of de-worming among pre-school children in Nepal. Results showed a 43% reduction in worm-infection rate, 76% reduction in anemia prevalence, and improvement in the mean hemoglobin level from 11g/dl to 12.2g/dl after only two rounds of de-worming.
Recommended Dosage

(a) One 500mg Mebendazole tablet should be taken once or twice a year depending upon the worm burden in the area and it is safe for children one year and above.

(b) One 400mg Albendazol tablet should be taken once or twice a year for adults and children above two years. Due to the likelihood of re-infection, it is important to re-treat regularly, with a focus on children aged 2-14 and in particular school age children and people living with HIV/AIDS.

Important

- Four de-worming tablets are included in the BPCP kit for an average family of four. All family members are encouraged to take it to avoid co-infection.

- PLHIV should take de-worming tablets without symptoms, lab exams or consultations with health providers

- De-worming in pregnant women should not be done without consultation
Session 5 – Long Lasting Insecticide Treated Bed Nets (LLITN) for Prevention of Malaria

Objectives
By the end of this session, participants will be able to:
• Describe the link between malaria and HIV and the importance of preventing malaria in PLHIVs;
• Describe different kinds of bed nets and the advantages of LLITN.
• Demonstrate how to use LLITN.

Relationship between HIV and malaria
Malaria and HIV are among the two most important global health problems of our time, and together they cause more than four million deaths per year. Given the wide geographic overlap in occurrence and the resulting co-infection, the interaction between these two diseases clearly has major public health implications. From several studies done in Africa and the rest of the world, the following conclusions have been made:

• There is increased risk of malaria with advanced immunosuppression due to HIV;
• HIV doubles the risk of malaria parasitemia and clinical malaria;
• HIV decreases the response to standard anti-malarial treatment; and,
• Acute malaria infection increases HIV viral load.

HIV and malaria during pregnancy
The consequences of the interaction between HIV and malaria are particularly serious for reproductive health.

• HIV-associated immunosuppression contributes to more frequent malaria attacks of higher parasite density in pregnancy.
• Malaria and HIV increase the risk of anemia in pregnancy.
• Women with dual infections have poorer birth outcomes (fetal loss, preterm delivery, low birth weight and higher infant mortality rates).
• HIV shifts the burden of malaria from 1st and 2nd pregnancies to all pregnancies.

Malaria prevention and control
Due to the many difficulties associated with the treatment, prevention is the best way to control malaria. Ways to prevent and control malaria include:

• Insecticide Treated Nets (ITNs);
• Indoor residual spraying;
• Environmental modification and
• Using insect repellants

Insecticide Treated Nets (ITNs) are currently considered the most cost-effective and sustainable community-based malaria vector control tool available. When used correctly and consistently, ITNs can significantly reduce the incidence of malaria.
A long lasting insecticide treated net (LLITN) is a net treated at factory level with insecticide either incorporated into or coated around fibers. The insecticide used is resistant to multiple washes and maintains biological activity for 3-4 years. LLITNs act as effective physical barriers against mosquito bites, kill mosquitoes (and other insects) that rest on it and repel mosquitoes coming to feed on humans sleeping under them.

The FMoH and World Health Organization (WHO) approve the insecticides (pyrethroids) as safe for use in LLITN and agree that they are not dangerous when used correctly. The dose of insecticide used in LLITNs is harmless to human beings, both adults and children, including newborns.

**Benefits of LLITN**

**Benefits to PLHIV:**
- Reduces the incidence of malaria in PLHIV.
- Reduce malaria related transient increase in viral load
- Reduces the incidence of poor birth outcomes (preterm delivery, fetal loss, low birth weight)

**Public health benefits**

<table>
<thead>
<tr>
<th>Key message</th>
<th>Supporting information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces child mortality</td>
<td>• Reduces childhood morbidity and mortality due to malaria</td>
</tr>
<tr>
<td></td>
<td>• Reduces severe childhood anemia and other complications</td>
</tr>
<tr>
<td>Reduces malaria in pregnancy and its complications</td>
<td>• Reduces peripheral parasitemia during pregnancy</td>
</tr>
<tr>
<td></td>
<td>• Reduces adverse pregnancy outcomes like low birth weight</td>
</tr>
<tr>
<td></td>
<td>• Reduces malaria transmission by up to 90% in infants less than 6 months</td>
</tr>
<tr>
<td>Reduces burden on hospitals</td>
<td>• Reduce hospital admission rates due to severe malaria</td>
</tr>
</tbody>
</table>

**Economic benefits of ITNs**

<table>
<thead>
<tr>
<th>Key message</th>
<th>Supporting information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces poverty</td>
<td>• Reduce expenses for treatment</td>
</tr>
<tr>
<td></td>
<td>• Reduces expenses on funerals</td>
</tr>
<tr>
<td></td>
<td>• Reduces absenteeism from work, which increases productivity</td>
</tr>
<tr>
<td>Reduces health facility expenses</td>
<td>• Reduce health facility expenses in buying antimalarias and hospitalizations</td>
</tr>
<tr>
<td></td>
<td>• ITNs kill mosquitoes and other household pests such as bedbugs, cockroaches, lice, fleas, etc. Thus less expenditure on aerosol sprays and mosquito coils.</td>
</tr>
</tbody>
</table>
### Most cost effective way of controlling malaria

- LLITNs are cheaper in the long run than sprays, mosquito coils and all other ways of controlling malaria

### Socio-cultural benefits

<table>
<thead>
<tr>
<th>Key message</th>
<th>Supporting information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to use</td>
<td>• Use of nets does not require highly qualified people or expensive equipment</td>
</tr>
<tr>
<td></td>
<td>• Can be used anywhere, over a bed or mat, and be carried to school or taken on visits.</td>
</tr>
<tr>
<td>Highly effective</td>
<td>• When over 60% of the population in an area use treated nets, there is such a &quot;mass&quot; killing of mosquitoes such that even the 40% without nets are protected from getting malaria.</td>
</tr>
<tr>
<td></td>
<td>• ‘The mosquito killing and repellent effect of the treated net also protect unprotected people sharing a room with someone using a treated net’.</td>
</tr>
<tr>
<td></td>
<td>• LLITN kill mosquitoes and other biting household pests. Thus one is assured of a good night’s sleep.</td>
</tr>
<tr>
<td></td>
<td>• LLITNs are effective even when old and torn, although it is important to mend torn nets.</td>
</tr>
</tbody>
</table>

### How to Use a Long Lasting Insecticide Treated Nets:

1. **Step 1:** Unpack carefully, not to tear a hole into the net
2. **Step 2:** Tie the strings provided into the loops at the corners of the net
3. **Step 3:** Tie the strings to the hooks provided, or to a stable support
4. **Step 4:** Allow the net to hang low enough to enable you to tuck it in
FAQs on malaria prevention

1. My child is asthmatic. Can he get an attack when he sleeps under the insecticide treated net.

   The insecticide and material of the nets is not known to cause allergies. However, due to prolonged storage before the net reaches the client, some people may sneeze the first night they sleep under the net. To avoid this, hang the net up for sometime before sleeping.

2. Some clients stay in rented houses and cannot drill holes into the roof for the hooks. How do they hang the nets up?

   There are several ways to hang the net. The net is packed with 4 long strings. The 4 ends of the strings can be tied together and tied to one point in the room.

3. Some clients stay in one room that acts as a bedroom and kitchen. The net seems to be too big to fit in their homes. How can we help these people?

   Tie the net up when not using it. This leaves enough room for all other activities.

4. Aren’t these insecticide treated nets a fire hazard?

   Tie the net up when not using it to reduce the risks of your net catching fire.

5. If a cockroach can be killed by the chemical in the net, don’t you think it is dangerous for a baby?

   The dose of the insecticide in the nets is safe for a new born baby.
**Session 6 - Correct and Consistent Use of Condom for prevention with Positives**

**Objectives:**
By the end of the session participants will be able to explain:

- What correct and consistent condom use is;
- Importance of correct and consistent condom use in PLHIV;
- Correct steps of condom use.

Helping PLHIV to reduce the risk of transmitting HIV to others is an important aspect of medical care for HIV-infected individuals. Most people with HIV infection want to prevent infecting others with HIV, but they may practice sexual behaviors that put others at risk of infection. Most HIV-infected patients also want to protect themselves from acquiring sexually transmitted infections. Therefore, it is very important to discuss with PLHIV about HIV transmission and prevention with HIV-infected patients, with the goal of reducing HIV transmission. This aspect of care is often referred to as "prevention with positives" (PWP).

Correct and consistent condom use is a critical HIV prevention and treatment. Condoms have played a decisive role in HIV prevention efforts in many countries. Increased access to antiretroviral treatment creates the need and the opportunity for accelerated condom promotion. Existing research demonstrates that the correct and consistent use of condoms significantly reduces risk of HIV infection. Studies of sexually active discordant couples demonstrate that latex condoms provide approximately 80-90 percent protection, when used consistently and correctly.

In Sub-Saharan Africa, socio-cultural norms and practices are major determinants of sexual risk-taking behavior. For example, in Ethiopia, a cohort study of factory workers with a high prevalence of HIV reported high-risk sexual behavior and low condom use, even though the majority mentioned condom use as the best way to prevent HIV.

**Behaviors that increase risk for HIV transmission include**

- Engaging in casual sexual encounters,
- Engaging in sex in exchange for money or favors,
- Using drugs or alcohol in the context of sexual interactions,
- Women, even if faithful themselves, can still be at risk of becoming infected by their spouse, regular male partner, or someone using force against them.
- Other high-risk persons or groups include men who have sex with men and workers who are employed away from home.
How to Use a Condom

1. Carefully open and Remove the condom

2. Use the condom when the penis is hard

3. Press air out of the tip of the condom

4. Unroll the condom to the base of the penis

5. Now you can have sex

6. After sex, throw away the condom in a place where children will not find it.
Chapter IV – Other OI prevention practices for PLHIV

Session 1 – Good Nutrition for Healthier and Longer Lives

Objectives
By the end of the session, participants will be able to:

- Describe the importance of Nutrition in PLHIV
- Explain the relationship between Nutrition and HIV
- List the essential nutritional requirements for PLHIV

Relationship between Nutrition and HIV
HIV/AIDS and high levels of malnutrition combine to undermine immunity of most people in the community. According to the EDHS (2005), 47% of children less than 5 years of age are stunted and 27% of women have chronic energy deficiency. More than 50% of children less than 5 years of age and 27% of women ages 15-49 are anemic.

HIV/AIDS attacks households by reducing labor, agricultural production and income, which then aggravates food insecurity. This further limits the capacity of affected households to access food, quality care and to adopt appropriate health and nutritional responses to HIV/AIDS.

Providing quality care and support for PLHIV requires addressing their nutritional needs. Good nutrition has been shown to be an effective strategy in mitigating the effects of HIV/AIDS. Like HIV/AIDS, malnutrition also compromises the immune function and thus increases susceptibility to severe illness and reduces survival.

The relationship between malnutrition and HIV/ADS creates a vicious cycle that weakens the immune system. The effect of the virus on nutrition can occur early in the course of the disease. The time it takes for HIV infection to become full-blown AIDS depends on the general health and nutritional status before and during the time of infection.

Many people live with the virus for ten years or more if they maintain good nutrition. As the viral load increases, the infections put extra demand on the immune system and increase the body's need for energy and nutrients. Frequent illnesses coupled with malnutrition further weaken the body leading to loss of weight and increased susceptibility to opportunistic infections. Therefore, nutrition should be an integral component in the prevention, care, treatment and support programs for HIV/AIDS.

Figure 1: The cycle of malnutrition and infection in the context of HIV/AIDS
(Adapted from FANTA training manual)

Nutrition for PLHIV

- PLHIV may suffer from loss of appetite, difficulty in eating and poor absorption of nutrients. This compromises their nutrition and results in deteriorating health. Counseling and supporting PLHIV to take simple actions to improve daily nutrition can improve their health. Attainment of good nutrition will contribute to the adoption of a positive attitude, which normally improves the quality of life for PLHIV.

- The elderly have special nutritional problems due to the effects of aging, e.g. loss of teeth, poor absorption, poor appetite, hypertension and diabetes. HIV/AIDS infection makes these problems worse.

- The nutrient needs of adolescents are high. They should eat quality foods to satisfy their large appetites. Adolescent girls should take iron and folic acid supplements. Young girls who become pregnant are at a particular risk of developing nutrient deficiencies especially if they have HIV/AIDS. They need additional nutrients for their baby's growth as well as their own.

- Good nutrition is important for the health and reproductive performance of women as well as for the survival and development of their children. A woman's nutritional status prior to and during pregnancy determines the risk of HIV transmission to the baby and also influences her own health. Pregnant and lactating mothers who are infected with HIV are at a higher risk of malnutrition and mortality. This is due to the extra demands for energy and nutrients exerted by pregnancy, lactation, and HIV. In developing countries like Ethiopia, many women become pregnant when they are already malnourished. They are often malnourished prior to HIV infection.
as well. If the woman is HIV positive then the effects of malnutrition and HIV increase her vulnerability to health dangers associated with pregnancy and childbirth.

**Prevention of malnutrition**

Eating enough food and the right foods to maintain proper body weight and keep the body strong can make a real difference in staying healthy. Generally, people with HIV/AIDS should try to eat a diet that contains proteins, fats, and carbohydrates in equal proportion and eat 3-5 vegetable servings and 2-4 fruit servings every day.

**Table: Different classes of food**

<table>
<thead>
<tr>
<th>Carbohydrates</th>
<th>Proteins</th>
<th>Fats</th>
<th>Vegetables</th>
<th>Fruits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>Meat</td>
<td>Oil</td>
<td>Tomato</td>
<td>Orange</td>
</tr>
<tr>
<td>Sorghum</td>
<td>Chicken</td>
<td>Butter</td>
<td>Carrots</td>
<td>Banana</td>
</tr>
<tr>
<td>Potato</td>
<td>Fish</td>
<td>Eggs</td>
<td>Green pepper</td>
<td>Apple</td>
</tr>
<tr>
<td>Rice</td>
<td>Eggs</td>
<td>Ground nuts</td>
<td>Cabbage</td>
<td>Pineapple</td>
</tr>
<tr>
<td>Wheat</td>
<td>Ground nuts</td>
<td>Breast milk</td>
<td></td>
<td>Mango</td>
</tr>
<tr>
<td>Maize</td>
<td>Beans</td>
<td></td>
<td></td>
<td>Papaya</td>
</tr>
<tr>
<td>Oats</td>
<td>Lentils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast milk</td>
<td>Breast milk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>False banana</td>
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</table>

HIV-positive people need higher amounts of protein in order to maintain good muscle mass and build the immune system. Food items that are high in protein include meats, fish, poultry, and eggs. We can also find protein from nuts, legumes (beans, Lentil and peas) and milk products.

Carbohydrates and fats are also important because HIV increases the body's energy need. Legumes and whole grains such as whole wheat, oats, barley, Sorghum, Corn and rice are better sources of carbohydrate than starchy roots such as false banana and potato.
Session 2 – Adherence to clinical services for Healthier and Longer Lives

Objectives
By the end of this session participants will be able to explain:

- The different clinical services PLHIV should adhere to
- The importance of adherence for PLHIV
- The barriers for adherence and ways to overcome the barriers.

In order for medicines to be effective a person should take them exactly as they are prescribed. Adherence means taking the correct doses of medications every time a patient is supposed to take them. Poor adherence may negatively impact drug’s effectiveness. PLHIV should adhere to prescribed medicines such as Anti Retroviral Therapy (ART), Cotrimoxazole Preventive Therapy (CPT), INH Preventive Therapy (IPT); and other services including Prevention of Mother to Child Transmission (PMTCT) and ongoing counseling services.

Adherence to Anti Retroviral Treatment (ART)
Despite the many advances in HIV drug treatment (such as fewer side effects, less restrictions, and easier dosing) taking HIV drugs still involves daily, lifelong treatment. This can make adherence challenging for many people, but the benefits are well worth the effort.

When someone takes a drug, it gets processed by the body and enters into the blood stream. The HIV drugs need to stay in the blood at certain levels to fight HIV. If the level falls too low, the drugs cannot work well. Taking the pills on schedule keeps the right level of the drugs in the body. If the patient does not take the drugs on schedule, its level in the blood will drop. This will allow HIV to make copies of it and even undergo mutations. These mutations can help the virus survive, even when the patient takes his HIV medication causing resistance.

Resistance to one drug can sometimes cause resistance to other drugs the patient has not been taking. Resistance affects treatment choices in the future because fewer drugs will work well against the virus.

Adherence to Cotrimoxazole Prophylaxis Therapy (CPT)
Cotrimoxazole Preventive Therapy (CPT) is a simple, well-tolerated and cost-effective intervention which can extend and improve the quality of life for people living with HIV, including those on ART. The value of Cotrimoxazole in reducing the morbidity and mortality associated with HIV infection has been well established through clinical trials conducted in industrialized and developing countries. CPT is associated with a 25% to 46% reduction in mortality among individuals infected with HIV in sub-Saharan Africa, even in areas with high bacterial resistance to the antibiotic. These improvements in
survival have been accompanied by substantial reductions in severe disease events and the number of hospital admissions mainly due to:

- *Pneumocystis jiroveci pneumonia* (causative agent for pneumocystis pneumonia)
- *Streptococcus pneumonia* (which commonly causes septicemia and pneumonia)
- *Non-typhoidal salmonella*
- *Isospora belli* (causes enteritis)
- *Toxoplasma gondi* (causes central nervous system infection)
- *Malaria* (*plasmodium falciparum*)

In 2006, the World Health Organization (WHO) issued global recommendations for the use of Cotrimoxazole in children exposed to HIV as well as children, adolescents and adults infected with HIV. WHO recommends CPT for:

- Symptomatic persons living with HIV who have mild, advanced or severe HIV disease (WHO clinical stages 2, 3 or 4);
- Persons living with HIV with a CD4 count < 350 per mm3;
- Infants exposed to HIV;
- Symptomatic children with HIV infection (WHO clinical stages 2, 3 or 4) and
- Children with HIV infection who have a CD4 count < 25%.

**Adherence to INH Prophylaxis Therapy (IPT)**

PLHIV are at a higher risk of developing active TB from TB infection. PLHIV with TB infection can be given treatment to prevent them from developing active TB disease. The treatment usually involves only one anti-TB drug, Isoniazid (INH). All HIV positive clients with active TB should be referred to TB clinic for treatment and those without active TB should be given Isoniazid preventive therapy (IPT) at the HIV/ART clinic.

Several studies have shown that Isoniazid preventive therapy (IPT) reduce active TB diseases in PLWHA. The main purposes of IPT are to prevent TB in HIV infected individuals so that they may lead a longer, disease free life. It also helps to prevent further transmission of TB in the community.

**Adherence to PMTCT**

PMTCT refers to a series of interventions that help reduce the risk that an HIV positive mother will pass on the HIV infection to her newborn baby.

Knowledge of PMTCT is very low in Ethiopia. A study shows that less than 10% of the general population knew about the possibility of mother-to-child-transmission of HIV and the availability of preventive medication.

PMTCT strategies include:

- Preventing HIV infection among prospective parents
- Avoiding unwanted pregnancies among HIV positive women
- Preventing the transmission of HIV positive mother to their infants during pregnancy, labor, delivery and breast feeding.
If a woman is HIV positive and becomes pregnant, there is a risk that her child will contract HIV during the pregnancy, more commonly during childbirth or while breast feeding. If an HIV positive woman takes no steps to protect her child from HIV and does not breast feed, there is a 15-30% chance that her child will contract HIV. If she also breast feeds, the risk of transmission increases to 20-45%. However, if an HIV positive woman follows her health care provider’s instructions, which will include use of appropriate antiretroviral medications; it is possible to reduce the risk of the child contracting HIV.

When women are found to be living with HIV they receive a course of combination therapy for antiretroviral prophylaxis during their pregnancy and during delivery. Their babies are treated within 24 hours of birth. But treatment is only part of the Package. PMTCT services also include psychosocial support, family planning and information on nutrition and infant feeding options to reduce the risk of transmission during breast feeding.

In general, Mother to child transmission of HIV is preventable when PLHIVs follow the prevention strategies and adhere to PMTCT services.

**Barriers to Adherence**

Many PLHIV find it difficult to be adherent to their HIV medication for the following reasons:

- A busy lifestyle
- Not having disclosed their HIV status to colleagues, friends, lover or family
- Depression, a leading cause of non-adherence
- Other life stresses, such as childcare or parenting issues
- Current or past problems with side effects
- Active substance use or alcoholism

**Overcoming Barriers**

It’s important to discuss with the client about the number of times he/she have missed a dose or did not take it correctly and suggest ways that help for better adherence. Newer HIV drugs require fewer pills per day and have fewer food restrictions.

Side effects are an important factor in determining whether PLHIV continue on their HIV drugs. While all of the HIV drugs can cause side effects, not everyone will experience them. It is a good idea to advice on what side effects to expect before starting ART. Being mentally prepared can make side effects easier to manage if they occur. If the problem persists, the patient should speak to a health care provider about other solutions, including switching drugs.
Adherence Tips for PLHIV

- **Believe that the medications will help you fight the virus and stay well.** If you don't think so, you won't bother taking your pills right. If you have any doubts, speak to your health care provider.

- **Use a daily activity, one that you do every day without fail (like waking up in the morning or going to bed at night),** to remind you to take your pills. When it's time to do that activity, you will know that it's also time to take your pills.

- **If you don't want others to see you taking your pills, quietly slip away to a secluded area or the bathroom.** If that won't work, say the medications are for another health problem or that they are vitamins.

- **If you suspect substance use or mental health issues are preventing you from taking your medications correctly,** talk to your health care provider or case manager so they can get you help. There are good treatments available.

- **Take advantage of tools available from your clinic or pharmacy such as pillboxes, calendars, diaries, and beepers to help you remember to take your medications.**

- **Plan ahead for refills or trips so you don't run out of any medications.**
Chapter 5 - Interpersonal Communication (IPC) and BPCP

Interpersonal Communication (IPC) is one-to-one or small group communication facilitated by the trained facilitator or community agent. The main purpose of IPC in BPCP is not only to provide factual information but to motivate recipients, in this case PLHIV to adopt healthy standards and behaviors towards preventing OIs by using the products and services provided in the BPCP kit. IPC is different from mass media in that it is personal, and targeted towards individual’s issues and contexts to better enhance behavior change to a given risky behavior.

As Effective IPC facilitation

Being an effective IPC facilitator isn’t easy. Having knowledge about health topics is only one part of being IPC facilitator/community agent. Strong health care providers /CAs communicate with their peers effectively, and this takes practice and preparation.

Health care providers /Community agents as IPC facilitators play an important role in promoting and influencing behaviors towards preventing of OIs among PLHIV. Health care providers /Community Agents help break barriers (lack of information, misinformation, misconceptions, lack of confidence etc.) that do not allow the adopting of healthy behaviors.

One of the most important characteristic for health care providers/ community agents is being a facilitator rather than just a didactic educator. A good facilitator is able to provide space for people to contemplate what is happening to them, to stop and reflect upon past events in a new way. Allowing members to explore their problems and realize what is stopping them from making the necessary changes to protect themselves and those around them is the first step in guiding them towards a healthier lifestyle. Thus, being effective community agent requires a variety of skills including;

- Guiding and managing group interaction
- Fulfilling the role of a respected guide
- Understanding recipients’ learning needs, styles, and values
- Building recipients’ confidence
- Analyzing issues accurately and rapidly
- Staying focused on the goal of the IPC exercises and achieving desired outcome
- Active listening, observing, clarifying, and elaborating
- Giving and receiving feedback

Basic Guidelines for Interpersonal Communication for BPCP

1. Work with small, homogeneous groups of participants. Working with fewer groups of 6-10 and catering the discussion as per their needs will allow them to engage better and help the discussion focus on issues they want addressed. For example, discussion on condom use with a group of young women will be more effective and interactive than with a group that includes men and/or older participants. Although large audiences can be ideal for raising awareness of reproductive health issues, they are not always suitable for intensive interpersonal activities that address sensitive issues.
2. **Use participatory techniques and encourage audience members to personalize information.** Participants can gain confidence and will be encouraged to practice new behavioral skills when their questions and concerns are addressed and communications are tailored to their needs. When conducting participatory discussion the facilitator can use questions, cues and activities listed in the previous chapters to encourage audience participation. It is also important to remember participatory discussion requires the IPC facilitator to be a good listener as well.

3. **Be clear on messaging.** Prepare and focus on the overall theme as well as specific messages on the intended use of products and services of BPCP towards preventing OIs. Messages should be convincing and highlight the risks and benefits of the behavior change.

4. **Allow maximum exposure to messages.** The amount of exposure an individual has to the intended message greatly affects the process of behavior change. Because behavior change is a slow process, the higher the exposure, the more likely behavior change will occur. Exposure can be increased in the following ways;
   a. **Repeated interaction with recipients.** Once off contact with a PLWH does not usually result in the desired behavior change, reaching them more than once is ideal for fundamental behavior change. Example: During home to home visits by adherence supporters and other encounters, discuss steps taken by PLHIV to prevent OIs.
   
   b. **Allow reasonable time for each message to be communicated,** especially on issues that are relatively new to recipients. Example; Many PLHIV are not aware that they should regularly de-worm for prevention of intestinal worms. BPCP IPC facilitators should use flip charts as a guide to properly convey messages on each method of prevention.
   
   c. **Communicate messages through multiple channels:** Benefits of prevention through BPCP should be communicated to PLHIV outside of distribution sites as well. Outreach activities, PLHIV associations, and counseling sessions with health providers are opportunities that can be utilized to reinforce prevention messages.

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**Suggested Methods of Communicating BPCP Messages in Different Settings**

a. **During BPCP Kit distribution – Ensure passing of basic/core messages**
   During BPCP kit distribution the settings may not allow for full extended discussions that will allow maximum interaction and individual participation. It is recommended that health care providers/ CAs be methodical in organizing and conducting their IPC sessions during distribution. In such scenarios, it is suggested the health care providers/ CA ensures basic/core messages in the BPCP are communicated to the participants using the following steps:
Step 1: Set the flip chart in a visible place (table) in front of participants with the images facing audience
Use the flipchart to communicate messages by showing them the images while slowly reading the messages on the flip side
Check if participants have understood the messages, or if they have questions or concerns after each set of messages
Spend a minimum of 5 minutes on each set of messages
Allow extra time for questions, concerns, elaborations, etc.

Step 2: Open the BPCP kit (box) and show participants all the contents of the kit including the booklet
Reinforce previous messages by showing the intended use of the product and information

Step 3: Do a demonstration on the use of the water vessel. Attaching the spigot on the water vessel for the first time, and opening and closing it during use is new to many people. Take time to show them.

Step 4: Do a demonstration on the use of WuhaAgar Tellel (PUR) in areas where people are likely to use WuhaAgar Tellel (PUR). Showing the transformative effect of Tellel on turbid water is the most effective way to convince people on its benefits.

Note: Throughout these steps make sure you stop and check to see if participants have understood the practices they are encouraged to adopt, how it benefits them, and how and when they should practice these behaviors.

b. Small Group Sessions – Extended discussions, ideal for participation, interaction, and demonstrations.
Small group discussions such as those facilitated in coffee ceremonies, Mother Support Group (MSG) events, and peer discussions in PLHIV associations are ideal settings for extended discussions allowing participants to ask questions and reflect on their past actions in a new way. Setting the environment appropriately can also enhance the transfer of information, allow for focus on the right messages, and help participants interact without restraint or distraction. Recommendations for conducting small group sessions are the following:
- previous sections of this health care providers Facilitation Manual by involving participants in role playing, conducting demonstrations, and asking and answering questions. The activities include; Make the number of individuals few at a time to allow and encourage questions, and personalize the information provided
- Conduct the session indoors or in a quiet place to minimize distraction and help the group to focus and have confidence to express concerns and issues
- Conduct all Session Activities and Demonstrations highlighted in the
  - treating water using WuhaAgar and WuhaAgar Tellel,
  - proper hand washing steps,
  - Where and how to hang LLINs (where applicable)
  - Myths and misconceptions about condoms
  - What do we eat and in which food group do they belong
  - Identifying barriers to adherence
Have Teaching and demonstration materials visible to all participants during the discussions.
- Allow maximum participation by encouraging participants to raise concerns and issues, and listening

c. **One-to-One Sessions – Personalize communication as per clients needs**

One to one sessions such as home base care visits and adherence for new clients allow opportunities to cater messages according to the needs of the clients. Here the health care providers / CA should use judgment to understand the needs of the client, emphasize on certain messages, and encourage clients to continue practicing healthy behaviors promoted by the BPCP. One-to-one sessions are also ideal to follow-up on and help address individuals’ issues and concerns.

### Teaching Tools for IPC

The following teaching tools are provided for IPC facilitators of the BPCP project;

1. **Flipchart:** A flipchart with key OI preventive messages, and corresponding images will be available in each health facility to be used during kit distribution and demonstration as described above

2. **Counseling Cards:** A set of counseling cards for each trained health care providers/CA will be available to be used in IPC events outside of distribution sites

3. **Bags for easy transport of counseling cards:**

4. **Other demonstration material including:**
   - Buckets, stirring sticks, and filtering cloth for PUR demo
   - SWS vessel (jerry can) for WuhaAgar demo
   - Hand washing sets (common plastic basin, jag, soap and towel)
   - Penile model for proper condom use demonstration
   - LLINs for demonstration on proper hanging
## ANNEX I: BPCP Recording and Reporting Formats

### BASIC PREVENTIVE CARE PACKAGE - Kit Register logbook

<table>
<thead>
<tr>
<th>Region</th>
<th>Woreda/Kifle Ketema</th>
<th>Health Facility</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ser. No.</th>
<th>Unique ART No./Card No.</th>
<th>Sex</th>
<th>Age</th>
<th>Pregnant mother</th>
<th>Marital Status</th>
<th>Group demonstration</th>
<th>Individual Counseling</th>
<th>Put ✓ only once</th>
<th>Kit serial No.</th>
<th>Date received</th>
<th>Sign.</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Key:**
1 - Single,
2 - Married,
3 - Divorced,
4 - Widowed,

- RF = Refused
- R = Received
- CO = Collected by other family members
**BASIC PREVENTIVE CARE PACKAGE**

Monthly Reporting Format, for the month of ___________/2009

Region Woreda/Kifle Ketema Health Facility

### 1. Number of clients receiving BPCP kit by age and sex

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children &lt; 5 yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children 5 - 15 yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnant mothers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult &gt;15 yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total number of clients receiving BPCP kit</strong></td>
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</tbody>
</table>

### 2. Total number of clients refusing BPCP kit

<p>| |</p>
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<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

### 3. Number of clients receiving individual Counseling on BPCP kit

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children (&lt;15 yrs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult including Pregnant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total number of clients oriented/counseled</strong></td>
<td></td>
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</tbody>
</table>

### 4. Number of clients receiving group demonstration on BPCP kit

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children (&lt;15 yrs)</td>
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<tr>
<td>Adult including Preg</td>
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<td></td>
</tr>
<tr>
<td><strong>Total number of clients oriented/counseled</strong></td>
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</table>
ANNEX II: Pre and Post Test Questionnaire with Answers

Note to the facilitator:

This test is designed to evaluate the impact BPCP training on knowledge and exposure of the participants about benefits of BPCP products and services specifically in relation with prevention of OIs among PLHIV.

Hand out the test before and after the training and allow participants to work on it for 15 minutes. Work should be done individually, and without references. Make sure they do not feel anxious about the test because they will be learning the points they do not know during the training.

1) How long does a long lasting insecticide treated net (LLITN) last?
   a) One month or 2 washes
   b) Six months or 5 washes
   c) Two weeks or no washes
   d) Three years or 20 washes

2) Which of the following is not the function of LLITN against malaria?
   e) Physical barrier
   f) Cures malaria if you get it
   g) Repels insects
   h) Kills mosquitoes

3) Safe Water System (SWS) consists of:
   a) A method of filtering the water to make it safe for drinking.
   b) Boiling water to keep it clean.
   c) WaterGuard, safe water storage and behavior change.
   d) A bucket for pouring water

4) What is an example of a safe drinking water source?
   a) River or lake
   b) Piped water
   c) A well
   d) Rainwater collection

5) What is an example of perfectly safe water?
   a) Water that has been filtered and looks clear.
   b) Water treated by waterguard and stored in a Jerrican for a week.
   c) Muddy water with branches and rocks.
   d) Boiled water left in an open pot for a week.

6) A safe water vessel needs
   e) To be expensive
   f) To have a narrow opening and have a lid
g) To be operated by electricity
h) A is the answer

7) Which of the following statement is false?
   a) Clear water can be contaminated
   b) Washing hands with soap is necessary to prevent the spread of diseases
   c) Many HIV positive people die of diarrhea
   d) None

8) What a mother can’t do to help prevent mother to child transmission?
   a) Combine breast feeding and formula feeding
   b) **Choose either to breastfeed or formula feed exclusively**
   c) Practice family planning
   d) Find out her HIV status

9) Which one is not the role of nutrition in positive living?
   a) **Boosts immunity**
   b) **Slows down opportunistic infections**
   c) Has no role in HIV/AIDS
   d) **Helps PHAs maintain their body weight**

10) Which one is false for the following statements about TB and HIV?
    a) TB is an opportunistic infection in HIV
    b) **There is no cure for TB in HIV**
    c) All TB patients should be tested for HIV
    d) HIV is the strongest risk factor for developing TB
Annex J: REFERENCES


35. RCQHC/USAID,2003: Counseling Mothers on Infant Feeding for Prevention of Mother to Child Transmitting of HIV: a Job Aid for Primary Health Care Workers. Regional Center for Quality of Health Care, Kampala, Uganda.


