





# NURSING CARE OF PATIENTS WITH HIV/AIDS

## PARTICIPANT'S GUIDE

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# ABBREVIATIONS AND GLOSSARY

| TERM | DEFINITION |
|---|---|
| **ADL** | Activities of daily living: the basic tasks a person has to do to go about everyday life, including eating, bathing, toileting, dressing, etc. |
| **AIDS** | Acquired immune deficiency syndrome: the late stage of HIV disease. A person is diagnosed with AIDS when his CD4 cell count is below 200 per $ml^3$ of blood or he has experienced certain illnesses (AIDS-defining illnesses). |
| **ART** | Antiretroviral therapy: the combination treatment for HIV using more than two antiretroviral drugs (ARVs). |
| **ARV** | Antiretroviral: a drug or combination of drugs used to fight the HIV virus; together, as ART, they make it difficult for HIV to multiply. |
| **ARV classes** | ART drugs are grouped into classes depending on how they work to fight the virus. Classes include nucleoside (and nucleotide) reverse transcriptase inhibitors, non-nucleoside reverse transcriptase inhibitors, protease inhibitors, and fusion inhibitors. |
| **bd** | Twice a day. |
| **CD4 cells** | A type of immune system cell that fights certain infections. These cells are the primary target of the HIV virus. How well the immune system is functioning can be determined by counting the number of CD4 cells per $ml^3$ of blood. |
| **CT** | Counseling and testing (also called voluntary counseling and testing, or VCT). |
| **CTX** | cotrimoxazole, also called Septrim. |
| **Comprehensive care** | A multidisciplinary approach used to assist HIV-positive patients and their families. It addresses the multitude of biologic and socioeconomic factors involved in HIV disease. |
| **first-line** | The combination of drugs that is usually used first for ART. |

| | |
|---|---|
| **FTC** | Emtricitabine. |
| **HIV** | Human immunodeficiency virus: the virus that causes HIV disease and AIDS. |
| **immune system** | The system in the body that fights off infection. |
| **infection** | An infection is caused by a bacteria, fungus, or virus. The body can naturally fight off some infections while others cause illnesses. |
| **IPD** | Inpatient department. |
| **IV** | Intravenous. |
| **OPD** | Outpatient department. |
| **opportunistic infection (OI)** | An infection that occurs in a person with a weak immune system. |
| **PEP** | Postexposure prophylaxis: treatment with ART to prevent the transmission of HIV when a person has been exposed. |
| **PLHA** | People living with HIV or AIDS. |
| **PMTCT** | Prevention of mother-to-child transmission of HIV. |
| **PO** | By mouth. |
| **PPD** | A skin test done to test for tuberculosis. |
| **prophylaxis** | Treating an infection before it occurs. Patients may receive prophylactic treatment for common OIs with the idea that it is likely that they may get the OI; or they may receive secondary prophylaxis if they have had a certain OI and it is likely that they may get it again. (Also see PEP.) |
| **resistance** | The ability of the HIV virus to change and resist the ability of some drugs to work against it. |

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|---|---|
| **second-line** | The combination of drugs that is usually used to treat HIV once first-line drugs have failed. |
| **side effects/ toxicities** | Symptoms or problems caused by taking drugs; symptoms may range from minor to major. |
| **STD** | Sexually transmitted disease or infection. |
| **TB** | Tuberculosis. |
| **TB/HIV co-infection** | Infection with both TB and HIV. |
| **viral load** | A blood test that counts the amount of HIV virus in the blood. A higher viral load indicates that there is more virus in the person's blood and the person is sicker. |
| **viral replication** | The process of how a virus makes copies of itself. |
| **window period** | The period of time after a person is infected with the HIV virus during which he still tests negative (about 3 months or 13 wks). |

# INTRODUCTION

Nurses provide life-saving and life-enriching care throughout the world. Often they are the first provider—or even the primary provider—for patients with HIV. While medically focused trainings provide a valuable service to the doctors in HIV care, nurses need training that is geared to their competencies and roles. To equip nurses in resource-limited areas with this specialized training, Family Health International has developed *Nursing Care of Patients with HIV/AIDS*. This curriculum is intended for nurses working in facilities ranging from the primary-level health center to the tertiary-level hospital who work in a variety of roles to provide care to those with HIV.

## Design of the Curriculum

As education levels and experience vary, the curriculum was designed to be comprehensive: it includes 15 modules, a facilitator's guide, and a participant's guide. The length of the course can be tailored to fit individual needs. The program in the facilitator's guide has been designed for a five-day agenda, but a seven-day agenda is also included. Guidance on HIV care and treatment in resource-limited areas is constantly being updated. This curriculum was designed using the state of the science in care and treatment information. Adaptation for local customs or protocols may be needed. We hope that *Nursing Care of Patients with HIV/AIDS* will help prepare nurses to provide the highest quality of care possible.

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We encourage you to provide comments, correction, and other feedback to help us improve future editions. Send comments to aidspubs@fhi.org with the words "Nursing Care" in the subject line.

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# COURSE DESCRIPTION

| Session | Modules and topics | Purpose of session and rationale |
|---|---|---|
| **Introduction** | • Official opening<br>• Introductions<br>• Why we are here<br>• Goals of training<br>• Expectations/ground rules of training<br>• Pre-course assessment<br>• Discussion on motivations, experiences, and challenges in providing HIV care | Introduces participants to each other and to the goals of the course. Sessions focus on technical areas as well as the special role nurses play in each. Participants list expectations and develop ground rules. The facilitator will have an opportunity to assess participants' prior knowledge of the course content and get a better sense of their abilities and background. A discussion about participants' motivations and experiences, and challenges in providing care to patients with HIV/AIDS, will introduce the course in a meaningful way while allowing the facilitator an opportunity to evaluate the experience of the group and build cohesion. |
| **1** | Comprehensive nursing care of people living with HIV/AIDS, including nursing roles and caring for caregivers | Explores the concept of comprehensive care and the roles of nurses in comprehensive care, including ways of caring for caregivers. (A basic session aimed at those who have not had previous training in HIV.) |
| **2** | Special issues for nurses | Introduces some special topics related to delivering nursing care to PLHA, including professionalism, confidentiality, bereavement, and stress/burnout. Stigma and discrimination by nurses is also explored. |
| **3** | HIV basics | Outlines the basics of HIV and HIV disease progression, including what is HIV, what is AIDS, basics of transmission, HIV disease progression, HIV myths, HIV stages, WHO staging, and the links between HIV and TB. |
| **4** | Standard precautions/infection control | Introduces standard precautions in both inpatient and outpatient settings, including hand washing, use of personal protective equipment (including gloves), and sharps handling and disposal. Also includes postexposure prophylaxis (PEP) treatment and nursing management. |
| **5** | Common conditions experienced by PLHA | Educates participants on the most common opportunistic infections and conditions related to HIV and the appropriate nursing assessment and interventions for each. |

| | | |
|---|---|---|
| **6** | Palliative care | Exposes participants to the concept of palliative care: the philosophy of palliative care and how it can be woven into nursing care for HIV, including community or home-based care. |
| **7** | Nutrition | Explores the relationship between nutrition and HIV, nutritional consequences of HIV, wasting and nursing interventions for wasting, and vitamins and minerals and sources of each. |
| **8** | Prevention within care | Provides participants an overview of different aspects of prevention within care, including why prevention for positives is important, what facilities and providers can do, and patient education messages, including safer sex. |
| **9** | Antiretroviral therapy (ART) | Introduces participants to the basics of ART, including how it works, who should take ART, why a combination of drugs is taken, benefits and challenges of ART, goals of therapy, and specific information for commonly used drugs. |
| **10** | Special issues for childbearing women | Presents issues unique to nursing care of childbearing women with HIV, including how HIV affects pregnancy, PMTCT, infant feeding, and postpartum follow up. |
| **11** | Special issues in pediatrics | Educates participants on aspects of issues (including common conditions, adherence, working with caregivers, drug administration, and disclosure) that are unique to pediatrics and HIV. |
| **12** | Assessing readiness for ART | Explores issues related to assessing patient readiness for ART, including why it is important to determine readiness, why a patient may decide not to take ART, and how to respect a patient's decision not to start ART. |
| **13** | Nursing management of ARV side effects | Focuses on the nursing management of the most common mild-to-moderate side effects. Also includes guidance on home management and which symptoms should be immediately evaluated for possible hospitalization. |

| | | |
|---|---|---|
| **14** | Helping patients understand and adhere to ARVs | Educates participants on how to help patients understand and adhere to ARVs. Includes guidance on and specific messages for patient education before starting ART and throughout the life of the treatment. Also includes general information on adherence, including the importance of adherence, factors that affect adherence in terms of patients and healthcare providers, and intervention strategies to help patients achieve and maintain optimal adherence. |
| **15** | ARV regimen change | Helps participants understand why an ARV regimen may need to be changed and the appropriate nursing interventions when a regimen is changed, including patient education and psychological and adherence support. |
| **Course wrap-up and evaluation** | Course wrap-up, post-course knowledge assessment, and evaluation | Wraps up the training by reviewing original goals and assessing participants' learning with the post-training knowledge assessment. |





# INTRODUCTORY SESSION

# INTRODUCTORY SESSION

## PURPOSE

This session introduces participants to each other and to the goals of the course. Participants will be asked to develop expectations and ground rules. The facilitator will have an opportunity to assess each participant's prior knowledge of the course content. A discussion about participants' motivations, experiences, and challenges they have faced in providing care to patients with HIV/AIDS will introduce the course in a meaningful way, help build cohesion among participants, and allow the facilitator an opportunity to evaluate the experience of the group.

## OBJECTIVES

- Begin to get to know each other.
- Understand the overall goal and topics of the training.
- Define personal goals for the training.
- Create ground rules for the training.
- Participate in pre-training knowledge assessment.





# SESSION 1: COMPREHENSIVE NURSING CARE OF PEOPLE LIVING WITH HIV OR AIDS

## SESSION 1: COMPREHENSIVE NURSING CARE OF PEOPLE LIVING WITH HIV OR AIDS

### PURPOSE

This session introduces the concept of comprehensive HIV care. It also explores the various roles nurses play within comprehensive care as well as caring for caregivers.

### OBJECTIVES

- List the different areas that should be addressed in comprehensive HIV care.
- Identify the needs of people with HIV across the continuum of care and discuss how to meet those needs.
- Define the roles of nurses in comprehensive care.
- Discuss the needs of caregivers and how to meet those needs.
- Apply the topics in exercises and role plays.

### CONTENT

HIV Care Overview (Slide 1)

- Before antiretroviral treatment (ART) is needed, care of the HIV-infected patient is focused on prophylaxis against opportunistic infections (OIs), management of OIs, ongoing prevention, and hospice or end-of-life care.
  - There is no known cure for HIV/AIDS disease.
  - As the immune system becomes increasingly compromised, symptomatic treatment becomes essential.
  - Palliative and end-of-life care can increase quality of life for patients and families.

HIV Care Overview (Slide 2)

- When ART is widely available (with patients ready to start treatment), HIV is a chronic, manageable disease.
- Not all people infected with HIV are eligible for ART due to disease stage, other infections, toxicity, and other reasons.

HIV Care Overview (Slide 3)

- Until eligible for ART, patients should be encouraged to engage in positive health behaviors such as
  - adherence to clinical appointments
  - adherence to current medication schedule (e.g., prophylactic medications)
  - proper nutrition
  - prevention for positives
  - psychosocial support
  - standard precautions

Note: Care of people living with HIV or AIDS (PLHA) should include ART as well as other essential elements of care and support.

HIV Care Overview (Slide 4)

- When patients are ready and eligible for ART treatment, care is focused upon the management of ART:
  - the most effective combination of drugs
  - the fewest side effects
  - the greatest potential for adherence

HIV Care Overview (Slide 5)

- Care includes ongoing prevention to reduce the risk of transmission of HIV and other disease.
- Care also includes prophylaxis for OIs and, if an OI occurs, aggressive treatment of the infection.
- Care includes palliation (management of distressing symptoms such as thrush) beginning at disease diagnosis.
- Care moves from primarily the acute healthcare setting (hospital) to the ambulatory healthcare and home settings.

HIV Care Overview (Slide 6)

- At the end of life, the goal is to provide care and support to enable the patient to live life as fully and comfortably as possible.
- Care and support are comprehensive and multidisciplinary, and aim to achieve comfort in all areas: physical, psychological, and spiritual.
- Family support is essential to prepare for the patient's death and provide bereavement support after the patient's death.

Comprehensive Care of HIV (Slide 1)

- To serve the multitude of biologic and socioeconomic factors involved in HIV disease, a comprehensive and multidisciplinary approach is used to best assist HIV-positive patients and their families, including
  - HIV testing and counseling
  - regular medical care, including OI treatment, OI prophylaxis, palliative care, and ART either in the clinic or home (or both)
  - social work
  - nutrition support, including food resources
  - spiritual support
  - psychosocial support
  - economic support
  - PLHA support
  - ongoing prevention support
  - adherence counseling and ongoing support

Note: Nurses work in many of these areas. We will explore nursing roles later in this session.

Comprehensive Care of HIV (Slide 2)

- HIV not only affects the patient, it affects the family and household as well. For example, children with HIV may be cared for by parents with HIV who may be ill. Nurses must think beyond the patient and include the context of the patient's family and household as a unit.
  - Assess: Have household members been tested? Do they need assistance in accessing care and treatment for themselves or the patient? What challenges do they face within the home?
  - Intervene: Refer to testing and other services, counsel on issues related to care of whole family/household.

Teamwork (Slide 1)

- The nurse is a member of a team of healthcare providers that, with patients and their families, address the full spectrum of needs. The team may include
  - nurses
  - doctors
  - clinical/medical officers
  - lab technicians
  - pharmacy technicians
  - nutritionists
  - social workers
  - adherence counselors
  - PLHA support group members
  - community healthcare workers
  - lay volunteers
  - others

Teamwork (Slide 2)

- As part of the team, nurses
  - participate as active team members
  - raise issues related to patient care to improve service delivery
  - consult with other team members on difficult patient issues/cases
  - support colleagues

Goals of Nursing in Comprehensive Care

- The goals of nursing care related to HIV/AIDS include reducing morbidity and mortality and increasing the quality of life of people at risk for HIV and those affected by the disease. These goals are achieved through a focus on assessment and implementation of interventions, including education on both prevention and care.

Nursing Roles in Comprehensive Care (Slide 1)

- chronic disease management, including health monitoring and symptom management
- acute care
- health promotion and education
- disease prevention
- palliative care
- mental health support
- patient support/advocacy
- referral management

Chronic Disease Management

- HIV is a chronic disease that cannot be cured, but it can be managed. Important aspects of chronic disease management include
  - testing and counseling
  - health monitoring

- symptom management
- medication adherence monitoring
- health promotion/patient education
- empowering and supporting patients to make their own choices

Nursing Roles in Acute Care (Slide 1)

- Assess and manage symptoms. Many of the symptoms that HIV-infected patients report as most distressing are not easily treated with drugs:
  - anorexia
  - emotional distress
  - weight loss
  - skin lesions
  - oral sores/lesions
  - difficulty swallowing
  - altered taste
  - night sweats
  - peripheral neuropathy (numbness, tingling, or pain in the hands or feet)
  - dizziness
  - impaired mobility
  - bad dreams
  - difficulty concentrating
  - sexual dysfunction
  - confusion

Nursing Roles in Acute Care (Slide 2)

- Non-pharmacologic, nurse-led interventions can assist with other problems (in addition to medications) such as
  - nausea/vomiting
  - diarrhea
  - fever
  - cough
  - dyspnea (difficulty breathing)
  - headache
  - pain
  - insomnia
  - rash
  - depression
  - anxiety
- Alternative or local therapies can also be used to ease symptoms. However, caution should be exercised, because interactions between some ARVs and herbal therapies/drugs are possible.

Note: Information on management of common conditions is included in Session 5.

Nursing Roles in Acute Care (Slide 3)

- Monitor medication use and provide patient education for all medications, whether prophylaxis, antibiotics, narcotics, etc.:
  - reason for taking drug/drug action
  - dose
  - schedule
  - food restrictions

- possible side effects: those to report to the health facility and nursing interventions for those that can be managed at home
- adherence counseling

Nursing Roles in Health Promotion and Education

- Teach health promotion. Promoting healthy practices (also called positive living) that prolong the asymptomatic stage, reduce HIV-related conditions (OIs, STDs, etc.) and avoid behaviors that can transmit HIV.
  - Assess and use patient's and involved family members' current knowledge as the basis for teaching.

Nursing Roles in Prevention for Patients

- Assessment:
  - Identify risks for HIV infection.
- Interventions:
  - Counsel on the benefits of HIV testing.
  - Educate on HIV transmission and risk reduction.
  - Refer those testing HIV+ to care and support.
  - Educate those testing HIV– about prevention (how to stay negative).

Nursing Roles in Disease Prevention in the Clinical Setting

- Reduce transmission of infection:
  - Practice standard precautions at work.
  - Model optimum standard precautions and advise colleagues on proper use.
  - Know the postexposure prophylaxis (PEP) protocol of the health facility.
  - Encourage implementation of PEP if needed.

Nursing Roles in Mental Health

- Psychological or mood disorders are common in patients with HIV.
- Nurses can assess and intervene for a variety of mental health issues.

Note: More information on nursing management of mental health issues is included in Session 5.

Nursing Roles in Patient Support/Advocacy

- Identify needs (along with the patient and family) and refer to appropriate services within the clinical or community setting.
- Advocate for patient when needed.
- Take measures to support the patient's achievement of needs, such as informing patient of cost-sharing schemes.

Nursing Roles in Referral Management

- A functional referral system with links to other facilities/services and feedback is critical to serve all the comprehensive care needs of patients. Examples of services include community- and home-based services and PLHA support groups.
  - A referral system should include feedback to the referring clinician to determine whether the patient's needs were met.

Nursing Roles in Palliative and End-of-Life Care

- Palliative care begins at time of diagnosis and provides comfort and symptom management throughout life.
- End-of-life care is focused on assisting the patient and family to have the highest quality of life possible.

Note: More information on nursing management of palliative care is included in Session 6.

Nursing Roles in Documenting Care

- Complete and accurate documentation of the nursing care provided during each patient visit contributes to quality service delivery.

- Recording assessment findings and interventions over time is requisite for managing HIV/AIDS as a chronic disease.

Nursing Roles Realized: Four Steps for "Getting It Right"

- Make time for the patient.
- Use an open, supportive, nonjudgmental approach.
- Maintain current knowledge.
- Believe in the importance of your role.

Source: Africaid 2004

Note: Nurses are very important to all types of healthcare, especially HIV care. Believing in the importance of your role is essential, not only in maintaining your own job satisfaction but supporting your colleagues as well.

Importance of Nursing Roles in Care of PLHA

- Some nurses may feel their role is unimportant or that they are "just nurses." Nurses need to remember that the roles they fill in caring for PLHA and their families are vital for patient care and family wellbeing.
- Nurses are the front line of trained healthcare workers for PLHA: they assess signs and symptoms of serious disease, ensure communication between the patient and the rest of the comprehensive healthcare team, administer medications, and teach patients how to correctly take their medications.

Caring for the Caregivers: Overview

- Who are caregivers?
- Why does HIV create unique challenges for caregivers?
  - HIV/AIDS is a chronic, life-threatening disease for which there is no cure.
  - It is an infectious disease and creates fear of transmission.
  - There is stigma to HIV/AIDS that leads to discrimination.

- Many resources are expended in HIV/AIDS care for both the patient and the caregiver—physical, emotional, psychological, and financial.
- Are there other challenges?

Note: Sometimes we forget about caregivers while we focus on the patient. To the extent we can, nurses are there to work with the whole family as a unit. It is also important to recognize yourself and your colleagues as caregivers.

Caring for the Caregivers: Challenges

- For patients, it is difficult to seek HIV testing, disclose a positive status, or seek care and support. Without care and support, HIV/AIDS progresses more rapidly, leading to increased disease burden and caregiving needs.
- For caregivers
  - It is difficult to provide nonjudgmental compassionate care.
  - It is exhausting to care for loved ones in addition to taking care of other aspects of one's life.

Caring for the Caregivers: Consequences of the Challenges

- What are the consequences of these challenging factors for patients and for caregivers?
  - anxiety, fear, and depression
  - disrupted relationships
  - conflicts within families
  - multiple losses
  - grief
  - discouragement, frustration, and burnout among healthcare workers (this will be explored further) and home-based caregivers





# SESSION 2: SPECIAL ISSUES FOR NURSES

## SESSION 2: SPECIAL ISSUES FOR NURSES

### PURPOSE

This session introduces some of the special topics related to delivering nursing care to PLHA. It includes topics of professionalism, confidentiality, bereavement, and stress/ burnout. Stigma and discrimination by nurses will also be explored.

### OBJECTIVES

- Identify ethical responsibilities of nurses.
- Discuss how to maintain patient confidentiality.
- Understand how to show and support professional behavior.
- Discuss stress and burnout among nurses and identify ways to deal with stress in their own lives.

### CONTENT

Issues For Nurses

- Some issues related to providing nursing care to people living with HIV/AIDS deserve special discussion:
  - ethics related to the profession
  - professional behavior of nurses
  - stress and burnout
  - caring for self and colleagues

Why Ethics?

- As nurses, we have a duty to treat patients as ethically as possible.
- Our practice is guided by ethical principles.
- Nurses should know about these principles and be able to apply them to their own work.

Ethical Guidelines

- Ethical guidelines, based on principles, exist to protect the patient and guide the nurse to make ethical choices in their work with patients.
- Making the ethical choice is not always clear.
- These practical guidelines relate to anyone, both past and present patients, you ever care for as a nurse.
- If you have any questions about your work with a patient, discuss them with your supervisor.

Ethical Principles

- do no harm
- autonomy
- equality
- confidentiality
- consent

Do No Harm (Slide 1)

- Definition: the nurse is responsible for his/her patient and sees to it that the patient suffers no physical or psychological harm from their relationship.
  - Your role is to help the patient obtain care and treatment for HIV-related conditions including providing direct care and referrals for services provided outside your clinic/facility.
  - You are ethically bound to protect the patient from harm to the best of your ability according to your training, guidelines, and protocols.

Do No Harm (Slide 2)

- For example, if you know that a patient is allergic to sulfa drugs and have an order to give them co-trimoxazole, you are ethically bound to prevent harm (an allergic reaction caused by giving that patient the drug) and ensure the patient does not receive a sulfa-based drug.
- Patients are also harmed by stigma and discrimination by healthcare workers.
  - Stigma and discrimination experienced by patients in the healthcare setting cause harm to patients; negative experiences with healthcare workers delay and/or prevent patients from seeking essential healthcare in the future.

Autonomy

- Definition: patients have the right to make their own decisions.
  - The nurse must respect the patient/family's autonomy.
  - The nurse works with them to obtain their goals.
  - The nurse explains, defines, and clarifies care options, assessing and ensuring full understanding by the patient and family.
  - Do not tell them what to do or make decisions for them.
    - For example, if you have provided education and counseling to a patient about ART, and after demonstrating understanding that patient decides not to start taking it, you should respect the patient's decision.

Equality

- Definition: treat all patients the same despite age, gender, sexual orientation, or social status
  - Nurses must treat all patients the same despite relationships (familial, tribal, or other factors).
  - Nurses must treat all patients the same despite lifestyle choices (sexual orientation, substance use).
  - Nurses must not treat patients with HIV any differently than other patients.

Confidentiality (Slide 1)

- Definition: keeping personal, entrusted information private.
  - The nurse must treat all information or material heard, obtained, or provided as confidential.
  - The nurse must not disclose any information about the patient to anyone except essential health facility staff without first seeking the appropriate consent of the patient.
    - › If you are asked to reveal information about a patient, it is appropriate to say "I cannot talk about that."
    - › Do not talk about your patients with friends, family, or neighbors.
    - › Do not discuss patients with colleagues in public areas of the health facility (hallways, stairways) or outside the health facility.

Note: Confidentiality is of the utmost importance to build trust with patients. If patients feel like their information will be shared, they will not be honest with the nurse and their care becomes compromised.

Confidentiality (Slide 2)

- The nurse must follow protocols for maintaining confidentiality in the storage and disposal of patient records.
- The nurse will break confidentiality only if there are sound reasons (legal, patient safety) and after consulting with supervisor and informing the patient.
  - Examples: if a nurse assesses that a patient is suicidal, the nurse may have to break confidentiality to protect the life of the patient; if a nurse assesses that the safety of a child is compromised (e.g., child abuse), the nurse may have to break confidentiality to ensure the child's safety.

Consent (Slide 1)

- Definition: giving permission or approval for something to happen.
  - Because patients make their own decisions (autonomy), they must give informed permission for any clinical activity, including testing, counseling, home visits, referrals, or sharing of information with others.
  - Sometimes this informed consent is verbal; at other times it needs to be in writing.
  - A patient's full understanding of what is going to happen needs to be confirmed before the procedure or action happens, and for consent to be considered truly informed:
    - › Assessing a patient's understanding and witnessing the informed consent process is often the nurse's responsibility as the patient's caregiver and advocate.

Note: The guiding rule is that nothing should be "done to" the patient without his or her informed consent. The patient authorizes any treatment.

Consent (Slide 2)

- Clinical protocols will guide you when you need written consent from a patient; consult with supervisor for clarification.
  - For example, a nurse needs consent from a patient before drawing and sending their blood to be tested for HIV.

Note: Give examples from the local protocols for which procedures need to have written consent.

Professional Behavior

- Nurses are considered an important part of the clinical team and are expected to act in a professional manner both in the health facility and in home visits.

- Acting professionally builds trust between you and other nurses and your patients, their families, and the community.

Note: When you act as a professional, you have more self-respect, and you receive more respect from your colleagues and patients.

Examples of Professional Behavior (Slide 1)

- Follow clinical protocols.
- Attend clinical meetings as requested.
- Participate as part of the clinical team.
- Monitor your own competence and limitations.
- Keep informed about current clinical practices and new treatments for HIV care.
- Seek support from your supervisor and other members of the clinic team when you feel you need help.
- When you feel other nurses are not acting correctly, respectfully discuss it with them or your supervisor.

Examples of Professional Behavior (Slide 2)

- Strictly adhere to confidentiality standards.
- Be on time for appointments.
- Be prepared for work at the health facility; have all necessary tools available (forms, guides, etc.).
- Be responsible for your own physical safety (practice standard precautions).
- Treat all patients equally—don't have favorites.
- Don't make promises you cannot keep.

Examples of Professional Behavior (Slide 3)

- If you do not know something, admit that you do not know it and go find the answer.
- Don't advise patients about matters outside of your role.

- Maintain professional boundaries—patients are your clients, not friends.
- Maintain good personal hygiene and presentation—remember that you represent the health facility.

Stress (Slide 1)

- Feelings of stress come from working in an environment that you cannot control or you feel you cannot keep up.
- Stress is entirely personal:
  - Situations that make some people very anxious make others thrive.
  - The way people deal with stress is also personal.

Note: There is little we can control in the healthcare field and the work involves very serious decisions. So, it is natural to feel stress as a healthcare provider.

Stress (Slide 2)

- Nurses providing HIV care face stressors from many factors and are vulnerable to emotional exhaustion and burnout. Some factors include
  - staff shortages
  - dealing with chronic illnesses and death
  - informing patients of diagnosis and disease status
  - interacting with challenging patients
  - assisting and working with families
  - fear of occupational exposure to HIV

Burnout

- Burnout:
  - physical, psychological, or emotional exhaustion as the result of long-term stress

- Symptoms of burnout:
  - Physical: exhaustion, fatigue, headache, back pain, sleep disturbances, muscular tension, vulnerability to illness, changes in nutritional intake/appetite
  - Behavioral: irritability, anger, difficulty with relationships, increased alcohol/drug use
  - Cognitive: emotional numbness, hypersensitivity, cynicism, helplessness and hopelessness, depression

  Source: Kalichman, Gueritault-Chalvin, and Demi (2000)

Caring for Yourself (Slide 1)

- As nurses, we care for patients and families every day.
- Sometimes we neglect ourselves.
- It is important to also take care of yourself on a daily basis and learn how to best cope with stress and avoid burnout.
- By caring for yourself, you can also better serve your patients.

Note: Sometimes it is easy to forget about caring for ourselves. But if we make it a priority, we become happier and better adjusted, and that means we provide better care for patients.

Caring for Yourself (Slide 2)

- People manage stress in different ways.
- Some negative ways to deal with stress include
  - drinking alcohol or using drugs
  - irritability
  - avoidance of patients and professional responsibilities
  - denial of personal problems
  - acting angry with family

Caring for Yourself (Slide 3)

- Some positive strategies for dealing with stress/burnout include the following:
  - Participate in workplace support groups—help establish a support group if one does not already exist.
  - Contribute to a supportive work environment (teamwork, recognition of work, adequate training, creative incentives, etc.).
  - Practice positive coping mechanisms: exercise, good nutrition, spirituality, spending time with friends or family, and relaxation techniques such as deep breathing, etc.
  - Share problems with colleagues (create weekly support groups).
  - Take care of your own health (visit your own health provider, counselor).
- Dealing with stress positively leads to higher quality of care and improved job satisfaction.





# SESSION 3: HIV BASICS

## SESSION 3: HIV BASICS

### PURPOSE

This session outlines the basics of HIV and HIV disease progression, including what is HIV, what is AIDS, basics of transmission, HIV disease progression, HIV myths, HIV stages, WHO staging, and the links between HIV and TB.

### OBJECTIVES

- Understand the definition of HIV.
- List the ways HIV is transmitted and is not transmitted and the socioeconomic factors that facilitate transmission.
- Discuss the difference between HIV disease and AIDS.
- Understand the usual progression of HIV.
- List the different areas that should be addressed in comprehensive HIV care.
- Understand what TB is and how it is spread.
- Understand the difference between active and latent TB.
- Discuss important aspects of the TB/HIV relationship.
- Understand how treatment of TB and treatment of HIV affect each other.

### CONTENT

Nurses' Roles

- A solid understanding of HIV, its transmission, and how it affects the body is important for nurses in their roles as
  - clinicians
  - educators
  - patients' advocates
  - counselors

HIV Epidemic Update

- Fourth leading cause of death in the world.
- An estimated 38 million people are living with HIV/AIDS (UNAIDS, 2006).
- About one-third are between age 15 and 24.
- Most people are unaware they are infected.
- Young women are more vulnerable than other groups.

What Is HIV?

- HIV is a virus that attacks the immune system—our body's natural ability to fight infection.
- The virus attacks certain cells in the immune system—called CD4 cells—that help the body fight disease.
- The virus does not prefer certain types of people. Anyone can get HIV if they are exposed to it.

How Does HIV Affect the Body?

- Because the CD4 cells are affected by the HIV virus, the body is unable to fight off diseases as it normally would and the person gets sick.
  - They get infections that people with well-functioning immune systems do not usually get.
  - They also may get the same infections as those with well-functioning immune systems do. But those with HIV will be sicker or get infections more often.
- There is no cure for HIV. Once a person has HIV, they will have it the rest of his or her life, despite treatment received.

How Do We Know How Sick a Person Is with HIV?

- A person's CD4 cells can be counted to determine how sick he or she is. The fewer number of CD4 cells, the sicker the person.

- We can also measure the amount (the load or burden) of virus in a person's blood with a test called a "viral load."
- We can also evaluate what specific infections, called opportunistic infections (OIs), the person has had to assess the overall effects of HIV.

Opportunistic Infections (Slide 1)

- Certain opportunistic infections (OIs), affect people with HIV, depending on how well their immune system is working.
- These are infections that do not usually affect people with well-functioning immune systems.
- The infections range from mild to life threatening.

Opportunistic Infections (Slide 2)

- These infections and other conditions related to HIV (e.g., lymphoma) affect most of the systems of the body:
  - skin
  - respiratory
  - gastrointestinal
  - neurological
  - others

What Is AIDS?

- AIDS is acquired immune deficiency syndrome.
- When HIV has severely damaged a person's immune system so that it can no longer fight infections effectively, the HIV infection has progressed to AIDS.
- AIDS is the progression of HIV to a more advanced stage of disease.

- A person has AIDS when he or she has HIV and it has progressed to a certain point:
  - the point where they have certain opportunistic illnesses ("AIDS-defining illnesses")
  - the point where their CD4 count is < 200 cells/$mm^3$

HIV Compared to AIDS

- Both are caused by infection with the virus called HIV.
- A person has HIV upon infection (also called HIV disease). Despite treatment, once they have HIV, they will always have it.
- A person has AIDS once his or her CD4 count is < 200 cells/$mm^3$ or he or she is diagnosed with an AIDS-defining illness.
- An adult can have AIDS at one point, and then—with ART—recover (CD4 count > 200 cells/$mm^3$, no OIs), feel better, and no longer be considered as having symptomatic AIDS (though they will always have HIV).

How Is HIV Transmitted? (Slide 1)

- To spread HIV, people who have the virus in their blood have to make contact with another person whose bloodstream the virus enters.
- Sexual contact—semen and vaginal secretions:
  - male-to-female, female-to-male, male-to-male, and female-to-female
  - sexual intercourse, oral or anal sex
- Mother to child—blood and breast milk
  - during pregnancy, during birth, after birth through breastfeeding

How Is HIV Transmitted? (Slide 2)

- Exposure to blood and body fluids.

- Blood transfusion, sharing of needles or sharp instruments, needle-stick accidents, splashes that enter open wounds or come in contact with mucous membranes (which are in the eyes and mouth).
- Proper infection control, such as standard precautions and postexposure prophylaxis (PEP), can protect healthcare workers from HIV exposure.

How HIV Is Not Spread

- HIV cannot be transmitted on surfaces or by insect bites, including mosquitoes.
- HIV cannot be transmitted by casual contact such as handshakes, hugging or touching, or sharing dishes or food.
- HIV cannot be transmitted by urine, saliva, or tears unless they contain visible blood.
- Proper use of safer sex, including latex condoms, significantly decreases risk of sexual transmission.

Note: Any type of oral, vaginal, or anal sex carries risk of HIV transmission. The use of condoms or other safer sex methods reduces, but does not eliminate, the risk of HIV transmission.

Factors Affecting Transmission

- Certain factors influence the transmission of HIV:
  - biological factors
  - socioeconomic factors
- Nurses should be aware of these factors when counseling patients on testing or prevention.

Biological Factors

- Factors increasing risk:
  - susceptibility of recipient (women are more susceptible)
  - high viral load of host

  - other STIs
  - multiple exposures
- Factors decreasing risk:
  - correct and consistent use of latex condoms
  - remaining faithful in relationships
  - abstinence
  - ART (may decrease but not eliminate risk)
  - ART to decrease risk of mother-to-child transmission

Socioeconomic Factors (Slide 1)

- Social mobility:
  - People move around more.
  - HIV/AIDS follows routes of commerce (i.e., trucking routes).
- Stigma and denial:
  - Denial and silence are the norm.
  - Stigma prevents people from acknowledging the problem and getting help.

Socioeconomic Factors (Slide 2)

- People in conflict:
  - Context of war and struggle of power spreads the virus.
- Poverty:
  - Increased risk of other co-morbid disease, decreased access to healthcare, increased risk of violence.
- Commercial sex:
  - Engaging in sex for money, drugs, food, or other goods.

Socioeconomic Factors (Slide 3)

- Cultural factors:
  - Traditions, beliefs, and practices affect understanding of health and disease and acceptance of conventional medical treatment.
  - Culture can create barriers that prevent people, especially women, from taking precautions and seeking medical care.
- Gender:
  - In many cultures, men are expected to have many sexual partners.
  - Women may suffer gender inequalities, often economic in nature.

Socioeconomic Factors (Slide 4)

- Mental illness:
  - People with mental illnesses are more likely to be victims of abuse, use street drugs or alcohol to self medicate, or engage in high-risk behaviors.
- Incarceration:
  - Many prisoners are unaware of their status, lack access to healthcare and medications (ART), lack access to condoms, and may be involved in high-risk behaviors while incarcerated.
- Drug use and alcohol consumption:
  - May involve impaired judgment leading to high-risk sexual behavior (unprotected sex with someone whose HIV status is unknown), sharing drug paraphernalia, needles/equipment.

Progression of HIV/AIDS (Slide 1)

- HIV usually follows a predictable course of phases from infection to AIDS.
- How quickly a person progresses varies from person to person and depends on many factors including
  - regular healthcare
  - other infections

- nutrition
- alcohol and drug use
- stress
- depression

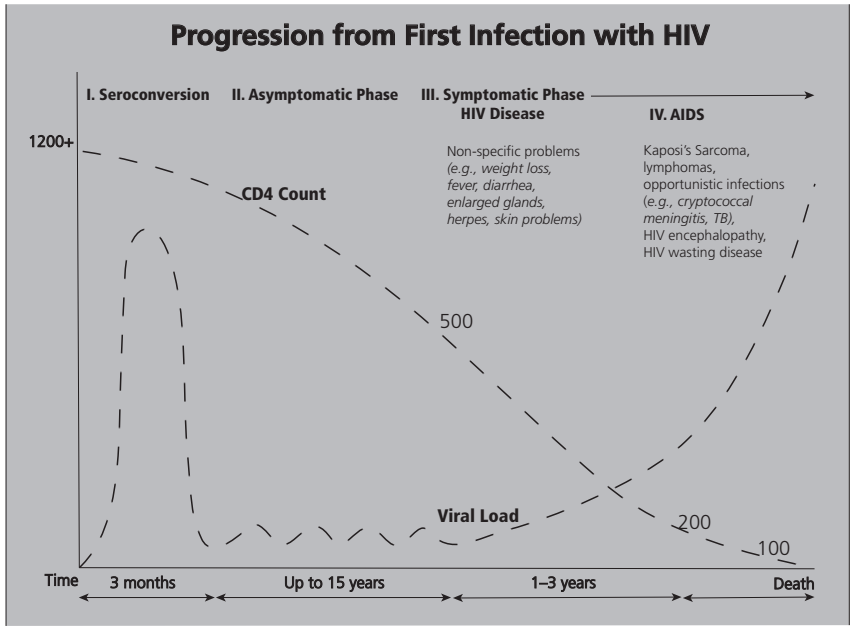
Progression of HIV/AIDS (Slide 2)

- As a person becomes sicker
  - His or her immune system is more damaged (CD4 cell count drops).
  - The amount of virus in his or her blood increases (viral load rises).

Phases of HIV/AIDS (Slide 1)

- The phases of HIV include
  - infection/seroconversion (going from negative to positive) phase
  - asymptomatic phase
  - symptomatic phase
  - AIDS phase

Phases of HIV/AIDS (Slide 2)




Note: This graphic shows that the viral load is initially high when a person is first infected with HIV. Then the viral load drops for a while until the person begins to become ill and it rises. At the same time, the CD4+ count slowly declines.

Infection/Seroconversion Phase (Slide 1)

- At this stage
  - The person is infected with the virus.
  - Some people have flu-like symptoms such as fever, muscle and joint pains, and swollen lymph nodes for 1–2 weeks.
  - Some people do not have any symptoms.
  - Intense viral replication leads to high viral load.
  - People can have HIV, but test negative (the window period).
  - Because of high viral load, people are highly infectious during this stage.

Infection/Seroconversion Phase (Slide 2)

- The window period
  - During the window period, a person has the HIV virus but tests HIV-negative.
  - During the window period, a person can still spread the virus to others even if he or she tests negative.
  - The window period lasts several weeks to three months
  - To be certain of HIV-negative status, an HIV test should be repeated after three months or should be performed three months after the last time a person was potentially exposed to HIV.
  - A person in this phase is not ready to start taking HIV drugs (ARVs).

Note: The window period is a difficult concept for patients to understand. They need to know that if they are infected today, they may not have a positive test until three months later (even though they are indeed infected and can spread the virus to others).

Asymptomatic Phase

- At this stage
  - The infected person has no symptoms.
  - The person will test positive.
  - The immune system (determined by CD4+ cell count) manages to control the virus (but cannot get rid of it).
  - May last up to 10 years.
  - A person in this phase is not ready to begin taking ARVs.

Symptomatic Phase

- At this stage
  - The immune system (CD4+ cell count) falls to very low levels.
  - The viral load rises.
  - The infected person begins to have symptoms such as weight loss, difficulty swallowing, etc.

- May last 1 to 3 years.
- Taking HIV drugs (ARVs) at this phase may slow progression of disease.

AIDS Phase

- At this stage
  - The immune system (CD4+ cell count) has been severely weakened (below 200 cells).
  - The viral load is high.
  - The infected person develops OIs and other HIV-related illnesses
  - Taking ARVs at this phase may slow progression of HIV and improve quality of life.
  - Death is likely without OI treatment and ART.

WHO Staging (Slide 1)

- The WHO staging system is a way to categorize an HIV-positive patient's status by symptoms/conditions (OIs) experienced and level of performance of sctivities of daily life (ADLs).
- The stages have been shown to be related to survival and progression of HIV disease, without the use of ART.
- The patient's WHO stage is commonly used to guide decisions on treatment including co-trimoxazole prophylaxis and ART.

WHO Staging (Slide 2)

- There are different staging systems for adults and children.
- Staging is usually done during the patient's baseline or initial assessment.
- A full clinical assessment and medical history is required for staging.
- If a person has one or more conditions listed within the stage, they are categorized into that stage.

## Overview of WHO Staging

| HIV-Associated Symptoms | WHO Clinical Stage |
|---|---|
| Asymptomatic | 1 |
| Mild | 2 |
| Advanced | 3 |
| Severe | 4 |

## WHO Adult Clinical Stages 1 and 2

| CLINICAL STAGE 1 |
|---|
| Asymptomatic |
| Persistant generalized lymphadenopathy |
| **CLINICAL STAGE 2** |
| Unexplained moderate weight loss (<10% of presumed or measured body weight) |
| Recurrent respiratory tract infections (sinusitis, tonsillitis, otitis media, and pharyngitia) |
| Herpes zoster |
| Angular cheilitis |
| Recurrent oral ulceration |
| Papular pruritic eruptions |
| Seborrhoeic dermatitis |
| Fungal nail infections |

## Adult Clinical Stage 3

| CLINICAL STAGE 3 |
| --- |
| Unexplained severe weight loss (>10% of presumed or measured body weight) |
| Unexplained chronic diarrhea for longer than one month |
| Unexplained persistent fever (above 37.5°C intermittent or constant, for longer than one month) |
| Persistent oral candidiasis |
| Oral hairy leukoplakia |
| Pulmonary tuberculosis |
| Severe bacterial infections (such as pneumonia, empyema, pyomyositis, bone or joint infection, meningitis, or bacteremia) |
| Acute, necrotizing, ulcerative stomatitis, gingivitis or periodontitis |
| Unexplained anemia (<8 g/dl), neutropenia (<0.5 x $10^9$/l), and/or chronic thrombocytopenia (<50 x $10^9$/l) |

WHO Adult Clinical Stage 4

| CLINICAL STAGE 4 |
| --- |
| HIV-wasting syndrome |
| Pneumocystis pneumonia |
| Chronic herpes simplex infection (orolabial, genital, or anorectal) for more than one month or visceral at any site |
| Esophageal candidiasis (or candidiasis of trachea, bronchi, or lungs) |
| Extrapulmonary tuberculosis |
| Kaposi's sarcoma |
| Cytomegalovirus infection (retinitis or infection of other organs) |
| Central nervous system toxoplasmosis |
| HIV encephalopathy |
| Extrapulmonary cryptococcosis (including meningitis) |
| Disseminated nontuberculous mycobacterial infection |
| Progressive multifocal leukoencephalopathy |
| Chronic cryptosporidiosis |
| Disseminated mycosis (extrapulmonary histoplasmosis or coccidiomycosis) |
| Recurrent septicemia (including nontyphoidal Salmonella) |
| Lymphoma (cerebral or B-cell non-Hodgkin) |
| Invasive cervical carcinoma |
| Atypical disseminated leishmaniasis |
| Symptomatic HIV-associated nephropathy or symptomatic HIV-associated cardiomyopathy |

Basic Laboratory Investigations (Slide 1)

- Certain laboratory investigations are used for baseline and follow-up assessment of HIV. They also are used to determine toxicity or the presence of other infections.

Basic Laboratory Investigations (Slide 2)

- Primary health level
  - HIV test
  - hemoglobin
  - pregnancy test
  - AFB sputum/smear microscopy
  - malaria smear
- Secondary health level
  - HIV test
  - FBC and differential
  - ALT, RFT, electrolytes
  - CD4+ cell count
  - pregnancy test
  - malaria smear
  - sputum smear for TB

When to Start ART

- To determine if a patient is ready to start ART, the clinician should take into account the results of the clinical assessment, health history, lab investigations, WHO stage, psychosocial status, and probability of adherence.

What Is TB? (Slide 1)

- Tuberculosis (TB) is an illness caused by a bacteria that usually infects the lungs, but can also infect other parts of the body.
- TB usually spreads from person to person when one person with TB coughs and another person breathes in the bacteria.

- TB can cause a person to become sick and eventually die.
- TB can be treated and cured.
- TB and HIV are closely linked.

What Is TB? (Slide 2)

- TB can be "latent or active."
  - Latent TB occurs when the bacteria is in the body, but the immune system can control it and it does not cause illness.
  - The person with latent TB cannot spread it to others.
  - Latent TB can be diagnosed by a skin test called a PPD in which a healthcare worker injects a small amount of liquid (containing dead TB bacteria to stimulate the immune system) under the skin and the area is monitored for a reaction.

Active TB (Slide 1)

- Active TB occurs when the bacteria is in the body and the person is ill.
- If a person with latent TB contracts HIV, he or she is more likely to develop active TB because the immune system cannot control the latent TB.
- Symptoms of active TB:
  - cough (possibly blood-tinged)
  - chest pain
  - breathlessness
  - fatigue
  - weight loss
  - night sweats
  - fever
  - for extra pulmonary-TB—inflamed lymph nodes (neck and/or abdominal lymph nodes with severe abdominal pain)

Active TB (Slide 2)

- If a person has symptoms of active TB, a test can determine if he or she has TB in the lungs.
- The person coughs up sputum (phlegm); saliva is not adequate.
- Usually three sputum samples—collected in the morning before eating—are needed to confirm the presence of TB.
- A healthcare worker examines the sputum under a microscope to see if it contains the TB bacteria.
- For extra-pulmonary TB, diagnose by abdominal ultrasound and/or aspiration of neck lymph nodes and test aspirated fluid for AFB.

Link between HIV and TB (Slide 1)

- The two diseases are closely linked.
  - People with HIV are more likely to contract TB.
  - TB progresses more rapidly in those with HIV.
  - People with HIV are more likely to die of TB than those without HIV.
  - HIV-positive people can progress more rapidly to AIDS if they have TB.

Link between HIV and TB (Slide 2)

- Many people are co-infected with HIV and TB.
- In some countries, more than half of those with TB are also HIV positive.
- But one cannot assume that a person with TB has HIV.
- Not everyone with HIV gets TB, and not everyone with TB has HIV.

Note: The links between the two diseases are so strong that we need to screen all patients with HIV for TB and vice versa.

Treating HIV and TB (Slide 1)

- In people with both TB and HIV, a doctor must make a decision about whether to treat the TB first (before starting ART), or to treat both the TB and the HIV at the same time.

Treating HIV and TB (Slide 2)

- General protocol: if a patient with HIV does not need ART immediately, treat TB first.
- After intensive TB treatment phase, start ART if the patient is eligible for treatment.

Treating HIV and TB (Slide 3)

- Adherence to TB drugs is very important for treatment to be effective.
- TB drugs are taken for a specific period of time determined by the doctor; it is usually for less than one year.

HIV and TB Drugs Affect Each Other

- If taken together, drugs used to treat HIV (e.g., Nevirapine) and drugs used to treat TB may affect each other and how they work to help the patient.
- Some HIV drugs cannot be used at the same time with some TB drugs. This is especially true of rifampicin.
- Therefore, the doctor will prescribe a special first-line ART drug combination for patients with TB.

Monitoring for Side Effects

- Patients taking both ART and TB drugs should be monitored for side effects including
  - abdominal pain
  - jaundice (yellowing of the eyes and skin)
  - numbness/tingling/pain in the hands and feet

Note: Side effects will be covered in subsequent sessions.





# SESSION 4: STANDARD PRECAUTIONS AND INFECTION CONTROL

## SESSION 4: STANDARD PRECAUTIONS AND INFECTION CONTROL

### PURPOSE

This session introduces standard precautions in both the inpatient and outpatient setting. It includes hand washing, use of personal protective equipment (including gloves), and the handling and disposal of sharps. Postexposure prophylaxis (PEP) treatment and nursing management is also included.

### OBJECTIVES

- Understand the meaning and principles of standard precautions and infection control.
- Describe the proper procedures for hand washing, use of personal protective equipment, injection administration, sharps disposal, and PEP.
- List patient education messages for standard precautions at home.

### CONTENT

What Are Standard Precautions? (Slide 1)

- A set of guidelines to protect healthcare workers from spreading infection, including HIV, from patient to patient or patient to healthcare worker.
- Protect yourself and your patient!
- If exposures do occur, nurses should know and implement the facility's postexposure prophylaxis (PEP) protocol.

What Are Standard Precautions? (Slide 2)

- National guidelines/protocols give specific details for procedures, products, and activities.
- Nurses should be aware of and follow these standard precautions as well as encourage others to follow them.
- These precautions should be used for all patients at all times.

Note: Remind colleagues that the protocols are in place to protect them.

Principles of Infection Control

- All patients should be considered infectious and susceptible to infection.
- Hand washing is easy and very important in infection control.
- Personal protective equipment provides barriers between possible sources of infection and the healthcare worker.
- Safe handling and disposal of sharps.
- Safe disposal of hazardous waste.
- Proper disinfection and sterilization of reusable equipment.

Are All Patients Infectious?

- Yes:
  - All patients are potential sources of infection.
  - One cannot know which infections patients have by looking at them.
- Stigma is also reduced by using standard precautions on all patients.

Note: If we use standard precautions with all patients, there is no stigma that a particular patient is infected, because all patients are treated the same. Also, using standard precautions with all patients provides the most protection for healthcare workers.

Hand Washing

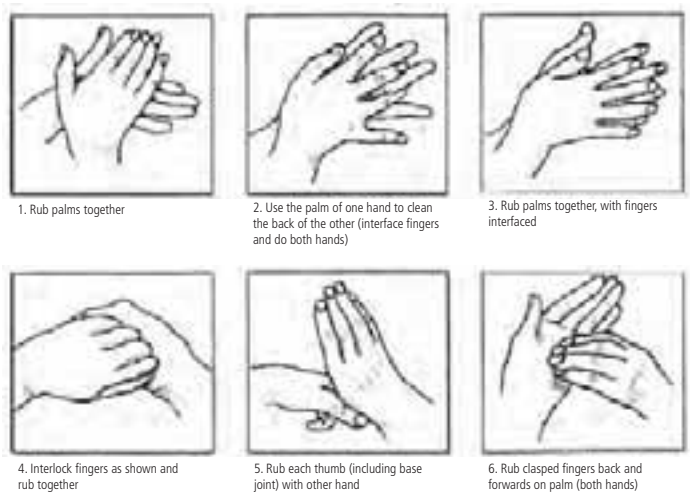
- Hand washing is a very effective way to reduce the spread of infection.
- Hand washing requires soap and water.
- Antiseptic gels or lotions can also be used.
- Recommendation: post a reminder of the importance of and technique for hand washing at the nursing station and/or near the wash basin.

When to Wash Hands

- Before AND after every patient encounter
- Immediately after removing gloves (before touching anything else)

- After finishing one task with a patient (e.g., bleeding the patient) and before doing another (e.g., a rectal exam)

How to Wash Hands (Slide 1)




How to Wash Hands (Slide 2)

- Roll up sleeves and remove any jewelry.
- Keep nails short and clean.
- Wet hands with continuous and free-flowing water. Water can either be from tap or poured over the hands by another person.
- Rub both hands together vigorously with soap and lather well, including in between the fingers for a minimum of 15 seconds.
- Do not splash water on floor or clothing.

How to Wash Hands (Slide 3)

- Rinse both hands under free-flowing water with hands held downward.
- Pat both hands dry on clean paper towel or clean cloth towel.

- If the water is from a faucet, turn off the faucet using the paper towel or cloth towel.
- Dispose of paper towel in medical waste bin or cloth towel in the laundry.

Personal Protective Equipment

- Includes gloves, masks, gowns, caps, and eye wear.
  - Use when splashes are likely to occur.
  - Wash hands before and after putting on gloves, caps, masks, and gowns.
  - Use disposable gowns if available.
  - Clean reusable gowns according to protocols.

Gloves (Slide 1)

- Select gloves to fit healthcare worker's hand.
- Check for punctures or tears before putting gloves on hands.
- Use a new pair of gloves for each patient encounter when in potential contact with blood, bodily fluids, excretions, or non-intact skin may occur (e.g., giving an injection, examining the inside of the mouth).

Gloves (Slide 2)

- Do not wash or reuse disposable gloves.
- Dispose of gloves in the medical waste bin.
- Avoid direct patient contact and contact with contaminated equipment if you have an open wound.
  - Cover all wounds with waterproof dressings.
- Use a new pair of gloves for each new patient and each new task with the same patient.
- Always change gloves when they become soiled.

Injection Administration (Slide 1)

- Notify patient that you plan on giving an injection.
- Use new, single-use, disposable needle and syringe for each injection and to reconstitute every medication unit.
- Inspect syringe and packaging:
  - Discard if package is torn.
  - Discard if needle touches nonsterile areas such as countertop before use.

Injection Administration (Slide 2)

- Use single-dose vials to prepare medications.
- If using multi use vials, clean top of vial with antiseptic, then puncture with new sterile needle. Do not leave needle in vial.

How to Give an Injection (Slide 1)

- Wash hands.
- Avoid giving injections to patients in areas with poor skin integrity (painful, flaky rash).
- Put on new disposable gloves.
- Clean area of skin to be injected.
  - Remove visible dirt with soap and water.
  - Clean skin with antiseptic.
  - Allow area to dry before injection.

How to Give an Injection (Slide 2)

- Locate the sharps container before giving injection.
- Avoid sudden jerky movements.
- Try to anticipate movement of the patient.
- Perform injection.

- Do not recap needle after use.
- Immediately dispose of needle and syringe in sharps container.
- Remove gloves and wash hands.

Sharps Disposal

- Sharps consist of needles and other equipment that can puncture skin.
- Dispose of sharps immediately after use in marked sharps disposable container such as a heavy plastic jug.
  - Do not put used sharps on counter for later disposal.
  - Do not hand sharps to another person for disposal.
  - Do not recap needle/syringe.
- Keep sharps container as close as possible to providers in clinical-use areas.

Other Waste-Handling Procedures

- Put highly infectious nonsharps material in leak-proof biohazard bag.
- Tightly seal all waste-disposal bags when three-fourths full.
- Do not reopen bags.
- Mark all bags as biohazard.
- Follow facility protocol for disposal of bags.

Patient Education on Home Infection Control

- If a patient is being cared for at home, the same principles of infection control apply:
  - Wash hands.
  - Use barrier protection (gloves, plastic bags) for contact with nonintact skin, blood, bodily fluids, or soiled linens.
  - Handle soiled linens as little as possible, then wash in hot water with bleach.

- Dispose of sharps in a labeled heavy plastic jug.
- Use good hygiene in food handling and preparation (see Session 6).

Infection Control Exercise

- Together with a colleague, discuss
  - How well are the principles of standard precautions followed at your facility?
  - Why or why not?
  - How could you change your practice to better follow the standard precautions?

Postexposure Prophylaxis (PEP) (Slide 1)

- National guidelines for risk assessment and treatment should be followed for PEP.
- General guidelines are included in this training.

PEP (Slide 2)

- Timely administration of ART for PEP (within 72 hours of exposure) can significantly reduce the likelihood of transmission of HIV.
- As a part of the healthcare team, nurses should be aware of and use the facility's PEP protocol.
- Protocols should be posted in a highly visible area.

PEP (Slide 3)

- Exposures can occur from occupational (needle sticks, splashes, etc.) or nonoccupational situations (sexual assault, etc.).
- Choice of PEP regimen depends on determination of risk of transmission (either high or low).

Low Risk of Transmission

- Exposure to small volume of blood or fluids contaminated with blood from asymptomatic person with low viral load.

- Following an injury with a solid needle.
- Any superficial injury or mucocutaneous exposure.

High Risk of Transmission

- Exposure to a large volume of blood or potentially infectious fluids
- Exposure to blood/fluids from a source with a high viral load.
- Injury with a hollow needle.
- Deep tissue injury.
- Sexual assault that includes anal/vaginal penetration with ejaculation, presence of STD in source or victim, presence of visible blood, or multiple assailants.

PEP Regimens (Slide 1)

- Low-risk regimen (two drugs):
  - Zidouvine 300 mg bd + Lamivudine 150 mg bd

    **OR**
  - Combivir 1 tab bd
- High-risk regimen (three drugs):
  - Zidouvine 300 mg bd + Lamivudine 150 mg bd + Efavirenz 600 mg bd (not if pregnant)

    **OR**
  - (alternatives to Efavirenz) Nelfinavir 1250 mg bd or Lopinavir/ritonavir 133.3/33.3 mg 3 capsules bd

PEP Regimens (Slide 2)

- PEP should be started within 72 hours of exposure and be continued for 28 days.
- Exposed person may experience side effects (nausea, vomiting, diarrhea, headache, fatigue, disturbing dreams).
- Some side effects can be minimized with nursing support.

- Other symptoms (fever, lymphadenopathy, rash, sore throat, or flu-like symptoms) may indicate seroconversion.
- Lab investigations including HIV test, pregnancy test, FBC, ALT, Cr, should be conducted at baseline and at follow up according to national protocol.

PEP: Nursing Management (Slide 1)

- Immediately wash wound with soap and water and/or flush mucous membranes with water.
- Assess
  - type of fluid
  - type of exposure
  - status of source (if available)
  - prior HIV status of exposed person
  - pregnancy/breastfeeding status of exposed person

PEP: Nursing Management (Slide 2)

- Interventions:
  - Initiate PEP according to risk assessment and standing orders.
  - Counsel exposed person on need for PEP, drugs used, side effects, side-effect management, followup, safer sex practices, contraception, breastfeeding.
  - Assist with lab investigations.
  - Provide psychosocial support and referrals for counseling as needed.
  - Refer to post-assault counseling if needed.

Note: It is likely that the patient is in distress and that this is a difficult time for the patient. Information may need to be repeated or given in writing for the patient/family to absorb later (if they are literate). Assessing how well a patient understands what you are saying is important. Involving a family member or friend (if the patient desires) may be helpful.





# SESSION 5: COMMON CONDITIONS EXPERIENCED BY PLHA

## SESSION 5: COMMON CONDITIONS EXPERIENCED BY PLHA

### PURPOSE

This session focuses on the appropriate nursing care of adults with common conditions related to HIV/AIDS. The goal of this session is to educate participants on the most common OIs/conditions related to HIV and the appropriate nursing assessment/ interventions for each.

### OBJECTIVES

- Define common conditions related to HIV disease and opportunistic infections (OIs).
- Identify the major elements and nursing considerations (assessment and interventions) at both the primary and secondary care settings for each.
- Discuss the importance of proper pain management and become familiar with assessment and interventions for pain and other distressing symptoms.
- Discuss issues related to palliative care.

### CONTENT

Goals of Nursing Care

- The goals of nursing care are to work with PLHA and their families to optimally
  - treat infections
  - manage symptoms and complications
  - provide supportive care
  - optimize quality of life

Nursing Care of Patients with HIV (Slide 1)

- As HIV disease progresses and the immune system becomes increasingly weakened, the incidence of morbidity and mortality from complications of HIV/AIDS increases. These complications are primarily a result of opportunistic infections and malignancies.

- Nursing care of patients with HIV involves
  - symptom assessment and interventions
  - patient education
  - crisis intervention
  - antiretroviral treatment and adherence monitoring
  - palliative and end-of-life care
  - grief work

Nursing Care of Patients with HIV (Slide 2)

- Assessment and management of symptoms associated with OIs are essential responsibilities for nurses working at all levels of care.
- Management includes treatment if available and palliation of distressing symptoms.
- Treatment may be provided at the primary level or be elevated to a higher-level facility by referral if needed.
- Some conditions will require hospitalization.
- It is necessary to provide sound patient education about the condition and home management.

Common Conditions (Slide 1)

- Common OIs and related conditions that are experienced by PLHA include the following systems
  - dermatological (skin)
  - pulmonary
  - gastrointestinal
  - oral
  - neurological

- OIs are caused by organisms (such as bacteria, viruses, fungi, or protozoa) that would not cause a disease in a person with a well-functioning immune system.

Opportunistic Infections (Slide 1)

- Many people first learn they have HIV or AIDS after being diagnosed with an OI.
- A person living with HIV or AIDS (PLHA) is susceptible to OIs, malignancies, and other conditions as a result of
  - suppression of the immune system, particularly when the CD4 cell count drops below 200/$mm^3$ of blood
  - diminished nutritional status
  - psychological stress

Opportunistic Infections (Slide 2)

- OIs associated with HIV disease are responsible for the largest number of hospitalizations of patients with HIV/AIDS.
- As CD4 count decreases, the likelihood of OIs increases.
- Treatment for OIs depends on type and intensity of infection and symptoms

Note: Certain opportunistic infections are more likely to occur at different levels of CD4+ cell count.

Opportunistic Infections (Slide 3)

- Etiological agents of OIs:
  - bacteria
  - fungi
  - viruses
  - parasites

Note: These are the types of microbes that cause common OIs.

OIs: CD4 count = 200–500 cells

| | |
|---|---|
| Pneumococcal pneumonia | Bacterial |
| Pulmonary tuberculosis | Bacterial |
| Kaposi's Sarcoma | Viral |
| Herpes Zoster | Viral |
| Thrush (oral candidiasis) | Fungal |
| Cryptosporidium | Parasitic |
| Oral hairy leukoplakia | Viral |
| Oral-pharyngeal candida | Fungal |

OIs: CD4 count < 200 cells (Slide 1)

| | |
|---|---|
| Pneumocystis carinii pneumonia (also called pneumocystis jiroveci) | Fungal |
| Candida esophagitis | Fungal |
| Recurrent/disseminated viral herpes simplex | Viral |
| Toxoplasmosis | Parasitic |
| Histoplasmosis | Fungal |

OIs: CD4 count < 200 cells (Slide 2)

| | |
|---|---|
| Coccidioidomycosis | Fungal |
| Progressive multifocal leukoencephalopathy | Viral |
| Microsporidiosis | Parasitic |
| Extrapulmonary tuberculosis | Bacterial |
| Cryptococcus (pneumonia, meningitis) | Fungal |

OIs: CD4<50 cells

| | |
|---|---|
| Cytomegalovirus | Viral |
| Mycobacterium avium complex | Bacterial |

Triage (Slide 1)

- A triage nurse should assess the patient as soon as possible after the patient arrives at the facility.
- Nurses should be aware of symptoms that require immediate evaluation by a clinical officer, physician/medical officer, or referral to the next level of care.

Symptoms for Immediate Referral to Next Level of Care

- labored breathing/shortness of breath
- chest pain
- moderate to severe abdominal pain
- persistent vomiting (> 3 days)
- persistent bloody diarrhea (> 3 days)
- moderate to severe dehydration
- severe headache with neck stiffness
- seizures
- profound weakness (patient unable to stand/walk)
- suicidal thoughts/severe depression

Triage (Slide 2)

- Triage components include
  - type of appointment (scheduled, walk-in, drug refill, etc.)
  - vital signs (including height and weight)
  - mobility
  - general condition (weight loss, fatigue, weakness, etc.)
  - presenting problem
  - management (refer to clinical officer, medical officer, adherence counseling, etc.)

Co-trimoxazole (CTX) Prophylaxis

- Co-trimoxazole (CTX), also called Septrim, can be used to prevent PCP pneumonia, malaria, and other infections (e.g., toxoplasmosis) in those with HIV (primary prophylaxis) or used to prevent a reoccurrence of PCP (secondary prophylaxis).
- Indications for prophylaxis vary by country but are generally recommended by WHO when a patient reaches WHO stage 2, 3, or 4 or CD4 count < 350 cells/$mm^3$ for adults including pregnant women.
- Dose = 1 double-strength or 2 single-strength tablets once per day (weight-based).

Monitoring CTX Prophylaxis (Slide 1)

| TOXICITY | CLINICAL DESCRIPTION | RECOMMENDATION |
|---|---|---|
| GRADE 1 | Erythemia | Continue co-trimoxazole prophylaxis with careful and repeated observation and follow up. Provide symptomatic treatment, such as antihistamines, if available |
| GRADE 2 | Diffuse maculopapular rash, dry desquamation | Continue co-trimoxazole prophylaxis with careful and repeated observation and follow up. Provide symptomatic treatment, such as antihistamines, if available |
| GRADE 3 | Vesiculation, mucosal ulceration | Co-trimoxazole should be discontinued until the adverse effect has completely resolved (usually two weeks), and then reintroduction or desensitization can be considered |
| GRADE 4 | Exfoliative dermatitis, Stevens-Johnson syndrome or erythema multiforme, moist desquamation | Co-trimoxazole should be permanently discontinued |

(WHO, 2006)

Monitoring CTX Prophylaxis (Slide 2)

- Patients should be taught to report any signs of hypersensitivity, such as rash, immediately to healthcare provider.
- CTX can be stopped or continued according to WHO guidelines (on previous slide).
- Desensitization has been shown to be successful and rarely causes serious reaction.
  - Protocols are included in national guidelines.

Nursing Management of Common Conditions

- Information on common conditions follow, including definition of condition and management.
- Management levels included in this training are as follows
  - primary = primary health center or outpatient department (OPD) at secondary level
  - secondary level = inpatient department (IPD)

Cough/Shortness of Breath (Slide 1)

- Cough and shortness of breath are among the most common complaints among PLHA who have a respiratory infection.
- Multiple pathogens cause OIs of the respiratory system:
  - bacterial pneumonia, which can appear early in disease progression, when CD4 count > 500
  - TB, which is a very common co-infection with HIV
  - PCP (pneumocystis carinii pneumonia), which is a fungal infection
- Possible pharmacologic management includes antibiotics, antifungals, steroids, antitussives, or expectorants.

Cough/Shortness of Breath (Slide 2)

- With advanced AIDS, more than one pathogen is possible.
- Anxiety can also be a contributing factor.

- When assessing shortness of breath, a differential diagnosis with anemia must be made.
- Additional risk factors for pulmonary OIs:
  - smoking
  - street drugs

Cough/Shortness of Breath: Assessment at the Primary Level (Slide 1)

- Assess and record:
  - breath sounds (crackles or rales, wheezing, reduced breath sounds?)
  - number and quality of respirations (deep, shallow, labored?)
  - quality of shortness of breath (on exertion or while at rest?)
  - sputum quality (green-brown, thin-clear, blood-tinged?)
  - anxiety level
  - ability to perform activities of daily living (ADL)

Cough/Shortness of Breath: Assessment at the Primary Level (Slide 2)

- Patients should be referred to the secondary level if experiencing acute shortness of breath or any of the following symptoms in addition to cough/shortness of breath
  - elevated heart rate
  - fever > 39°C
  - low blood pressure
  - chest pain
  - cool/clammy skin
  - cyanosis
  - dry mucous membranes
  - poor skin turgor
  - mental status changes

- decreased urine output
- lower extremity swelling

Cough/Shortness of Breath: Interventions at the Primary Level

- Administer medications according to standing orders and assist patient to fill prescription.
- Counsel patient to return if not feeling better in 48 hours.
- Patient education: stop smoking, drink clean water or other fluids, drink warm beverages, or suck on candies to help calm cough.

Cough/Shortness of Breath: Assessment at the Secondary Level (Slide 1)

- Severe shortness of breath requires inpatient management.
- Respiratory status assessed at least every four hours and more frequently if needed.
- Breath sounds: Are crackles, rales or reduced breath sounds present?
- Cough (dry, wet) and sputum quality (green-brown, thin-clear, blood-tinged).
- Monitor pulse oximetry ($SpO_2$).

Cough/Shortness of Breath: Assessment at the Secondary Level (Slide 2)

- Obtain arterial blood gas measurements to monitor gas exchange, as ordered.
- Count and record numbers of respirations and their quality (deep, shallow, etc.).
- Assess patient's anxiety status.

Cough/Shortness of Breath: Interventions at the Secondary Level (Slide 1)

- Maintain a clear airway: suction lung secretions if appropriate.
- Administer therapies
  - supplemental $O_2$
  - chest PT
  - provision of fluids, especially clean water, to liquefy lung secretions

- elevation of patient to Fowler's (45-degree angle) or high Fowler's (90-degree angle) position

Cough/Shortness of Breath: Interventions at the Secondary Level (Slide 2)

- Administer therapies (continued)
  - Administer medications to treat infection, as ordered; monitor and record patient's response to the medications.
  - Administer medications to relieve shortness of breath and cough (antitussives and expectorants).
  - Assist patient with coughing using abdominal splinting and deep breathing exercises; chest physiotherapy.
  - Keep the air moving in patient's room with an oscillating fan or open window.

Cough/Shortness of Breath: Interventions at the Secondary Level (Slide 3)

- Administer therapies (continued)
  - Administer humidifying treatments (fill bowl or pot with very hot water; add eucalyptus or mint leaves if possible; cover patient's head with a towel and instruct him/her to breathe in vapors deeply for 10 minutes; repeat as ordered).
  - Assist patient with repositioning in bed to move lung secretions, and with ambulation as appropriate.
  - Provide psychological support: shortness of breath can be frightening.

Fever (Slide 1)

- Definition: 38.3° C or higher on several occasions, persistent fever for three weeks (as outpatient), or three days (as inpatient).
- HIV itself can cause fever, although usually during acute retroviral syndrome and less as the disease progresses.

Fever (Slide 2)

- Fever may be related to many pulmonary or other types of infections.
  - Fever in patients with CD4 counts > 200: the most likely causes are bacterial and viral respiratory infections.
  - Fever in patients with CD4 counts < 200: the most likely causes are nonpulmonary infections (such as cryptococcal meningitis, toxoplasmosis, mycobacterium avium complex, or cytomegalovirus).

Fever: Assessment at the Primary Level (Slide 1)

- Assess hydration status (skin turgor, mucous membranes, tissue perfusion, mental status).
- Obtain recent travel history: certain OIs are found in specific regions (for example, TB).
- Check on recent exposure to sick family members or friends.
- Review new medications (for example, some people develop fever when they start CTX (Septrim).
- Rule out malaria.

Fever: Assessment at the Primary Level (Slide 2)

- Patients should be referred to the secondary level if experiencing any of the following symptoms:
  - shortness of breath
  - new, persistent fever > 24 hours despite treatment (paracetamol, aspirin)
  - rapid pulse
  - changes in mental status
  - inability to tolerate liquids by mouth
  - decreased urine output

Fever: Interventions at the Primary Level

- Counsel patient to
  - drink clean water/other fluids
  - take paracetamol or aspirin
  - return in 24 hours if no improvement for possible referral to secondary level

Fever: Assessment at the Secondary Level

- At least every 4 hours assess
  - temperature
  - hydration status/ability to tolerate fluids
  - mental status
  - respiratory status
  - blood pressure
  - associated symptoms such as neck stiffness, seizures, etc.

Fever: Interventions at the Secondary Level (Slide 1)

- Maintain hydration:
  - Provide PO fluids if patient is alert and able to swallow.
  - Provide IV fluids if patient is lethargic or unconscious, as ordered.
- Administer medications to reduce fever (paracetamol, aspirin) as ordered.

Fever: Interventions at the Secondary Level (Slide 2)

- Encourage PO intake as fever increases metabolism.
- Administer cooling measures:
  - Bathe patient with lukewarm sponge.
  - Keep cool/tepid cloths on forehead, axillae, and inguinal areas.
  - Provide oscillating fan or open room window.
  - Change hospital gown and sheets when they are saturated with perspiration.

Chronic Diarrhea (Slide 1)

- With infections of the gastrointestinal system, many nutritional and fluid alterations can occur.
- Chronic diarrhea is a very common and frustrating problem for PLHA: at least 50 percent experience it during the course of the disease.
- Chronic diarrhea is often accompanied by nausea, weight loss, abdominal cramping, and fluid and electrolyte loss, resulting in dehydration.

Chronic Diarrhea (Slide 2)

- Patients with chronic diarrhea are hospitalized in the following life-threatening circumstances:
  - They have experienced large fluid and electrolyte losses, which may be accompanied by fever, abdominal pain, mental status changes, and cardiovascular instability.
  - They are unable to tolerate food or fluid.
- Chronic diarrhea is most often intermittent watery diarrhea (without blood or mucus).

Chronic Diarrhea (Slide 3)

- In one-third to two-thirds of cases, the cause of the diarrhea is not diagnosed. Possible causes or contributing factors include
  - infections (bacterial, viral, fungal, protozoal, e.g., salmonella, shigella, campylobacter, cryptosporidium, or giardia)
  - malignancies of the GI tract
  - medications
  - vitamin deficiencies
  - lactose intolerance
- Chronic diarrhea may be caused by HIV itself.
- Symptomatic care is provided whether the cause of chronic diarrhea is diagnosed.

Chronic Diarrhea: Assessment at the Primary Level (Slide 1)

- Assess and record:
  - onset, duration, and pattern of diarrhea
  - hydration status (skin turgor, urine output)
  - recent medication use
  - ability to tolerate oral intake
  - associated symptoms (abdominal discomfort, nausea)
  - other new symptoms

Chronic Diarrhea: Assessment at the Primary Level (Slide 2)

- Symptoms for referral to the secondary level:
  - diarrhea > 2 loose watery stools/day for > 2 weeks
  - mucoid stools
  - weight loss > 5 percent of body weight
  - symptoms of dehydration
  - bloody stools
  - dark rust-colored streaks or clots in loose stools

Chronic Diarrhea: Interventions at the Primary Level (Slide 1)

- Give ORS in facility if needed:
  - 1 liter of clean water + 8 level teaspoons of sugar + one teaspoon of salt, mix well; add potassium according to standing orders.
- Provide patient education:
  - Stay hydrated—drink boiled water or weak tea.
  - Eat small meals of bland foods.

- Eat foods high in protein and calories, including foods with soluble fiber:
  - peeled apples, applesauce, apricots, pears, grapes, melons, bananas
  - oatmeal, oat bran, white rice, porridge

Chronic Diarrhea: Interventions at the Primary Level (Slide 2)

- Avoid foods and fluids that increase GI motility:
  - fats
  - coffee, tea, soda (caffeine)
  - spicy foods (such as peppers)
  - acidic fruits and vegetables (such as tomato, citrus fruits)
  - beans, cauliflower, onions
- Maintain good hygiene.
- Refer to food support if needed.
- More interventions for diarrhea are included in Session 12.

Chronic Diarrhea: Assessment at the Secondary Level (Slide 1)

- For hospitalized patients
  - Weigh the patient daily.
  - Monitor hydration status, initially every 8 hours if patient is being rehydrated:
    - skin turgor
    - mucous membranes
    - tissue perfusion
    - mental status

Chronic Diarrhea: Assessment at the Secondary Level (Slide 2)

- Monitor for symptoms of electrolyte imbalances:
  - lethargy, weakness
  - muscle cramping
  - mental confusion
  - irregular heart rhythm
- Monitor stool output and record in patient's chart, including characteristics (e.g., frothy or excessive amount of fat; watery with green and brown flecks).

Chronic Diarrhea: Assessment at the Secondary Level (Slide 3)

- Obtain stool samples.
- Carefully monitor electrolyte levels.
- Monitor skin integrity.

Chronic Diarrhea: Interventions for the Secondary Level (Slide 1)

- Replace fluids as ordered:
  - PO fluids
  - IV (monitor electrolyte levels pre- and post-fluids)
  - ORS
- Monitor intake and output.
- Administer antibiotics if the causal organism has been identified and medications to decrease GI motility (e.g., loperamide, lomotil), as ordered.

Chronic Diarrhea: Interventions for the Secondary Level (Slide 2)

- Provide foods high in protein and calories, including foods with soluble fiber.
- Avoid foods and fluids that increase GI motility.
- Perform good skin care; administer ointments as needed following thorough cleaning.

- Teach patient
  - good hygiene
  - skin care
  - nutrition

General Introduction to Oral Conditions

- HIV-infected patients experience many different conditions involving the mouth and throat.
- These conditions may interference with eating and cause increased weight loss.
- The major signs of these conditions are
  - complaints of burning in the mouth, especially when eating salty or spicy foods or drinking acidic beverages
  - altered taste in mouth
  - decreased appetite
  - difficulty swallowing (dysphagia)—sign of esophageal candidiasis
  - discomfort or pain with swallowing (odynophagia)—sign of esophageal candidiasis, mouth ulcers
  - swelling/pain in gums
  - tooth decay/loss

Oral Candidiasis (Slide 1)

- Oral candidiasis is frequently the first indication of decreased immune status among HIV-infected patients.
- Candidiasis is a fungus.
  - It is prevalent among HIV-infected patients: at least one-third experience it during the course of the disease.
  - It tends to affect the mouth when CD4 cell count is 300 or below.

- It is more common and occurs in the throat (esophageal candidiasis) when the CD4 count is 200 or below.
- Candidiasis that progresses to the esophagus (and rarely, bronchi, trachea, and lungs) is an AIDS-defining condition.

Oral Candidiasis (Slide 2)

- Oral candidiasis occurs in two forms:
  - pseudomembranous (also called thrush)
    - whitish to creamy colored curd-like patches, about 1.2 mm, surrounded by a red (erythematous) base
    - mostly on the tongue and buccal mucosa
    - the patches can be wiped off, leaving redness or even bleeding
  - erythematous (less frequent)
    - flat red patches on the hard or soft palate, buccal mucosa, or dorsal surface of the tongue
  - Angular cheilitis (a related condition caused by candidiasis)
    - cracks, fissures, and redness at the corner of the mouth

Oral Candidiasis: Assessment at the Primary Level

- Inspect mouth when patient complains of burning when eating and drinking or difficulty swallowing.
- Assess nutritional status:
  - weight loss
  - hydration status
- Patients should be referred to secondary level if they are dehydrated or cannot swallow or eat.

Oral Candidiasis: Interventions at the Primary Level (Slide 1)

- Administer medications according to standing orders and assist patient to obtain prescription (nystatin, fluconazole, or ketoconazole).
- Encourage good mouth care:
  - brush teeth and gums
  - if brushing is not possible because of pain and bleeding, rinse mouth with warm water
- Encourage patient to eat soft foods that can be chewed and swallowed easily:
  - rice, porridge, bananas, yogurt, soups
  - soft cooked vegetables: squash, carrots, potatoes

Oral Candidiasis: Interventions at the Primary Level (Slide 2)

- Teach patients
  - not to scrape off white patches in the mouth
  - to avoid acidic or spicy foods (e.g., oranges, lemons, tomatoes)
  - to avoid very hot or very cold foods and beverages
  - to cut back on sweet foods (e.g., sugar), which may worsen symptoms
  - to use a straw for drinking fluids
- For a dry or sore throat:
  - gargle solution of salt and clean warm water 3–4 times a day
  - drink teas, such as licorice or mint tea
  - suck on ice cubes

Oral Candidiasis: Interventions at the Secondary Level (Slide 1)

- Follow same assessment and interventions as at primary level
  **AND**
- Administer drugs, as ordered:
  - Nystatin liquid (swish and gargle 5 times a day)
  - Clotrimazole oral troche (suck one 5 times a day)
  - Fluconazole or Ketoconazole
  - For angular cheilitis: apply topical antifungal cream (such as clotrimazole cream)
  - Amphotericin B (IV for esophageal candidiasis that does not respond to fluconazole or ketoconazole; provide IV hydration pre- and post-infusion to protect renal function)

Oral Candidiasis: Interventions at the Secondary Level (Slide 2)

- Maintenance drug therapy (fluconazole or ketoconazole):
  - after a patient has been treated for esophageal candidiasis
  - to avoid recurrence of the candida infection (84 percent of HIV-infected patients will have a recurrence of esophageal candidiasis without maintenance drug therapy)
  - encourage proper medication adherence to prevent fungal resistance

Skin (Integumentary System) (Slide 1)

- There are many conditions that affect the skin, hair, mucous membranes, and nails of HIV-infected patients.
  - Opportunistic Infections
    - bacterial
    - fungal
    - viral
    - prurigo

    - infestations (scabies)
    - Kaposi's sarcoma
  - medication reactions: rashes
  - signs of immune dysfunction
- Additional information on skin conditions can be found in Session 12.

Skin (Integumentary System) (Slide 2)
- The following conditions will be included in this session:
  - Kaposi's sarcoma (KS)
  - herpes zoster
  - prurigo
  - skin rash related to medication use

Kaposi's Sarcoma (Slide 1)
- pink/red/purple/brown patchy, painless swellings or nodules; no itching, no ring pattern
- usually affects the skin first, but can affect almost any organ in the body; found in the mouth and internal visceral organs as lungs, GI tract, spleen, and liver
- one of the most common neoplasms to develop in HIV-infected patients
- can occur at any stage of the disease
- an AIDS-defining condition
- progressive

Kaposi's Sarcoma (Slide 2)
- cause uncertain, but thought to be the human herpes virus 8 (HHV8)
- treatment: chemotherapy and/or radiation
- with suppression of HIV by ART, spontaneous resolution of KS occurs—but may take time (months to a year)

- key implications:
  - skin KS: disfiguring; affects the patient's body image
  - internal KS: blockage of organ functioning
  - oral KS: can interfere with hydration/nutritional status

Kaposi's Sarcoma: Assessment/Interventions at the Secondary Level
Kaposi's sarcoma will be managed at the secondary level.

- Assessment:
  - Monitor for skin changes and document in the patient's medical record.
  - If patient is receiving chemotherapy or radiation for KS, monitor response to the therapy.
- Interventions:
  - If patient is receiving chemotherapy or radiation, manage side effects of these therapies.
  - Provide emotional support.

Herpes Zoster (Slide 1)

- Painful cluster of lesions (vesicles) on an erythematous patch of skin in a localized neurodermatomal distribution (the lesions are usually in a limited area, but can be spread by direct contact)
- Cause: varicella zoster virus
- Patient susceptibility:
  - anyone who has had chicken pox (the virus lies dormant after primary infection)
  - the acute localized reactivation of the virus occurs when a person becomes immunocompromised
  - healthcare workers who are pregnant (they must not care for patients with herpes zoster)

Herpes Zoster: Assessment/Interventions at the Secondary Level (Slide 1)
Herpes Zoster will be managed at the secondary level.

- Assessment:
  - Assess location, extent, and drainage of the active lesions.
  - Assess patient for pain at the site of the lesions.
- Interventions:
  - Prevent transmission of the virus by avoiding direct contact with the active lesions: use skin and wound precautions (wear gloves and practice strict handwashing).

Herpes Zoster: Assessment/Interventions at the Secondary Level (Slide 2)

- Interventions, continued:
  - Administer pain medication around the clock, as ordered.
  - Administer antivirals as ordered (famciclovir, valacyclovir, acyclovir, forscarnet).
  - Keep lesions open to air.
  - Counsel patient to rest (this is a systemic viral illness) and not to touch lesions.

Prurigo

- a generalized red skin rash and/or inflamed mucous membranes that is characterized by pruritis (itchiness)
- cause: eosinophilic folliculitis
- very common among HIV-infected patients and chronic when CD4 <200.

Prurigo: Assessment/Interventions at the Primary Level

- Assessment:
  - assess location, onset, duration
- Interventions:
  - Provide symptomatic treatment.

    - › Administer medications according to standing orders (topical corticosteroids or oral antihistamines).
  - Teach patients the following:
    - › Avoid trauma to the skin: avoid scratching/scrubbing.
    - › Avoid scented soaps and hot baths or showers.

Skin Rash Related to Medications

- Several medications used in the treatment of OIs, as well as ARVs, can cause a skin rash. Examples are co-trimoxazole (Septrim) and nevirapine.
- Most medication-related rashes are mild and resolve in a couple of weeks.
- A skin rash can also be a sign of a hypersensitivity reaction:
  - progression of rash
  - other symptoms: fever and flu-like symptoms (aches, pain, fatigue, shortness of breath, headache)
  - a hypersensitivity reaction requires immediate medical assessment and referral

Skin Rash Related to Medications: Assessment/Interventions at the Primary or Secondary Level

- Assessment:
  - Document location, extent, and characteristics (e.g., redness, shape, pattern) in the patient's medical record.
  - Monitor for and document changes in rash.
- Interventions for a mild rash:
  - Use mild, unscented cleansers or oatmeal soaps.
  - Avoid hot showers or baths, which can irritate the skin.
  - Protect the skin from sun exposure.
  - Apply unscented moisturizers.
  - Keep the patient well hydrated.

- Interventions for intensifying rash:
  - Refer to secondary level for management.

Nutrition and HIV (Slide 1)

- Good nutrition is essential for achieving and preserving health.
- A well-balanced diet is essential to restoring the loss of energy and nutrients caused by HIV infection.
- Poor nutrition weakens the immune system.

Nutrition and HIV (Slide 2)

- HIV causes an infection that uses up body cells and nutrients needed to keep cells healthy.
- HIV causes a disturbance in the body's metabolism that interferes with the effective use of nutrients, resulting in the loss of lean body mass.
- OIs can cause such symptoms as fever, nausea/vomiting, diarrhea, anorexia, and difficulty swallowing, which affect food intake, digestion, and absorption.
- Some medications used to treat OIs, as well as some ARVs, have adverse effects such as nausea/vomiting, diarrhea, and altered taste.
- Session 6 discusses nutrition and HIV in depth.

Nutritional Consequences of HIV (Slide 1)

- HIV infection may lead to decreased food intake as a result of
  - loss of appetite
  - pain when eating
  - mechanical difficulties (chewing, swallowing, digesting, delayed emptying of the stomach)
- HIV infection may cause malabsorption of nutrients and micronutrients as a result of small intestine alterations or protozoal infections such as giardia or microsporidias.

- HIV infection creates a defect in the mucosal barrier that reduces absorption of essential nutrients (result: increased volume of stool).
- HIV infection creates increased need for all nutrients due to malabsorption and increased metabolic activity associated with infection.

Nutritional Consequences of HIV (Slide 2)

- HIV infection may lead to large-bowel disease, a general inflammatory disorder caused by viral, bacterial, or parasitic infections, or by a neoplasm.
- HIV infection may lead to increased rate of body metabolism, even in asymptomatic infections but more so in symptomatic infections, and contribute to depletion of nutrients and micronutrients.
- HIV infection may, over time, lead to decreased intake of calories, protein, and essential nutrients; malabsorption of nutrients results in malnutrition.

Malnutrition

- Malnutrition weakens the immune system and decreases the body's ability to fight HIV and other infections, resulting in increased vulnerability to infections and increasing the severity of HIV disease.
- Malnutrition leads to loss of lean body mass, fat, and skeletal muscle due to a deficiency or malabsorption of protein and total calories.
- Malnutrition contributes to HIV disease progression and is a consequence of HIV disease.

Wasting (Slide 1)

- Definition: Wasting is involuntary weight loss of greater than 10 percent from baseline (if baseline is a normal body mass index [BMI] in adults and adolescents and weight for height in children).
- It is caused by insufficient nutritional intake or a disturbance in metabolism that interferes with the effective use of nutrients, resulting in the loss of lean body mass.

Wasting (Slide 2)

- Wasting is one of the most devastating aspects of AIDS: the person grows weaker and is no longer able to perform activities of daily living. It can lead to depression as well as perceived loss of independence and social identity.
- Risk factors will be discussed in Session 6.

Wasting: Assessment at the Primary or Secondary Level

- Monitor weight (daily if hospitalized).
- Monitor body mass index (BMI) to determine if the patient's weight is appropriate for the height.
- To determine BMI, divide the patient's weight in kg by the square of the patient's height in m ($kg/m^2$)
- A BMI of less than 18.5 is indicative of wasting.
- Monitor patients' response to treatment of OIs and manage symptoms related to OIs.

Wasting: Interventions at the Primary or Secondary Level (Slide 1)

- Promote a well-balanced diet that includes sufficient calories, protein, carbohydrates, fat, other essential nutrients, fiber (roughage) and water.
- Teach good hygiene and safe food-handling and preparation procedures.
- More information on diet and hygiene will be presented in Session 7.

Wasting: Interventions at the Primary or Secondary Level (Slide 2)

- Manage the symptoms that interfere with food intake (e.g., fever, loss of appetite, altered taste, sore mouth and throat, nausea and vomiting, diarrhea, and fatigue).
- For small intestinal diseases and malabsorption, have patient eat small, frequent meals that are low in fat, lactose, and fiber, and high in calories and avoid caffeine

Fatigue

- Fatigue is one of the major symptoms experienced by most people who are infected with HIV.
- There are multiple possible causes of this symptom: physical, emotional, psychological.
- There are frequently several coexisting causes.

Fatigue: Assessment at the Primary or Secondary Levels (Slide 1)

- Try to determine the physical causes:
  - decreased nutritional status
  - anemia
  - HIV infection
  - OI
  - pain
  - difficulty sleeping
  - medication

Fatigue: Assessment at the Primary or Secondary Levels (Slide 2)

- Try to determine other possible causes, e.g., emotional or psychological:
  - worry
  - depression
  - anxiety
  - difficulty concentrating

Fatigue: Interventions at the Primary or Secondary Levels

- Teach patients the following:
  - Avoid caffeine/nicotine 4 to 6 hours before bed.
  - Go to sleep and wake up at the same time everyday.

  - Eat healthy meals.
  - Have a light snack, chamomile tea, or warm milk before bedtime.
- Regularly perform moderate exercise.
- Control other symptoms that can cause fatigue (e.g., diarrhea).
- Create a restful environment.
- Teach relaxation techniques.
- More interventions for fatigue are included in Session 12.

Anemia

- Anemia may be caused by HIV or as a side effect of certain medications (for example, co-trimoxazole (Septrim), clarithromycin, ganciclovir, or zidovudine).

Anemia: Assessment at the Primary or Secondary Levels

- lethargy
- pallor
- difficulty walking
- decreased concentration
- ability to perform activities of daily living
- shortness of breath
- conduct hemoglobin (Hbg) test

Anemia: Intervention at the Primary or Secondary Levels

- At the primary level:
  - Refer to secondary level if Hbg < 8g/dl.
  - Encourage patient to rest, minimize activity.
  - Teach patient to

- › schedule a medical visit if increased fatigue occurs after hospital stay (for hemoglobin check)
- › eat foods that are high in folic acid (e.g., green, leafy vegetables such as spinach), and iron and vitamin B12 (e.g., fish, meat, poultry).

- At the secondary level:
  - Monitor oxygenation.
  - Administer blood transfusion, IV fluids, as ordered.
  - Monitor safety.

Nausea/Vomiting

- OIs, medications, and digestion issues commonly cause nausea/vomiting in PLHA.
- Persistent vomiting can lead to dehydration and chemical imbalances.

Nausea/Vomiting: Assessment at the Primary Level

- frequency, amount, and character of the vomit
- abdominal distention or tenderness
- ability to tolerate food/drink
- hydration status
- nutritional status

Nausea/Vomiting: Interventions at the Primary Level (Slide 1)

- Educate patient to
  - Drink fluids (strongly emphasize this point).
  - Try peppermint, chamomile, or ginger tea.
  - Sip noncarbonated ginger ale or 7-Up.
  - Eat small snacks throughout the day and avoid large meals.
  - Eat BRAT diet (bananas, rice, applesauce, toast).

Nausea/Vomiting: Interventions at the Primary Level (Slide 2)

- Educate patient, continued:
  - Eat small amounts of bland, odorless foods: toast, crackers, clear soup, potatoes.
  - Avoid hot, spicy, strong-smelling, sweet, and greasy foods.
  - Sit up when eating and avoid lying flat for 20 minutes after eating.
  - More interventions for nausea/vomiting are included in Session 12.

Nausea/Vomiting: Interventions at the Primary Level (Slide 3)

- Refer patient to secondary level if nausea and/or vomiting presents with
  - elevated heart rate
  - low blood pressure (SBP < 90mmHg)
  - chest pain
  - high fever
  - cool/clammy skin
  - dry mucous membranes
  - sunken eyes
  - poor skin turgor
  - mental status changes
  - rapid breathing
  - decreased urine output
  - dark yellow urine
  - lower extremity swelling

Nausea/Vomiting: Interventions at the Secondary Level

- Assessment:
  - Monitor vital signs.
  - Monitor electrolyte status.
  - Monitor and record intake and output.
- Interventions:
  - Administer IV fluids, including electrolytes as necessary.
  - Administer anti-emetics, as ordered.
  - Maintain patient safety.

Pain (Slide 1)

- There are many possible causes of pain in patients with HIV:
  - oropharyngeal: candida, herpes, apthous-type ulcers, malignancy, gingivitis, tooth abscess
  - retrosternal: esophageal candida, CMV or herpes, ulcers, reflux esophagitis, PCP pneumonia
  - headache: toxoplasmosis, cryptococcal meningitis
  - abdominal: diarrhea with or without infection, drugs, constipation
  - perianal and perineal: herpes, candida, excoriation of skin due to diarrhea
  - extremities: peripheral neuropathy in hands, feet, toes

Pain (Slide 2)

- Pain has been commonly under managed in healthcare settings.
- Treatment should address both the cause of the pain (i.e., antibiotics for infection) and the pain itself (i.e., analgesics for pain).

Pain (Slide 3)

- Pain is serious and treatable.
- It is important for nurses to advocate proper pain management.
- Poor pain management can lead to anxiety, depression, immunosuppression, lack of sleep, and many other symptoms.

Note: Patients should not have to bear pain. It is treatable. It is the nurse's responsibility to ensure that the patient's pain is identified, acknowledged, and managed.

Pain: Assessment at the Primary or Secondary Levels (Slide 1)

- site (localized, radiating)
- nature/quality (sharp, aching, dull, burning, stabbing, etc.)
- duration and frequency
- intensity (mild, moderate, severe)
- interventions that make the pain worse or better
- effect on activities of daily living (mobility, sleeping, etc.)
- associated symptoms (fever, nausea, difficulty swallowing, etc.)
- patient's mood and social circumstances
- substance use including prescription and street drugs

Pain: Assessment at the Primary or Secondary Levels (Slide 2)

- When appropriate, use pain scale to assess pain.
- Ask adolescent and adult patients, "On a scale of 0 to10, with 0 being no pain and 10 being the worst pain you can imagine, what is your pain level right now?"
- Reassess within an hour after administering pain medications and document changes (if any).
- Example: "Patient reports constant dull pain 8/10 in upper-right quadrant of abdomen not associated with movement. 15 mg of morphine PO given. Patient reports pain reduced to 1/10 15 minutes after morphine given."

Pain: Assessment at the Primary or Secondary (Slide 3)

- Tool for assessment of pediatric pain:
  - If child cannot talk or describe his/her pain, use faces/and descriptions to document your observations of the child's pain. For example "pain level observed to be 5/10 using faces scale."

Pain: Interventions at the Primary or Secondary Levels

- Administer pain medications according to standing orders:
  - Refer to the WHO "three-step treatment model" for pain.
  - Offer pain medication on time around the clock. Do not wait for patient to request an "as needed" dose.
- Reduce noise and other environmental stimuli.
- Assist patient with activities of daily living.
- Provide emotional support.
- Ask the patient what would help provide comfort.
- Encourage and assist patient to rest.

Headache

- Headache may be a side effect of medication or a symptom of a serious infection such as cryptococcal meningitis or toxoplasmosis.

Headache: Assessment at the Primary Level (Slide 1)

- Assessment:
  - location, severity, frequency, duration, quality of the pain
  - associated symptoms (visual disturbances, problems with gait, etc.)
  - interventions the patient takes to relieve the pain (nonpharmacologic and pharmacologic)
- If nuchal rigidity (neck stiffness) is present, refer immediately to secondary facility.
- Rule out malaria.

Headache: Assessment at the Primary Level (Slide 2)

- Refer to secondary level immediately if headache is accompanied by:
  - fever, lethargy/confusion
  - rapid breathing
  - stiff neck/headache
  - poor oral intake
  - inability to participate in activities of daily living
  - seizure
  - blurred vision

Headache: Interventions at the Primary Level

- Administer paracetamol or other oral analgesics according to standing orders.
- Create a quiet, darkened environment.
- Encourage patient to rest, avoid activity.
- Place cold wash cloth over eyes.
- Gently massage the base of the skull and temples.
- Teach patient to avoid foods that trigger headaches (e.g., caffeine, chocolate, citrus fruit, food additive (monosodium glutamate), nuts, onions, hard cheese).
- More interventions for headache are included in Session 12.

Headache: Assessment/Interventions at the Secondary Level

- Assessment:
  - Monitor vital signs.
  - Monitor and record pain.
    - › Reassess within 15 to 30 minutes after administering pain medications.

- Interventions:
  - Administer IV fluids.
  - Administer pain medicantions as ordered around the clock.
  - Maintain patient safety.

Peripheral Neuropathy (Slide 1)

- Neuropathy results from damage to the nerves caused by HIV or as a side effect of certain medications (ARVs such as d4T, ddI).
- Nerve damage cannot be reversed. If it is caused by a medication, the offending drug must be stopped or reduced in strength.
- A deficiency in Vitamin B can be a contributing factor.

Peripheral Neuropathy (Slide 2)

- Described as burning, stinging, stiffness, tickling, or numbness in the feet, toes, or hands.
- Pain medications generally do not relieve the pain.
- Antidepressants such as amitriptyline or nortriptyline, and anticonvulsants such as gabapentin, may help.

Peripheral Neuropathy: Assessment at the Primary or Secondary Levels

- Location, severity, frequency, and character of the pain.
- Determine what interventions relieve the pain (nonpharmacologic as well as pharmacologic).
- Patient's ability to walk and perform ADLs.

Peripheral Neuropathy: Interventions at the Primary or Secondary Levels

- Wear loose-fitting shoes, roomy cotton socks, or padded slippers.
- When in bed, keep feet uncovered.
- Walk around—but not too much—to help blood circulation to the feet.

- Soak feet/hands in coldest water that can be tolerated.
- Gently massage feet/hands.
- Administer medication to relieve pain, according to standing orders.
- More interventions for peripheral neuropathy are included in Session 12.

Psychological Issues

- Psychological or mood changes may be a direct effect of the virus, an OI, or a pre-existing condition (including substance use).
- Whatever the cause, psychological issues should not be ignored in caring for patients with HIV/AIDS.
- Common issues include
  - depression
  - anxiety
  - confusion
  - HIV-related dementia
  - neurologic changes related to infection

Psychological Issues: Assessment at the Primary or Secondary Levels

- orientation (person, place, time)
- level of consciousness
- onset
- duration
- ability to complete ADLs
- effect on family life/relationships
- medication/substance use
- suicide risk

Psychological Issues: Interventions at the Primary or Secondary Levels (Slide 1)

- Protect and document patient safety.
- Treat conditions with nonpharmacologic methods and medications according to standing orders.
- Treat pain, infections, and other co-morbid conditions as appropriate.
- Provide relaxation training (deep breathing, guided imagery).

Psychological Issues: Interventions at the Primary or Secondary Levels (Slide 2)

- Listen to patient and family concerns.
- Refer to mental health counseling.
- Refer to PLHA support group.
- Refer to substance use treatment as appropriate.

Palliative Care (Slide 1)

WHO definition of Palliative Care (2002): Palliative care is an approach that improves the quality of life of patients and their families facing life-threatening illness, through the prevention and relief of suffering be means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.

- Palliation: comfort (physical, psychosocial, spiritual).
- Palliative care: management of symptoms, including pain and other distressing symptoms, that alter comfort and the quality of life.

Palliative Care (Slide 2)

- At any point in the progression of HIV/AIDS:
  - Nursing assessment is critical to patient care. Patient may not report signs of discomfort because they may feel that they have to put up with them, that they are a "punishment" for contracting this disease.
  - The nurse plays a major role in the assessment and advocacy of proper pain management throughout the life of the patient, from diagnosis through to end-of-life care.

More information on palliative care will be included in Session 6.





# SESSION 6: PALLIATIVE CARE

## SESSION 6: PALLIATIVE CARE

### PURPOSE

This session exposes participants to the concept of palliative care. It includes the philosophy of palliative care and how palliative care can be intertwined into nursing care for HIV, including home care.

### OBJECTIVES

- Understand the philosophy of palliative care.
- Describe the most common symptoms of HIV/AIDS.
- Understand how nurses can work with patients and families in end-of-life care in terms of physical and emotional issues.

### CONTENT

Palliative Care Definitions

- WHO definition of Palliative Care (2002): Palliative care is an approach that improves the quality of life of patients and their families facing life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.
- Palliation: comfort (physical, psychosocial, spiritual).
- Palliative care: management of symptoms, including pain and other distressing symptoms, that alter comfort and the quality of life.

Palliative Care Philosophy

- Palliative care is complementary, not an alternative, to curative or life-prolonging treatment: "It should not be provided only when disease-directed therapy fails or is unavailable" (O'Neill, et al., 2003).

- Palliative care is the responsibility of all members of the multidisciplinary HIV care team, and is provided optimally when the team works in partnership with the patient and caregivers to address their needs.

Palliative Care and HIV

- The principles of palliative care can be applied from diagnosis through the progression of HIV disease: to relieve the psychological and spiritual suffering associated with the diagnosis of HIV infection through the physical, mental, and spiritual suffering associated with advanced disease and end of life.
- As HIV progresses, the patient will become more immunocompromised, and the frequency of illness will increase.
- In the final stages, the focus changes from curative and life-prolonging treatments to symptom relief.
- A patient with HIV infection may die as a consequence of OIs, other HIV-related conditions or, less frequently, side effects of ART.

Palliative Care Nursing (Slide 1)

- Nursing assessment and interventions are critical to palliative care of patients with HIV:
  - Identifying and treating symptoms not only provide comfort but also improve quality of life.
  - Patients may not report signs of discomfort because they may feel that they have to put up with them, that they are a "punishment" for contracting this disease.
  - Families may find comfort in participating in care.

Palliative Care Nursing (Slide 2)

- Nurses can provide compassionate care to patients and families by
  - advocating for effective management of pain and other distressing symptoms experienced by adults and children
  - being present in the midst of physical and emotional distress

- listening
- treating the patient and family with respect
- preparing them for what to expect
- honoring the end-of-life wishes of the patient and family

Palliative Care Nursing (Slide 3)

- The experience of pain profoundly affects the quality of life; nurses working with prescribing clinicians and pharmacy staff can
  - assist patients to access affordable analgesic medication to effectively control pain, including opioids as needed
  - educate patients and their caregivers on taking pain medication for optimal pain management

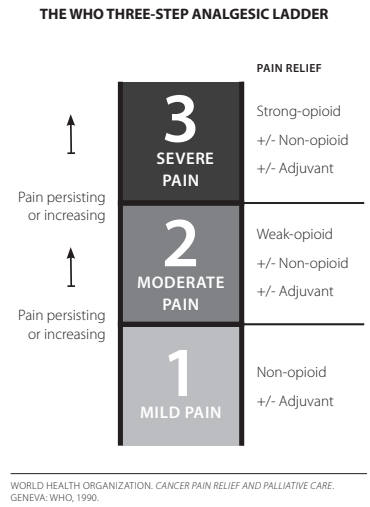
Palliative Care Nursing (Slide 4)

- The WHO Pain Relief Ladder provides a valuable guide for pain management:

Step 3: Severe Pain
Morphine, Fentanyl
Hydromorphone Oxycodone
Methadone + Adjuvants
Levorphanol

Step 2: Moderate Pain
A/Codeine A/Dihydrocodeine
A/Hydrocodone + Adjuvants
A/Oxycodone

Step 1: Mild Pain
ASA NSAIDs




WORLD HEALTH ORGANIZATION. *CANCER PAIN RELIEF AND PALLIATIVE CARE*. GENEVA: WHO, 1990.

Acetaminophen + Adjuvants

Palliative Care and Children (Slide 1)

- Children are often aware of the seriousness of their condition, even if it has not been discussed.
- Some families will need support in deciding if and when to disclose to the child (about HIV, having a life-threatening illness, or both).
- Bereavement follow up is important for families, especially when the caregiver is the only one aware of the child's status.
- Children may need support in dealing with the loss of a parent or caregiver.

Palliative Care and Children (Slide 2)

- Caring for a very ill child can be affected by many factors including
  - No one outside the family knows the diagnosis.
  - The parents/caregivers may also be ill.
  - The family may not have access to community resources and support.
  - A reduction in the child's appetite often proves very stressful to the family and they need assurance and support in dealing with it.

Palliative Care and Children (Slide 3)

- Pain experienced by children is what the child says hurts; listen and believe what the child says about pain.
- A child who does not verbalize pain may express it in other ways:
  - crying
  - groaning
  - restlessness
  - withdrawal and lying still
  - refusal to speak or eat
  - holding the painful area

Palliative Care and Children (Slide 4)

- Analgesia is important in relieving pain in children.
- Teach the caregiver to use the right drug in the right dose and to give the medicine regularly (i.e., around the clock) for optimal pain management.
- Teach the caregiver to contact the health facility if the medication is not managing the child's pain effectively.

Include Family in Care (Slide 1)

- Communicate with family about patient's condition and possible outcomes.
- Educate them (on comfort measures, medication administration, etc.) and encourage them to participate in care as appropriate.
- Include them in decisionmaking.
- Help them understand technical terms.

Include Family in Care (Slide 2)

- Allow the patient and family privacy.
- Explain what dying might be like (e.g., the patient's breathing will change).
- Facilitate verbal and tactile communication (i.e., handholding, touch).
- Provide access to spiritual support.

Include Family in Care (Slide 3)

- Provide opportunity for expression of beliefs, fears, hopes, and feelings.
- Assist family with nutrition, transportation, childcare, and financial resources as needed.
- Provide bereavement support (e.g., refer them to a support group).

Common Symptoms

- At any point in the progression of HIV/AIDS (especially toward the end of life), the most common symptoms are
  - pain
  - fatigue/weakness
  - shortness of breath
  - persistent diarrhea
  - nausea and vomiting
  - difficulty sleeping/insomnia
  - confusion
  - spiritual distress (of patient and family)
- Assessment and interventions for many of these symptoms are presented in Session 5.

Confusion

- Assessment:
  - Assess and document patient safety.
  - Assess orientation: person, place, time.
  - Assess patient's understanding of his or her situation and treatment.
- Interventions:
  - Protect patient safety (i.e., if patient is wandering, have family or staff member sit with patient).
  - Reorient as appropriate:
    - Patient may feel scared or ashamed of their confusion.
  - Work with family to learn how to communicate best with patient:
    - Create reminders or aids for patient (i.e., lists, pictures).

Spiritual Distress

- Experiencing a life-threatening illness can affect a person's spirituality. People often
  - question or search for spirituality
  - see richness or meaning in life they did not see before
  - deepen or find spiritual meaning in their life
- As nurses, our role is to support them as appropriate and as we feel comfortable.

Spiritual Distress

- Assessment:
  - Ask patient about their spirituality.
  - What faith or belief system does he or she follow?
  - How does the person implement his or her faith?
  - How can the facility or staff support the person's spiritual needs?
- Interventions:
  - Provide referral to spiritual leader.
  - Participate with patient in spiritual rituals as the nurse feels comfortable (i.e., pray with patient or stand by quietly as he or she prays).
  - Provide assistance on other spiritual practices (i.e., guided imagery, journaling, etc.) .

Guided Imagery (Slide 1)

- Guided imagery is a technique used for relaxation, spirituality, and other uses.
- It involves relaxation and visualization of a scene that one finds calming or a process one hopes to happen.
  - Some people visualize scenes they find relaxing or beautiful.
  - Some people visualize a process such as dealing with a difficult situation in a positive way.

Guided Imagery (Slide 2)

- It can be done alone or with others.
- Nurses can guide patients or teach patients to use the technique alone when they need to relax, prepare for difficult situations, etc.

Planning for End of Life (Slide 1)

- Having a patient's end-of-life wishes defined can reduce stress on the patient and the family.
- Nurses can help patients plan and work to ensure that the patient's "five wishes" are met (Center for Palliative Care Education, 2003):
  - Who will make decisions for the patient when he or she is incapacitated?
  - What kind of medical treatment does the patient want?
  - How comfortable does the patient want to be?
  - How does the patient want be treated?
  - What does the patient want his or her loved ones to know?

Planning for End of Life (Slide 2)

- Guidelines:
  - Allow for privacy.
  - Introduce the topic. For example, "Have you decided who should make decisions for you when you can't make them for yourself?"
  - Continue with the five wishes and document the patient's responses.
  - If patient seems uncomfortable, end the conversation. For example, "Would you like to talk about this another time?"
  - Share the patient's responses with the family.

General Procedures for End-of-Life Nursing Care (Slide 1)

- Assess and intervene for common symptoms. For patients at home, teach caregivers.
- Anticipate comfort needs:
  - Moisten conjunctiva, mouth/lips.
  - Prevent skin breakdown: turn frequently, monitor for redness, moisturize skin, bathe with mild soap, keep skin dry, reduce turning if comfort is more important that risk of breakdown.
  - Assist with elimination and monitor/treat skin integrity.

General Procedures for End-of-Life Nursing Care (Slide 2)

- Avoid unnecessary procedures (Are all IVs, weights, vital signs, or lab tests really necessary? Which can be stopped?)
- Support nutrition depending on patient wishes.
- Determine activity level by evaluating: weakness/fatigue, ability, safety and patient wishes.
- Make sure pain is controlled.





# SESSION 7: NUTRITION

## SESSION 7: NUTRITION

### PURPOSE

This session explores the relationship between nutrition and HIV; the nutritional consequences of HIV, especially wasting; nursing interventions to address wasting; vitamin and mineral depletion; and patient education on the management of nutritional complications of HIV.

### OBJECTIVES

- Understand how nutrition and HIV are linked.
- List the nutritional consequences of HIV.
- Understand the effects of malnutrition and wasting.
- List interventions for wasting.
- Understand the common micronutrient deficiencies and interventions for each.

### CONTENT

Review of Nutrition and HIV (Slide 1)

- The links between nutrition and infection:
  - Good nutrition is essential for achieving and preserving health.
  - A well-balanced diet is essential to restore the loss of energy and nutrients caused by infection.
  - Poor nutrition weakens the immune system.

Review of Nutrition and HIV (Slide 2)

- The interaction between HIV and nutrition:
  - HIV causes an infection that impairs the immune system and depletes nutrients needed to keep cells healthy.
  - HIV causes a disturbance in the body's metabolism that interferes with the effective use of nutrients, resulting in the loss of lean body mass.

  - There is an increased need for nutrients during any infections.
  - OIs cause symptoms such as fever, nausea/vomiting, diarrhea, anorexia or difficulty swallowing, which affect food intake, digestion, and absorption.
  - Some medications used to treat OIs, as well as some ARVs, have adverse effects such as nausea/vomiting, diarrhea, and altered taste.
  - Some foods can interact with ARVs and affect their efficacy.

Review of Nutritional Consequences of HIV (Slide 1)

- Decreased food intake may result from
  - loss of appetite
  - pain when eating
  - mechanical difficulties: chewing, swallowing, digesting, delayed emptying of the stomach
- Malabsorption of nutrients and micronutrients may be caused by
- small intestine alterations, causing diarrhea
- large-bowel disease
- constipation due to inadequate intake and inactivity

Review of Nutritional Consequences of HIV (Slide 2)

- Over time, the decreased intake of calories, protein, and other essential nutrients; malabsorption of nutrients; and the increased need for nutrients result in malnutrition. This can be manifested as wasting and/or specific micronutrient deficiencies.

Risk Factors for Wasting (Slide 1)

- Wasting is more likely when one or more of the following factors are present:
  - weight loss
  - altered sense of smell or taste, reducing food intake
  - difficulty with chewing, swallowing, or poor dentition

– GI problems, such as diarrhea, nausea, vomiting, constipation, indigestion, flatulence, abdominal distention, and abdominal pain

Risk Factors for Wasting (Slide 2)

- difficulties accessing good quality food in sufficient quantities
- living alone, poor food-preparation abilities, lack of cooking facilities or refrigeration in home
- physical, mental, and emotional difficulties affecting shopping, cooking, or eating
- eating fewer than three well-balanced meals a day
- consumption of alcohol, smoking, or use of recreational drugs

Risk Factors for Wasting (Slide 3)

- prescribed dietary restrictions or restrictions that are self-imposed as a result of religious or ethnic beliefs (including fasting)
- taking many prescribed medications (may affect appetite)
- depression, grieving, or sadness (may affect intake)
- history of eating disorders (e.g., anorexia, bulimia)

Assessment of Wasting

- Monitor weight (daily if hospitalized).
- Monitor body mass index (BMI) to determine if the patient's weight is appropriate for the height.
- To determine BMI, divide the patient's weight in kg by the square of the patient's height in m ($kg/m^2$)
- A BMI of less than 18.5 is indicative of wasting.
- Monitor patients' response to treatment of OIs and manage symptoms related to OIs.

Interventions for Wasting

- Promote a well-balanced diet that includes sufficient calories, protein, fat, vitamins, and minerals.
- Teach good hygiene and safe food handling.
- Manage symptoms that interfere with food intake.
- Teach patients to manage nutritional symptoms at home.
- Provide nutritional supplements as needed.
- Refer to nutritionist if available.
- Refer to food support if needed.

Note: The referral to food support is important. Counseling the patient/family on food-related issues is meaningless if the patient/family do not have access to food.

Well-Balanced Diet (Slide 1)

- Calories: HIV-infected people should increase their daily caloric intake to provide sufficient energy; WHO provides the following guidance:
  - for asymptomatic adults, adolescents and children: 10–20 percent increase daily
  - for symptomatic adults and adolescents: 20–30 percent increase daily
  - for symptomatic children with *no* weight loss: 20–30 percent increase daily
  - for symptomatic children *with* weight loss: 50–100 percent increase daily
- Consuming enough food can be challenging for those with low appetite or difficulties accessing food.
- Promote preparation of nourishing, attractive, appetizing recipes.

Well-Balanced Diet (Slide 2)

- Protein builds and repairs tissues and improves the immune system.
- Sources: meat, chicken, liver, fish, eggs, milk, beans, soybeans, groundnuts.

Well-Balanced Diet (Slide 3)

- Carbohydrates and fats produce energy and insulation.
- Examples: rice, maize, barley, oats, wheat, bread, bananas, yams, potatoes, avocado pears, vegetable and seed oils, full-cream milk, coconut, animal fat.

Well-Balanced Diet (Slide 4)

- Vitamins and minerals maintain healthy lining of skin, lungs, and GI tract; aid production of blood; and are a vital element for the functioning of the immune system, thereby helping to protect against OIs.
- Sources: fruit, vegetables, and legumes (beans) in a well-balanced diet. Supplements can also help.

Note: It is not important to memorize the roles/sources of all the micronutrients below. The information is provided for overall understanding and as a resource for future treatment needs.

The Role of Some Vitamins and Minerals in the Body and Sources of Nutrients (Slide 1) (Adapted from Piwoz and Preble)

| Nutrient | Role | Sources |
|---|---|---|
| Vitamin A | Required for maintenance of epithelial cells, mucous membranes, and skin. Essential for immune system function and resistance to infections. Ensures good vision. Needed for bone growth. | Full-cream milk (when fortified), cheese, butter, red palm oil, fish oil, eggs, liver, carrots, mangoes, papaya, pumpkin, dark green leafy vegetables, yellow sweet potatoes, avocado pear. |
| Vitamin B1/Thiamine | Used in energy metabolism, supports appetite, and central nervous system functions. | Whole grain cereals, meat, poultry, fish, liver, milk, eggs, oil, seeds, and legumes. |
| Vitamin B2/Riboflavin | Used in energy metabolism, supports normal vision, health and integrity of skin. | Milk, eggs, liver, fish, yogurt, green leaves, whole-grained cereals, and legumes. |

The Role of Some Vitamins and Minerals in the Body and Sources of Nutrients (Slide 2)

| Nutrient | Role | Sources |
|---|---|---|
| Vitamin B3/ Niacin | Essential for energy metabolism; supports health and integrity of skin and nervous and digestive systems. | Milk, eggs, meat, poultry, fish, peanuts, whole-grain cereals, and unbleached rice. |
| Vitamin B6 | Facilitates metabolism and absorption of fats and proteins; converts tryptophan to niacin; helps make red blood cells. Some TB drugs cause B6 deficiency. | Legumes (white beans), potatoes, meats, fish, poultry, shellfish, watermelon, oil seeds, maize, avocado, broccoli, green leafy vegetables. Alcohol destroys B6. |
| Folate (folic acid) | Required for synthesis of new cells, especially red blood cells and gastrointestinal cells. | Liver, dark green leafy vegetables, fish, legumes, groundnuts, oil seeds. |

The Role of Some Vitamins and Minerals in the Body and Sources of Nutrients (Slide 3)

| Nutrient | Role | Sources |
|---|---|---|
| Vitamin B12 | Required for synthesis of new cells, particularly red blood cells; helps maintain nerve cells. Works with folate. | Meat, fish, poultry, shellfish, cheese, eggs, milk. |
| Vitamin C | Helps the body use calcium and other nutrients to build bones and blood vessel walls. Increases non-heme iron absorption. Increases resistance to infection and acts as an antioxidant. Important for protein metabolism. | Fruits such as baobab, guava, oranges and lemons; and cabbage, dark green leaves, tomatoes, peppers, potatoes, and yams. Cooking plantains, and fresh milk. Vitamin C is lost when food is cut up, heated, or left standing after cooking. |
| Vitamin D | Required for mineralization of bones and teeth. | Produced by skin on exposure to sunshine; milk, butter, cheese, fatty fish, eggs, liver. |

The Role of Some Vitamins and Minerals in the Body and Sources of Nutrients (Slide 4)

| Nutrient | Role | Sources |
|---|---|---|
| Vitamin E | Acts as an antioxidant. Protects cell membranes and metabolism, especially red and white blood cells. Protects vitamin A and other fats from oxidation. Facilitates resistance against diseases, particularly in lungs. | Dark green leafy vegetables, vegetable oils, wheat germ, whole-grain products, butter, liver, egg yolk, peanuts, milk fat, nuts, seeds. |
| Iron | Required to make hemoglobin for red blood cells and to transport oxygen from lungs to cells throughout the body. Acts as an antioxidant. Required for utilization of energy and metabolism of cells. | High-absorption sources: red meat, liver, fish, poultry, shellfish. Low-absorption sources: eggs, legumes, peanuts, some cereals, and dried fruits. |

| | | |
|---|---|---|
| Calcium | Required for building strong bones and teeth. Important for normal heart and muscle functions, blood clotting and pressure, and immune defenses. | Milk, yogurt, cheese, green leafy vegetables, broccoli, dried fish with bones that are eaten, legumes, peas. |

The Role of Some Vitamins and Minerals in the Body and Sources of Nutrients (Slide 5)

| Nutrient | Role | Sources |
|---|---|---|
| Zinc | Important for function of many enzymes. Acts as an antioxidant. Involved with making genetic material and proteins, immune reactions, transport of vitamin A, taste perception, wound healing, and sperm production. | Meats, fish, poultry, shellfish, whole grain cereals, legumes, peanuts, milk, cheese, yogurt, vegetables. |
| Selenium | Acts as an antioxidant together with vitamin E. Prevents the impairing of heart muscles. | Meat, eggs, seafood, whole grains. |
| Iodine | Ensures the development and proper functioning of the brain and the nervous system. Important for growth, development, metabolism. | Seafood, iodized salt, plants grown in iodine-rich soil. |
| Magnesium | Important for building strong bones and teeth, protein synthesis, muscle contraction, transmission of nerve impulses. | Nuts, legumes, whole-grain cereals, dark green vegetables, seafood. |

Good Hygiene/Safe Food-Handling (Slide 1)

- Always wash hands thoroughly before food preparation and eating and after using the bathroom.
- Keep all food-preparation surfaces clean and use clean utensils to prepare and serve foods.

- Cook food thoroughly, especially meat and fish.
- Avoid contact between raw and cooked foods.
- Use methods that preserve and/or improve nutrients (minimal cooking with lid on pot, cut large pieces, proper storage, germination/fermentation of seeds, etc.).

Good Hygiene/Safe Food-Handling (Slide 2)

- Serve food immediately after cooking and avoid storing cooked foods (unless they can be kept in a refrigerator or cool place; do not store for more than one or two days and always reheat them at a high temperature).
- Wash fruits and vegetables before serving.
- Use safe water that is boiled or filtered. Use clean cups and bowls.
- Protect foods from insects, rodents, and other animals.
- Store nonperishable foods in a safe place (away from pesticides and other toxic chemicals).
- Drink clean water (water that has boiled for at least one minute).

Patient Education on Management of Nutritional Issues (Slide 1)

- General tips:
  - Eat the colors of the rainbow (choose foods that are a variety of colors to get the most nutrients).
  - Eat daily from the six food groups: staple foods, fats and oils, legumes, fruits, vegetables, and food from animals.
  - Try to eat regular meals even if not hungry.
  - Be mindful of dietary restrictions on medications.
  - Drink plenty of clean water and fluids (real fruit juices and herbal teams can be beneficial).

Patient Education on Management of Nutritional Issues (Slide 2)

- Poor appetite:
  - Eat small, frequent meals and nourishing snacks.
  - Eat favorite foods.
  - Select recipes that combine foods to give a more nutrient-dense composition (high in protein, vitamins, and minerals).
  - Avoid strong-smelling foods.
- Change or loss of taste:
  - Use flavor enhancers such as lemon, salt, or spices.
  - Chew food well and move around in the mouth to stimulate taste receptors.

Patient Education on Management of Nutritional Issues (Slide 3)

- Early fullness:
  - Eat small, frequent meals.
- Abdominal pain:
  - Get medical evaluation.
- Nausea/vomiting:
  - Eat small, frequent meals.
  - Avoid having an empty stomach.
  - Drink after meals and limit intake of fluids with meals.
  - Avoid lying down directly after eating.
  - Eat lightly salty and dry foods to calm the stomach.

Patient Education on Management of Nutritional Issues (Slide 4)

- Flatulence:
  - Avoid gas-forming foods such as cabbage, beans, or cauliflower.
- Constipation:
  - Eat foods high in fiber.
  - Drink plenty of liquids.
  - Avoid processed or refined foods.
  - Exercise as much as possible.
- Diarrhea:
  - Drink plenty of fluids.
  - Continue to eat and drink.
  - Avoid fried foods.
  - Drink rehydration solution regularly.





# SESSION 8: PREVENTION WITHIN CARE

## SESSION 8: PREVENTION WITHIN CARE

### PURPOSE

This session gives participants an overview of different aspects of prevention within care, including why prevention within care is important, what facilities and providers can do, and patient education messages including safer sex.

### OBJECTIVES

- Discuss why prevention within care is important.
- List some important patient education messages for prevention within care.
- Discuss some strategies for the nurse and facility in terms of prevention within care.
- Use patient education messages in role-play activities around prevention within care.

### CONTENT

Prevention within Care (Slide 1)

- Prevention has traditionally focused on preventing new HIV infections.
- Integrating prevention messages and discussion is also an important part of comprehensive care of PLHA.

Prevention within Care (Slide 2)

- The one-on-one interaction nurses have with their patients provides an excellent opportunity for education and counseling that is delivered quickly.
- Prevention naturally fits into adherence counseling sessions and other clinical protocols.

Prevention for Positives

- Provide education and support for positive patients to
  - prevent new transmission of HIV virus
  - prevent reinfection

  - prevent other sexually transmitted diseases
  - make informed decisions about health choices affected by HIV status, including contraception and pregnancy

Patient Education Messages

- These basic messages should be included in patient education:
  - Avoiding risky behaviors is the best way to prevent spreading HIV to others.
  - If a woman becomes pregnant, she should seek healthcare.
  - HIV can still be transmitted even though someone is taking ART.

Prevention Strategies for Patients

- Remain faithful in current relationship.
- Use condoms.
- Abstain from sex.
- Do not share needles or supplies when using IV drugs.
- During pregnancy, take ART and follow advice regarding infant feeding to reduce the chance of passing HIV from a mother to child.

Facility-Based Methods (Slide 1)

Nurses can work to integrate the following strategies into their facility:

- Integrate prevention discussions and education in all clinical encounters. Examples:
  - At primary level: Discuss safer sex behaviors during regular postnatal follow-up visits.
  - At secondary level: Institute prevention discussion prior to discharge as part of discharge instructions from the facility.
- Provide access to condoms and demonstrate their proper use/disposal.

Facility-Based Methods (Slide 2)

- Methods, continued:
  - Create proactive, functional referral systems to counseling and testing (CT), prevention of mother-to-child transmission (PMTCT), and other services.
  - Provide counseling and assistance in notification/disclosure.
  - Educate other healthcare providers on prevention messages.

Provider-Based Methods (Slide 1)

- Nurses maintain a dialogue with positive patients about prevention knowledge and plans:
  - Discuss prevention at each visit.
  - Assist patients to identify ways to reduce risks in their own lives.
  - Use nonjudgmental, open attitude with patients.

Provider-Based Methods (Slide 2)

- Discussing prevention with HIV-positive patients provides opportunities for nurses to
  - identify and correct misconceptions about HIV transmission
  - identify areas in which patients may need assistance and refer them as appropriate
  - screen for STIs and injection drug use

Note: Some nurses may feel uncomfortable discussing these issues with patients. Remember, this is an important opportunity to help prevent the spread of HIV to others. Practicing your language may help. Also, addressing the issues in a professional, nonjudgmental way will help patients feel comfortable with you.

Examples of Messages/Dialogues (Slide 1)

- "Some people believe that once they are on ART they cannot transmit the virus to others. What is your understanding?"
- "Tell me how you plan on preventing the transmission of HIV to others."

Examples of Messages/Dialogues (Slide 2)

- "Are you sexually active, and if so, how have you been preventing transmitting HIV to your partners?"
- "How often do you use condoms when you have sex?"
- "For women, there is a risk of transmission of HIV to unborn babies. If you are pregnant or plan on becoming pregnant, it is important to discuss it with us."





# SESSION 9: ANTIRETROVIRAL THERAPY (ART)

## SESSION 9: ANTIRETROVIRAL THERAPY (ART)

### PURPOSE

This session introduces participants to the basics of ART, including how ART works, who should take ART, why a combination of drugs is taken, the benefits and challenges of ART, goals of therapy, and specific information for commonly used drugs.

### OBJECTIVES

- Understand how ARVs work.
- List the goals of therapy with ART.
- Discuss the general benefits and challenges in the use of ARVs.
- Be familiar with the schedule and side effects associated with the first-line ART drugs.
- List symptoms that should be referred to the physician.
- Apply the topics in case studies.

### CONTENT

What Is ART? (Slide 1)

- ART (also called antiretroviral therapy) is a combination of drugs that are used to treat patients with HIV.
- ART does not completely destroy the virus or cure the disease.
- ART reduces the amount of the virus in the body (viral load) by stopping it from multiplying.

What Is ART? (Slide 2)

- With less virus in the body, the immune system can become stronger and fight infections better, so the patient will get sick less often.
- Based on current knowledge, once a person is taking ART, he or she must continue to take it for the rest of his or her life.
- ART drugs must never be shared with others.

How Does ART Work?

- The drugs work by making it difficult for the virus to multiply.
- Different types of ART drugs (classes) work in different ways to do this.
- A combination of several classes should be used to reduce the level of virus in the blood and prevent development of resistance to the medications.
- Standard combinations (first-line/second-line) of the drugs are used.

CD4 Cells, HIV, and ART

- When on ART:
  - The amount of virus in the blood decreases.
  - The number of CD4 cells increase.

Who Needs to Take ART?

- Not all people with HIV need to take ART.
- ART treatment should start when the virus has damaged the immune system to a certain level.
  - This damage is determined by finding out if the patient has developed certain infections and by measuring the level of CD4 cells.
  - Blood tests also need to be performed to determine whether, for example, the patient has anemia or liver disease.
  - With all this information in mind, it is possible to determine if the patient would benefit from ART.
  - This decision is made together with the patient and includes whether the patient is ready to start ART.

Eligibility Criteria

- Eligibility criteria for ART may exist such as
  - social criteria (e.g., living in catchment area of clinic)

  - clinical criteria (e.g., existence of certain infections)
  - laboratory criteria (e.g., CD4 or TLC counts)
- The eligibility criteria for a certain country should be included on the national guidelines for ART and health facility standard operating procedures.

Note: Facilitators should discuss the local eligibility criteria with participants.

ART

- The drugs also have side effects, and can cause short- and long-term problems.
- Patients must take 100 percent of doses for the drugs to work effectively.
- If drugs are not taken properly, the virus may become resistant to them and they will stop working.

Five Goals of ART

- Decrease the amount of virus in the blood.
- Support and help the immune system.
- Improve quality of life.
- Reduce HIV-related illness and death.
- Possibly reduce transmission of HIV to others.

Goals of Therapy (Slide 1)

- Goal #1: Decrease the amount of virus in the blood.
  - The goal is to reduce the amount of virus so that it cannot be found in the blood. (Remember, it's still there, but not enough to be measurable.)
  - Blood tests measure the amount of virus in the blood (viral load tests). But they are not yet widely available due to their cost and complexity.

Goals of Therapy (Slide 2)

- Goal #2: Support and help the immune system.
  - When the patient is on ART, the immune system should get stronger as measured by an increase in CD4 cell count.
  - The immune system can then fight infections better.
  - With ART, the patient should get sick less frequently and sicknesses should be less severe.
  - If the patient is already sick with OIs, the course of the infection may be shortened or made less severe with ART.

Goals of Therapy (Slide 3)

- Goal #3: Improve the quality of life.
  - When taking ART, patients often gain weight, have less fatigue, and generally feel better.
  - They often can return to work and other usual activities.
  - Hope is restored.

Goals of Therapy (Slide 4)

- Goal #4: Reduce HIV-related illness and death.
  - Taking ART usually slows or stops the progression of HIV disease
  - Development of new OIs is unlikely and patients are less likely to require hospitalization or to die from AIDS.
  - ART has been shown to benefit both adults and children.

Goals of Therapy (Slide 5)

- Goal #5: Possibly reduce transmission of HIV to others.
  - People on ART can still transmit the virus to others. But ART decreases the amount of virus in the blood, and people are less likely to transmit HIV to others if they have a lower level of virus in their blood.

- ART has been shown to decrease the risk of mother-to-child transmission of HIV.
- There is still a need to take steps to prevent transmission (e.g., by using latex condoms) even when on ART.

Antiretroviral Treatment

- Advantages:
  - effective
- Inconveniences/challenges:
  - high level of adherence required
  - needs to be taken for a lifetime
  - side effects/toxicities
  - drug interactions
  - high cost

Advantages of ART

- If taken correctly
  - ART allows people to live longer and resume their usual activities.
  - ART helps the body become healthier—as the immune system becomes stronger, it is better able to fight infections.
    - › The patient will have fewer and less severe OIs.
    - › The patient will have fewer hospitalizations.
  - ART decreases the risk of, but does not prevent, transmission of HIV.

Inconveniences and Challenges of ART (Slide 1)

- Adherence: The drugs need to be taken correctly (take all of the pills, on time, for a lifetime).

- Side effects/toxicities: The drugs have side effects that range from minor (nausea) to major (liver damage).
  - These side effects vary from drug to drug.
  - Some can be managed at home and some require medical attention.
  - Some happen after the drugs are started and some after taking the drugs for months or years.
  - Adherence and side effects will be explored further in later modules.

Inconveniences and Challenges of ART (Slide 2)

- Dosing can be complicated.
- Costs may be high, and can include non-drug costs, such as the cost of traveling to the medical facility for regular monitoring visits.
- Stigma: taking ART may identify the patient as being HIV positive.
- Regular medical care is needed.

Classes of ART Drugs (Slide 1)

- There are several types (classes) of ART drugs:
  - nucleoside (and nucleotide) reverse transcriptase inhibitors (NRTIs)
  - non-nucleoside reverse transcriptase inhibitors (NNRTIs)
  - protease inhibitors (PIs)
  - fusion inhibitors
- A patient needs to take at least three of these drugs—from at least two different classes—in combination to reduce the viral load and prevent emergence of resistance.
  - Patients may take several different pills or one pill that contains several different drugs (fixed dose combination drug formulations).

Classes of ART Drugs (Slide 2)

- Standard combinations exist (called first line and second line).
- Patients are initially prescribed a three-drug combination as first-line therapy.
- The doctor will decide which combination of drugs will be best for the patient depending on certain issues including pregnancy and TB.
- If the first-line drugs do not work or if the patient has bad side effects, the drugs can be changed. Either one drug in the combination can be changed or the second-line therapy can be prescribed.

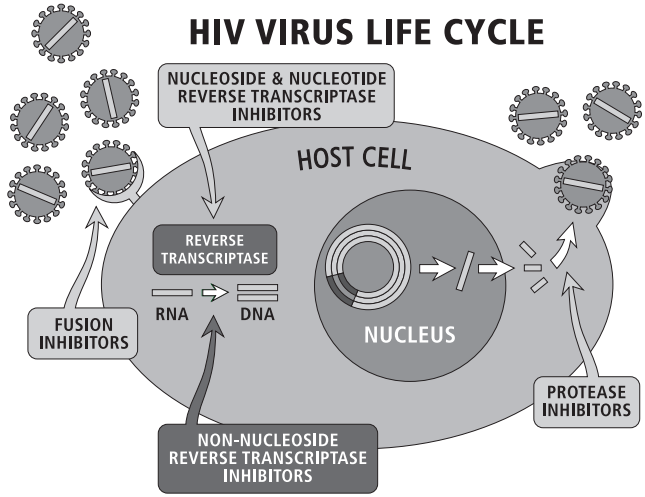
How the Classes of ART Drugs Work (Slide 1)

- Nucleoside (and nucleotide) reverse transcriptase inhibitors (NRTIs):
  - NRTIs inhibit the transcription (change) of viral RNA into DNA, thereby interfering with viral replication.
- Non-nucleoside reverse transcriptase inhibitors (NNRTIs):
  - NNRTIs also inhibit the transcription of viral RNA into DNA, but they are chemically different than NRTIs.

How the Classes of ART Drugs Work (Slide 2)

- Protease inhibitors (PIs):
  - PIs block protease, an enzyme that HIV requires for replication.
    - › The protease enzyme is responsible to cutting long amino acid chains into smaller proteins.
- Fusion inhibitors:
  - Fusion inhibitors disrupt the interaction between the HIV virus and the cell surface, preventing the fusion of the HIV virus to the cell.
  - These drugs are not widely available and cannot be taken by mouth.

HIV Life Cycle and Antiretroviral Therapy




Note: This illustration shows how the different classes of drugs work to inhibit the HIV virus' ability to make copies of itself. There is no need to memorize how they work, just understand that the classes do different things to stop the replication, which is why a person needs at least three ARVs, and one from two different classes.

How the Classes of ART Drugs Work (Slide 3)

- ARVs act on HIV by interfering with its lifecycle at different phases.
- Using several drugs (that work in different ways) increases the probability that the virus' ability to replicate will be prevented.
- Basic patient education message: To effectively reduce the virus in the blood, patients must take several drugs.

ART Combinations (Slide 1)

- As stated previously, patients are initially prescribed a three-drug combination (first line).
- If the patient has an adverse reaction to a drug in that combination, one drug can be changed (usually replaced by a drug in the same class).

ART Combinations (Slide 2)

- If a patient develops OIs or other HIV-related conditions, or has a decreasing CD4 count after starting ART:
  - It is likely that treatment failure has occurred.
  - In this case, the entire regimen of drugs should be stopped and the patient should be started on a combination of three new drugs. This is called a second-line regimen. This combination usually includes one drug from a class that the patient has not been on before.

ART Combinations (Slide 3)

- The first- and second-line combinations are chosen by the national MOH for the following reasons:
  - The drugs have proven to be clinically effective.
  - The drugs are of sufficient potency to have the desired effect.
  - Few side effects exist.
  - Patient has to take as few pills as few times per day.
  - The drugs can withstand environmental changes (i.e., hot/cold).

**ARV drugs**

| NRTIs | NNRTIs | PIs |
|---|---|---|
| Zidovudine (AZT)<br>Lamivudine (3TC)<br>Stavudine (d4T)<br>Didanosine (ddI)<br>Abacavir (ABC)<br>Tenofovir (TDF)<br>Emtricitabine/Entriva (FTC) | Nevirapine (NVP)<br>Efavirenz (EFV) | Nelfinavir (NFV)<br>Saquinavir/Ritonavir (SQV/r)<br>Lopinavir/Ritonavir (LPV/r)-also known as Kaletra/Aluvia |

First-Line Regimens

- One NNRTI and two NRTIs

Second-Line Regimens

- One PI and two NRTIs

Fixed-Drug Combinations

- One pill contains multiple drugs:
  - ZDV/3TC (Combivir)
  - d4T/3TC (Lamivir-s)
  - ZDV/3TC/NVP (Duovir-n)
  - d4T/3TC/NVP (Triomune 30 or 40)
  - Lopinavir/Ritonavir (LPV/r) = Kaletra/Aluvia
  - TDF/FTC (Truvada)
  - TDF/FTC/EFV (Atripla)

For Patients with Both HIV and TB

- Because patients with TB have special concerns (such as drug interactions), there is a preferred/recommended ART regimen for patients who have both HIV and TB:
  - Stavudine (D4T) (NRTI) + Lamivudine (3TC) (NRTI) + Efavirenz (EFV) (NNRTI).

    **OR**
  - Zidovudine (ZDV) (NRTI) + Lamivudine (3TC) (NRTI) + Efavirenz (EFV) (NNRTI).

    **OR**
  - Tenofovir (TDF) (NRTI) + Lamivudine (3TC) (NRTI).

    **OR**
  - Emtricitabine (FTC) (NRTI) + Efavirenz (EFV) (NNRTI).
- Stavudine
  - Stavudine (D4T, Zerit)
  - Nucleoside reverse transcriptase inhibitor (NRTI)

- Dosing:
  - ADULT: More than 60 kg – 40 mg every 12 hours; less than 60 kg – 30 mg every 12 hours.
  - PEDIATRIC: 1 mg/kg every 12 hours
- Take with or without food
- Primary side effects include
  - Abdominal pain, nausea, vomiting, diarrhea, abdominal distension, muscle pain, difficulty breathing, rapid weight loss
  - Numbness or tingling in hands and feet
  - Loss of fat in face, arms, or legs

- Lamivudine
  - Lamivudine (3TC, Epivir)
  - Nucleoside reverse transcriptase inhibitor (NRTI)
  - Dosing:
    - ADULT: 150 mg every 12 hours
    - PEDIATRIC: Child: 4 mg/kg every 12 hours; neonatal: 2 mg/kg every 12 hours
  - Take with or without food
  - Primary side effects:
    - Generally well tolerated with minimal side effects
- Zidovudine
  - Zidovudine (AZT, Retrovir)
  - Nucleoside reverse transcriptase inhibitor (NRTI)

- Dosing:
  - ADULT: 300 mg every 12 hours
  - PEDIATRIC: Child: 180 mg/$m^3$ every 12 hours OR 90-180 mg/$m^3$ every 8 hours ; neonatal: 2 mg/$m^3$ every 6 hours
- Take with or without food (decreased gastrointestinal side effects if taken with food)
- Primary side effects:
  - Gastrointestinal intolerance (nausea, vomiting, or abdominal discomfort).
  - Muscle pain
  - Fatigue
  - Lightheadedness
  - Headache
  - Anemia
  - Insomnia

• Abacavir (ABC)
- Nucleotide reverse transcriptase inhibitor (NRTI)
- Dosing:
  - ADULT: 300 mg twice daily or 600mg once daily
  - PEDIATRIC: <16 years or <37.5 kg: 8 mg/kg/dose given twice daily
    Maximum dose: >16 years or >37.5 kg: 300 mg/dose given twice daily
- Take with or without food
- Storage: Room temperature
- Primary side effects:

        - Potential hypersensitivity reaction with respiratory symptoms, fever, and without mucosal involvement—discontinue and do not restart if hypersensitivity reaction occurs
        - Nausea/vomiting/diarrhea
        - Malaise
        - Headache
        - Anorexia
- Tenofovir (TDF)
    - Non-nucleotide reverse transcriptase inhibitor (NtRTI)
    - Dosage:
        - ADULT: 300mg once daily (usually in combination with Emtricitabine [Emtriva] 200mg once per day, as Truvada)
        - PEDIATRIC: Not recommended for children < 18 years
    - Take with or without food
    - Primary side effects:
        - Feeling weak or tired
        - Trouble breathing
        - Stomach pain, nausea, vomiting
        - Feeling cold especially in arms and legs
        - Feeling dizzy or lightheaded
        - Kidney function problems
        - Muscle pain
        - Liver problems
        - Fast or irregular heartbeat
- Emtricitabine or Emtriva (FTC)

- Non-nucleoside reverse transcriptase inhibitor (NRTI)
- Dosage:
  - ADULTS: 200mg once daily (usually in combination with Tenofovir [TDF 300mg once daily] as Truvada)
  - PEDIATRIC: not approved for infants < 3 months; 3 months–17 years: weight > 33kg, dose as in adults; lower weights, give 6mg/kg oral solution once per day
- Primary side effects:
  - Generally well tolerated) but can cause
  - Headache
  - Insomnia
  - Nausea
  - Diarrhea
  - Rash
  - Hyperpigmentation of palms and sores (especially in people of black-African decent)

- Didanosine (ddI)
  - Nucleotide reverse transcriptase inhibitor (NRTI)
  - Formulations:
    - Buffered tablets should be chewed, crushed, or dispersed in water or clear juice
    - Enteric-coated capsules (for children, can be opened and sprinkled on small amount of food)
    - Oral suspension for children: not easy to use and should be avoided if possible

- Storage: room temperature for tablets and capsules; oral solution for children stable after reconstituted for 30 days if refrigerated
- Dosing:
  - ADULT: >60 kg: 400 mg once daily; <60 kg: 250 mg once daily
  - PEDIATRIC: <3 months: 50 mg/m²/dose twice daily; 3 months to <13 years: 90-120 mg/m²/dose twice daily; >13 years or >60 kg: 200 mg/dose twice daily or 400 mg once daily
- Take buffered ddI on an empty stomach
  - In children may not need to be taken on an empty stomach
- Primary side effects:
  - GI intolerance with buffered tablets (taste changes, nausea, vomiting, abdominal pain, diarrhea
  - Peripheral neuropathy
  - Acute pancreatitis
  - Hepatitis

- Nevirapine
  - Nevirapine (NVP)
  - Non-nucleoside reverse transcriptase inhibitor (NNRTI)
  - Dosing:
    - ADULT: First 14 days: 200 mg once daily. If no major side effects, then 200 mg every 12 hours
    - PEDIATRIC: First 14 days: 120 mg/m$^3$ once daily. If no major side effects, then 120-200 mg/m$^3$ every 12 hours
  - Take with or without food

- Primary side effects:
  - Rash (the rash can progress into a serious hypersensitivity reaction, usually during first eight weeks of treatment)
  - Liver damage (jaundice/abdominal pain)

- Efavirenz (Slide 1)
  - Efavirenz (EFV).
  - Non-nucleoside reverse transcriptase inhibitor (NNRTI).
  - Dosing:
    - ADULT: 600 mg at bedtime
    - PEDIATRIC:

| Weight | Dose | Frequency |
|---|---|---|
| 10–15 kg | 200 mg | Once daily at night or bedtime |
| 15–20 kg | 250 mg | Once daily at night or bedtime |
| 20–25 kg | 300 mg | Once daily at night or bedtime |
| 25–32.5 kg | 350 mg | Once daily at night or bedtime |
| 32.5–40 kg | 400 mg | Once daily at night or bedtime |
| > 40 kg | 600 mg | Once daily at night or bedtime |

- Efavirenz (Slide 2)
  - Take with or without food, but eat a low-fat meal if taken with food.
  - Primary side effects:
    - Dizziness, mild disorientation (during first two to three weeks).
    - Abnormal dreams (during first two to three weeks).
    - Rash.
    - Avoid pregnancy.

- Lopinavir/Ritonavir (Slide 1)
  - Lopinavir/ritonavir (LPV/r)
    - Formulation contains both drugs
  - Protease inhibitor (PI)
  - Available in capsules, tablets or liquid
  - Adult dosing depends on formulation/treatment experience

| **Capsules** | **Tablets** |
|---|---|
| 3 capsules twice daily | Treatment naïve: 2 tabs twice daily |
| 4 capsules twice daily when combined with EFV or NVP | Treatment experienced: 3 tabs twice daily when combined with EFV or NVP |

- Lopinavir/Ritonavir (Slide 2)
  - Children's dosing (with liquid formulation) depends on weight
  - Take capsules with food; tablets can be taken without food
  - Oral solution has bitter taste
  - Storage: capsules stable for 30 days at room temperature
    - Refrigerate capsules for long term storage
    - Oral solution is preferably refrigerated, but can be stored at room temperature up to 25° C for 2 months
    - Heat stable tablets can be stored at room temperature
  - Primary side effects:
    - Abnormal stools/diarrhea/nausea/vomiting
    - Feeling weak/tired
    - Liver disease (jaundice/abdominal pain)
    - Pancreatitis (nausea/vomiting/abdominal pain, especially after eating)
    - Diabetes/hyperglycemia

- Saquinavir (SQV)
  - Taken together ("boosted") with Ritonovir
  - Protease inhibitor (PI)
  - Dosing:
    - ADULT: 1000 mg to be taken with 100 mg of Ritonovir twice daily
    - PEDIATRIC: 33 mg/kilogram 3 times per day
  - Take with food
  - Storage: Room temperature
  - Primary side effects:
    - Nausea/vomiting/diarrhea (short term)
    - Malaise (short term)
    - Headache
    - Hyperlipidemia
    - Hyperglycemia
    - Fat distribution changes
- Indinavir/ritonavir (IDV/r)
  - Protease Inhibitor (PI)
  - Dosing:
    - ADULTS: 800 mg taken with 100 mg of Ritonavir every 12 hours
  - Take with or without food (If Indinavir is unboosted, take 1 hour before or 2 hours after meal, or take with a light, low-fat meal)
  - Storage: Room temperature

  - Primary side effects:
    - Nephrolithiasis with or without hematuria (patient should drink at least 48 oz of fluid daily)
    - Alopecia
    - Dry skin, mouth and eyes (common)
    - Class adverse effects: lipodystrophy, insulin-resistant hyperglycemia, hyperlipidemia
    - Nausea/epigastric distress
- Nelfinavir (NFV)
  - Protease inhibitor (PI)
  - Dosing:
    - ADULTS: 1250 mg twice daily
    - PEDIATRIC: <10 kg: 75 mg/kg/dose twice daily
      >10 kg to 19.9 kg: 60 mg/kg/dose twice daily
      >20 kg: maximum recommended dose of 1250 mg/dose twice daily
  - Take with food (especially fatty food)
  - Tablets may be halved or crushed and dispersed in water or on a small amount of food and immediately ingested
  - Storage: Room temperature
  - Primary side effects:
    - Diarrhea
    - Class adverse effects: lipodystrophy, increased levels of cholesterol and/or triglycerides, hyperglycemia
- Ritonavir (RTV)
  - Used in small doses to "boost" other PIs
  - Protease inhibitor (PI)

  - Dosing:
    - ADULTS: 100 mg once or twice daily (when taken with Saquinavir)
    - PEDIATRICS: dosing depends on weight
  - Take with food
  - Storage: Stable at room temperature for 30 days
    - Room temperature for oral solution
  - Primary side effects:
    - Nausea/vomiting/diarrhea (short term)
    - Paresthesias (hands, feet or mouth)
    - Fat distribution changes
    - Hyperlipidemia
    - Hyperglycemia
- Side effects
  - All medicines can cause side effects.
  - These unwanted effects of medicines can vary from minor (such as nausea) to major (such as liver damage) and be temporary or last a long time.
  - Most patients do not experience all side effects.
  - Side effects are a concern because
    - They can interfere with drug adherence.
    - They can lessen quality of life.
    - They can cause long-term health conditions.
    - They can be life threatening (in rare cases).

More information on side effects of ART is included in Session 13.





# SESSION 10: SPECIAL ISSUES FOR CHILDBEARING WOMEN

## SESSION 10: SPECIAL ISSUES FOR CHILDBEARING WOMEN

### PURPOSE

This session discusses issues unique to nursing care of childbearing women with HIV including how HIV affects pregnancy, PMTCT, infant feeding, and postpartum follow up.

### OBJECTIVES

- List issues relating to HIV and pregnancy and the use of ART during pregnancy.
- Understand prevention of mother-to-child transmission.
- Understand the current recommendations on HIV and infant feeding.
- Discuss the follow up of mothers and babies after birth relating to HIV.

### CONTENT

Special Issues for Childbearing Women (Slide 1)

- Women are more vulnerable to becoming infected with HIV than men for a variety of reasons:
  - higher risk of transmission from male to female during intercourse
  - social norms
  - economic dependence
  - sexual coercion
  - violence

Special Issues for Childbearing Women (Slide 2)

- Many women find out they are HIV positive when they are tested during pregnancy.
- Others know they have HIV and want to become pregnant or do become pregnant.
- HIV can be passed on to a baby during pregnancy, birth, or breastfeeding. Transmission is thought to happen most commonly during delivery.
  - The risk of transmission without PMTCT is 30–40 percent.

- Children who are not infected with HIV, but are born to mothers who are infected with HIV, face 2–5 times the risk of illness when compared to children born to HIV-negative mothers (ANNECA, 2006).

Special Issues for Childbearing Women (Slide 3)

- The use of ART during pregnancy can reduce the risk of transmission to the fetus.
- Following guidance about infant feeding can also reduce risk of transmission.
- When working with HIV-infected patients who are pregnant or may become pregnant, nurses should
  - be sensitive and nonjudgmental
  - understand the issues
  - be able to educate patients about the issues

How HIV Affects Pregnancy (Slide 1)

- Mother's health:
  - According to current knowledge, pregnancy does not accelerate HIV disease.
  - If the mother is in the asymptomatic phase and has not been tested, she may not know her child is at risk of contracting HIV.

How HIV Affects Pregnancy (Slide 2)

- Mother's health, continued:
  - Pregnant women (not on ART) with HIV should be treated for common OIs and conditions the same as nonpregnant women (except drugs should be carefully chosen and monitored).

How HIV Affects Pregnancy (Slide 3)

- Baby's health:
  - In the later stages of HIV infection, the virus can contribute to poor fetal growth, low birth weight, or prenatal or neonatal death.
  - ART (especially EFV) used in the first trimester may cause birth defects.

HIV-Infected Women Not on ART Who Become Pregnant

- Determine if she is eligible for ART.
- Weigh the risks and benefits of starting ART.
- Consider delaying the initiation of ART until after the first 10 weeks of pregnancy to reduce risks of birth defects.
- If the woman is severely ill, the risks of delaying ART to her may outweigh the risks of starting ART for the fetus.
- If the pregnant woman is not ready to begin ART, refer her to a PMTCT program.

HIV-Infected Women on ART Who Become Pregnant

- Options:
  - temporarily stop ART during first trimester
  - continue same therapy
  - change to a different regimen (if current regimen contains EFV)
- Consider:
  - gestation of the pregnancy
  - severity of maternal disease
  - tolerance of regimen in pregnancy
  - potential for adverse effects to fetus

Factors That May Increase Risk of Mother-to-Child Transmission (MTCT) (Slide 1)

- high maternal viral load
- recurrent STDs
- malaria infection
- vitamin A deficiency
- preterm delivery
- vaginal delivery

Factors That May Increase Risk of MTCT (Slide 2)

- rupture of membranes > 4 hours
- placental disruption
- invasive procedures during delivery (use of forceps, etc.)
- mechanical nasal suction after delivery
- breastfeeding (especially mixed feeding)

Factors That May Decrease Risk of MTCT (Slide 1)

- During pregnancy:
  - Establish HIV status through voluntary counseling and testing.
  - Refer to PMTCT services.
  - Diagnose and treat STDs, malaria, and other infections.
  - Provide basic antenatal care including
    - iron supplements
    - education about MTCT and infant feeding options
    - risk reduction/safer sex measures

Factors That May Decrease Risk of MTCT (Slide 2)

- During labor and delivery:
  - Cesarean section delivery reduces risks.
  - Delay rupturing membranes (ROM).
  - Do only minimal digital examinations after ROM.
  - Cleanse the vagina with viricides if available (e.g., 0.25% chlorhexidine on admission and every 4 hours to delivery).
  - Reduce use of forceps.
  - Reduce use of episiotomy.
  - If not already on ART, give NVP according to national guidelines.

Factors That May Decrease Risk of MTCT (Slide 3)

- After birth:
  - Avoid mechanical nasal suction.
  - Clean the newborn immediately of all maternal secretions and blood.
  - Educate mother on safer feeding options (info to follow).
  - If breastfeeding, put infant to breast within 30 minutes of birth.
  - Educate mother on infant testing.

Nursing Role

- The decision for an HIV-positive woman to become pregnant is complex and there are no general protocols.
- Your role as a nurse is to provide the woman with the knowledge she needs to make an informed decision and then to support the decision she makes.

Nursing Considerations: Assessment

- For all women:
  - Assess
    - intention to become pregnancy and/or pregnancy status
    - use of contraceptives
    - eligibility for ART according to national guidelines
    - woman's understanding of her reproductive cycle
    - screen for STDs
    - screen for malaria

Nursing Considerations: Interventions (Slide 1)

- For pregnant women: refer to PMTCT, start ART if eligible, treat STDs, malaria and any other infections, counsel on prevention.

- In hospital (for those who have just delivered) administer PMTCT drugs (according to protocol), counsel on infant feeding, postnatal/pediatric follow up and prevention, refer to other resources as needed.

Nursing Considerations: Interventions (Slide 2)

- For those intending to become pregnant, provide counseling on:
  - HIV and HIV transmission
  - HIV and pregnancy
  - ART (if needed) during pregnancy
  - PMTCT
  - the reproductive cycle
  - STDs

Nursing Considerations: Interventions (Slide 3)

- If a woman is taking ART and wants to become pregnant, advise her to
  - Take ART for six months with 100 percent adherence but avoid EFV.
  - Continue on co-trimoxazole prophylaxis (if taking).
  - Monitor reproductive cycle to determine when ovulation occurs (usually +/– 7 to 10 days).
  - Continue to use safer sex practices.
  - After six months (if woman is in good clinical condition), engage in unprotected sex around the time of ovulation only.
  - Use safer sex practices when not around time of ovulation.
  - Return for regular follow-up visits.
- If she becomes pregnant:
  - Return to safer sex practices.
  - Seek antenatal care (including PMTCT).

Nursing Considerations: Interventions (Slide 4)

- If a woman is not taking ART and wants to become pregnant:
  - Continue on co-trimoxazole prophylaxis (if taking).
  - Monitor reproductive cycle to determine when ovulation occurs (usually +/- 7 to 10 days).
  - Engage in unprotected sex around the time of ovulation only.
  - Use safer sex practices when not around time of ovulation.
  - Return for regular follow-up visits.
- If she becomes pregnant:
  - Return to safer sex practices.
  - Seek antenatal care including PMTCT.

Safer Infant Feeding

- WHO/UNAIDS/UNICEF recommend that women with HIV infection be fully informed of both risks and benefits of breastfeeding and supported in their choice of feeding practice.
- When replacement feeding is acceptable, feasible, affordable and safe, avoidance of breastfeeding by HIV-positive mothers is recommended; otherwise, exclusive breastfeeding is recommended for the first six months of life, followed by abrupt weaning. Adequate milk substitutes and nourishing complementary foods are essential to prevent malnutrition during weaning.

Breastfeeding Risks

- HIV can be transmitted via breast milk.
- The risk exists as long as the infant is breastfeeding.
- Mixed feeding (breast milk plus other substances—water, cow's milk, formula, food, etc.—has a higher risk of transmission than exclusive breastfeeding.
- Mastitis can increase the risk of transmission.

Breastfeeding Benefits

- The baby's immune system is boosted by maternal antibodies.
- Breast milk provides good nutrition.
- Breastfeeding improves bonding between mother and baby.
- Breastfeeding promotes child spacing.
- Breast milk helps prevent other infections (besides HIV) in already infected children.

Patient Education on Breastfeeding (Slide 1)

- Do not give baby any other fluids or foods (including water), except medicine prescribed by a nurse or doctor.
- Ensure your baby is well positioned (areola visible, mouth wide open, chin touching the breast) to prevent sores/cracking.
- Hold baby close to you with his or her back straight.

Patient Education on Breastfeeding (Slide 2)

- Feed as often and as long as the baby wants, at least 8 times in 24 hours.
- Let the baby finish one breast and come off on his or her own before offering the other breast.
- Check for sores in baby's mouth and get them treated immediately.
- Get treatment immediately for swollen, red, or painful breast. Do not feed baby from this breast.
- Stop breastfeeding and offer substitutes/food after six months.

Patient Education on Cup Feeding

- Wash hands.
- Mix formula or evaporated milk with clean water (boiled for 1 to 2 seconds, then cooled).
- Make enough for one feeding at a time (baby has had enough when he or she closes mouth and does not take any more).

- Feed child with a clean cup.
- Discard unused formula/milk, give it to an older child, or drink it yourself.

Adherence to ART

- Pregnancy/childbirth may pose an additional challenge to adherence for women on ART.
  - During pregnancy, nausea and fatigue may interfere with taking ART on time.
  - After birth, fatigue and stress may also interfere with taking ART on time.
  - Women may need additional adherence support to recognize that maintaining her own health is important for both her and her family.

Postpartum Nursing Considerations

- Assess:
  - Frequency and duration of breastfeeding.
  - If using breast-milk substitute, assess availability, affordability, feasibility. These can be formula milks, modified full-cream milk powder, or cow or goat's milk.
- Interventions:
  - Educate about and reinforce information on feeding, including preparation of nutritionally adequate complementary foods, quantities to give, and frequency of feeding.
  - Treat infections.
  - Refer to support for breast-milk substitute.





# SESSION 11: SPECIAL ISSUES IN PEDIATRICS

## SESSION 11: SPECIAL ISSUES IN PEDIATRICS

### PURPOSE

This session educates participants on issues unique to pediatrics and HIV including common conditions, adherence, working with caregivers, drug administration, and disclosure.

### OBJECTIVES

- List guidelines in caring for children with HIV.
- Understand nursing management guidelines for pediatric HIV treatment.
- Discuss the special challenges in ART treatment for children.
- Discuss the pros and cons of disclosure of HIV status.
- Describe some strategies to teach parents in giving medications to babies/toddlers and older children.
- Describe some special adherence barriers for adolescents and strategies to deal with them.
- Discuss issues related to pain management in children.

### CONTENT

Guidelines for Pediatrics (Slide 1)

- Confirm HIV status as soon as possible.
- Monitor growth and development.
- Ensure immunizations are started and finished on schedule.
- Provide prophylaxis for TB and PCP.
- Screen for and treat infections early.
- Counsel on optimal infant feeding.

Guidelines for Pediatrics (Slide 2)

- Counsel caregiver on personal and food hygiene to prevent common infections.
- Counsel caregiver on clinical follow-up schedule.
- Conduct disease staging.
- Offer ART if needed.
- Provide psychosocial support to families.
- Refer to specialized health and community services if needed.

Challenges in HIV Care for Pediatrics (Slide 1)

- dependence on caregivers
- difficulty for children of taking pills (e.g., learning to swallow pills)
- fear of disclosure (to child and others)
- cultural norms regarding children and medical care

Challenges in HIV Care for Pediatrics (Slide 2)

- liquid drug formulations
- weight-based dosing: as weight increases, doses must be changed
- cost: drugs for children are often more expensive than those for adults
- bad taste of liquid drugs
- frequency of doses
- food restrictions
- drug storage (e.g., some drugs require refrigeration)

Infant Testing (Slide 1)

- Infants can carry maternal antibodies in their blood for up to 18 months.
  - The standard tests for HIV use the presence of antibodies to signify the presence of the virus.

- Therefore, if an infant exposed to HIV tests positive before 18 months of age using an antibody-based test, he or she should be retested again after 18 months of age.
- A negative test result in a child younger than 18 months, who has never breastfed, or who was weaned at least 6 months previously, can be considered negative.

- Virologic testing is reliable (at any time) but expensive and not widely available.

Infant Testing (Slide 2)

- To summarize:
  - Before 18 months:
    - A negative test result means the baby does not have HIV (if he or she has never breastfed or has been weaned for six months or more).
    - A positive test result means that they baby may have HIV and must be tested again after 18 months.
  - After 18 months:
    - A negative test result means the baby does not have HIV.
    - A positive test result means the baby does have HIV.

When to Suspect HIV:

- If a child is too young for reliable testing, some signs or conditions can indicate HIV.
- Differentiate between the signs/conditions
  - very specific to HIV infection
  - common to HIV-infected children but uncommon in uninfected children
  - common to HIV-infected and uninfected children

Very Specific to HIV Infection

- pneumocystis pneumonia
- esophageal candidasis
- extrapulmonary cryptococcosis
- invasive salmonella infection
- lymphoid interstitial pneumonitis
- herpes zoster (shingles) with multi-dermal involvement
- Kaposi's sarcoma
- lymphoma

Common in HIV-Infected Children but Uncommon in Uninfected Children

- severe/recurrent bacterial infections
- persistent or recurrent oral thrush
- bilateral painless parotid enlargement
- generalized persistent non-inguinal lymphadenopathy
- hepatosplenomegaly (in nonmalarial areas)
- persistent/recurrent fever
- neurologic dysfunction
- herpes zoster (shingles) single dermatome
- persistent generalized dermatitis (unresponsive to treatment)

Common in HIV-Infected and Uninfected Children

- chronic, recurrent otitis with ear discharge
- persistent or recurrent diarrhea
- severe pneumonia

- TB
- bronchiectasis
- failure to thrive/marasmus

Infant Testing: Nursing Management

- Assessment:
  - Assess child for conditions that could indicate HIV.
  - If experiencing symptoms, assess exposure to HIV.
- Interventions:
  - Counsel family/caregivers on testing.
  - Facilitate testing.
  - Interpret test results.

Pediatric Assessment of HIV

- As with adults, WHO staging is a way of categorizing the status of children with HIV.
- More information on WHO staging is included in Session 2.

WHO Staging: Nursing Management

- Interventions:
  - Assist with clinical assessment for staging.
  - Counsel families on the meaning of staging.
  - Provide appropriate nursing management for conditions experienced.

WHO Clinical Stages 1 and 2 for Pediatrics
(WHO, 2006)

| CLINICAL STAGE 1 |
| --- |
| Asymptomatic |
| Persistent generalised lymphadenopathy (PGL) |
| **CLINICAL STAGE 2** |
| Unexplained persistent hepatosplenomegaly |
| Papular pruritic eruptions |
| Extensive wart virus infection |
| Extensive HPV or molluscum contagiosum |
| Fungal nail infections |
| Lineal gingival erythema |
| Recurrent oral ulcerations |
| Unexplained persistent parotid enlargement |
| Lineal gingival erythema |
| Herpes zoster |
| Recurrent or chronic upper respiratory tract infections (otitis media, otorrhea, sinsusitis, or tonsillitis) |

## WHO Clinical Stage 3 for Pediatrics

| CLINICAL STAGE 3 |
| --- |
| Unexplained moderate malnutrition not adequately responding to standard therapy |
| Unexplained persistent diarrhea (14 days or more) |
| Unexplained persistent fever (above 37.5ºC intermittent or constant, for longer than one month) |
| Persistent oral candidasis (after first 6–8 weeks of life) |
| Oral hairy leukoplakia |
| Acute necrotizing ulcerative gingivitis or periodonitis |
| Lymph node tuberculosis |
| Pulmonary tuberculosis |
| Severe recurrent bacterial pneumonia |
| Symptomatic lymphoid interstitial pneumonistis |
| Chronic HIV-associated lung disease including bronchiectasis |
| Unexplained anemia (<8 gm/dL), neutropenia (<0.5 x $10^9$ per litre), and or thrombocytopenia (<50 x $10^9$ per litre) |

## WHO Clinical Stage 4 for Pediatrics

| CLINICAL STAGE 4 |
| --- |
| Unexplained severe wasting, stunting, or malnutrition not responding to standard therapy |
| Pneumocystis pneumonia |
| Recurrent severe bacterial infections (such as empyema, pyomyositis, bone or joint infection or meningitis, but excluding pneumonia) |
| Chronic herpes simplex infection (orolabial or cutaneous of more than one month's duration or visceral at any time) |
| Extrapulmonary tuberculosis |
| Kaposi's sarcoma |
| Esophageal candidiasis (or candidiasis of trachea, bronchi, or lungs) |
| Central nervous system toxoplasmosis (after one month of life) |
| HIV encephalopathy |
| Cytomegalovirus infection: retinitis or cytomegalovirus infection affecting another organ, with onset at age older than one month |
| Extrapulmonary cryptococcosis (including meningitis) |
| Disseminated endemic mycosis (extrpulmonary histoplasmosis, coccidiomycosis) |
| Chronic cryptosporidiosis |
| Chronic isosporiasis |
| Disseminated nontuberculous mycobacterial infection |
| Cerebral or B-cell non-Hodgkin lymphoma |
| Progressive multifocal leukoencephalopathy |
| Symptomatic HIV-associated nephropathy or HIV-associated cardiomyopathy |

Growth and Development

- Growth failure is more common in HIV-infected children than uninfected children:
  - low birth weight
  - HIV infection itself
  - other underlying disease, such as TB
  - inadequate nutrition

Growth and Development: Nursing Management

- Assess:
  - Baseline weight, full length/height, mid- and upper-arm circumference (and head circumference if child < 3 years old).
    - › Measure height, weight, head circumference, and mid- and upper-arm circumference at each subsequent visit.
  - Record in chart:
    - › Document weight and length/height on the child growth card (e.g., NCHS standards).
  - Evaluate child's progress.
- Interventions:
  - Counsel families/caregivers on results.
  - Counsel families/caregivers on nutrition/hygiene.
  - Refer to food resources.
  - Treat infections promptly.

Immunizations: Nursing Management

- Assess:
  - Child's immunization status.

- Interventions:
  - Give immunizations as ordered according to national guidelines with modifications for HIV.
  - Counsel families/caregivers on need for immunizations and symptoms for further assessment.

Prophylaxis: Nursing Management (Slide 1)

- Co-trimoxazole (CTX) prophylaxis reduces the risk of PCP, common bacterial infections, toxoplasmosis, and malaria.
  - Give according to national guidelines.
  - Start at 4–6 weeks of age and continue until HIV diagnosis is excluded.
  - Isoniazid prophylaxis reduces the risk of TB if child is exposed.
- Assessment:
  - Assess need for CTX:
    - HIV-positive, suspected HIV-positive mother or history of PCP.
    - Children with any clinical signs or symptoms suggestive of HIV, regardless of age or CD4 count.
  - Assess need for INH (exposed to smear positive TB).

Prophylaxis: Nursing Management (Slide 2)

- Interventions:
  - Counsel families/caregivers on need and use of drugs.
  - Teach caregivers about drug administration.
  - Assist caregivers to access drugs if needed.

Other Infections: Nursing Management

- HIV-positive children are susceptible to common infections that may present or respond to treatment differently than in HIV-negative children.

- Assess:
  - Monitor for signs/symptoms of infections.
- Interventions:
  - Counsel families/caregivers on cause of infection and treatment.
  - Teach them about drug administration and assist them in accessing the drugs.

Common Conditions

- otitis media
- respiratory conditions including: bacterial pneumonia, PCP, and lymphoid interstitial pneumonitis (LIP)
- diarrhea
- anemia
- oral candidiasis
- dermatological conditions
- neurologic conditions including HIV encephalopathy

Pediatric Otitis Media

- One of the most common infections in HIV-positive children.
- Acute (<14 days) symptoms include irritability, pulling at ears, difficulty sleeping, excessive crying, and ear discharge.
- Chronic infection may be asymptomatic but involve chronic ear discharge.

Pediatric Otitis Media: Assessment at the Primary Level

- duration of symptoms
- discharge (quantity, color)
- fever
- irritability/pulling at ears

- change in sleep habits
- appearance of eardrum (may be red, bulging, or perforated if infected)
- hearing (child may need to be referred to ear-nose-throat (ENT) to be assessed)

Pediatric Otitis Media: Interventions at the Primary Level

- Teach caregiver to
  - wick ear if discharge is present
  - administer antibiotics (oral or drops) according to standing orders
  - finish full dose of antibiotics even if child feels better
  - treat pain with paracetamol in pediatric doses
  - assist child to sleep with head elevated
- Refer to ENT if hearing loss is suspected.

Pediatric Respiratory Conditions

- Respiratory conditions commonly experienced by children infected with HIV include
  - bacterial pneumonia
  - pneumocystis pneumonia (PCP), also called pneumocystis jiroveci
  - lymphoid interstitial pneumonitis (LIP)
- Descriptions of each of the above conditions follow as well as guidance on overall nursing management of pediatric respiratory conditions.

Bacterial Pneumonia (Slide 1)

- Bacterial pneumonia can present the same way in both HIV-positive and HIV-negative children and include
  - history of rapid breathing
  - fever
  - cough

  - cyanosis
  - lethargy

Bacterial Pneumonia (Slide 2)

- Symptoms, continued:
  - Crepitations (crackles/rales), decreased breath sounds, or bronchial breathing may be heard on auscultation.
  - Persistent hypoxia (oxygen saturation <90%) may be present (as measured by pulse oximetry).
- Recurrent pneumonia should be evaluated to rule out other conditions such as TB, LIP, and fungal pneumonia including PCP.

Bacterial Pneumonia (Slide 3)

- Medications:
  - Antibiotic treatment can include oral amoxycillin, penicillin, or co-trimoxazole (use high dose if child is not already on co-trimoxazole prophylaxis).
  - Analgesics and antipyretics should be included.
  - Bronchiodilators (e.g., salbutamol) can be used for wheezing.
- Patient should be referred to secondary level if in acute respiratory distress, hypoxia, or if wheezing does not respond to a bronchodilator.

PCP (Pneumocystis Carinii or Jiroveci) (Slide 1)

- PCP, caused by a fungus, is a major cause of severe, life-threatening pneumonia in children.
- It occurs most frequently between 3 and 6 months of age.
- Features include
  - low-grade fever or afebrile
  - dry cough

  - marked respiratory distress
  - on auscultation, clear chest or fine diffuse crepitations
  - poor response to standard antibiotic treatment
  - severe persistent hypoxia
- Because of the severity of symptoms, PCP usually is managed at the secondary level.

PCP (Slide 2)

- Diagnosis is made via sputum induction or bronchoalveolar lavage. If testing is not possible, treatment should be initiated quickly and include antibiotics and oxygen supplementation.
- Medications:
  - High-dose co-trimoxazole or sulphametoxazole IV.
  - Prednisone if child is in severe distress.
  - Maintenance prophylaxis after an acute episode.

LIP (Lymphoid Interstitial Pneumonitis) (Slide 1)

- Can occur in up to 40 percent of HIV-positive children.
- Involves lymph cell infiltration into the alveolar spaces and inflammation.
- Symptoms include the gradual onset of
  - dyspnea
  - cough
  - fever
- Other possible symptoms:
  - parotid enlargement
  - enlarged lymph nodes
  - hepatosplenomegaly
  - finger clubbing

LIP (Slide 2)

- Medications:
  - steroids (e.g., prednisone) when there is significant respiratory distress
  - bronchodilators
  - antibiotics (if concurrent with bacterial pneumonia)

Pediatric Respiratory Conditions: Assessment at the Primary Level (Slide 1)

- Assess and record:
  - breath sounds (e.g., crackles, rales, reduced breath sounds present)
  - number and quality of respirations (deep, shallow; chest retracting with breath)
  - quality of SOB (dyspnea on exertion or while at rest)
  - type of cough (productive or nonproductive)
  - child's activity level
  - skin: coloring and perfusion (cyanosis), quality (cool, clammy)

Pediatric Respiratory Conditions: Assessment at the Primary Level (Slide 2)

- Patients should be referred to the secondary level if experiencing acute shortness of breath or any of the following symptoms in addition to cough/shortness of breath:
  - elevated heart rate
  - fever > 39°C
  - low blood pressure
  - chest pain
  - cool/clammy skin
  - cyanosis
  - dry mucus membranes
  - poor skin turgor
  - mental status changes

- decreased urine output
- lower extremity swelling

Pediatric Respiratory Conditions: Interventions at the Primary Level

- Administer medications according to standing orders, assist caregiver in filling prescription(s) and teach about medications.
- Counsel caregiver to return to clinic if the child is not feeling better in 48 hours.
- Patient education: Offer clean water or other fluids.
  - For older children, drink warm beverages or suck on candies to help calm cough.

Pediatric Respiratory Conditions: Assessment at the Secondary Level (Slide 1)

- Respiratory status at least every four hours and more frequently if needed.
- Breath sounds (e.g., crackles, rales, or reduced breath sounds).
- Monitor pulse oximetry ($SpO_2$).

Pediatric Respiratory Conditions: Assessment at the Secondary Level (Slide 2)

- Obtain arterial blood gas measurements to monitor gas exchange, as ordered.
- Count and record numbers of respirations and their quality (deep, shallow, etc.).
- Assess patient's anxiety status.

Pediatric Respiratory Conditions: Interventions at the Secondary Level (Slide 1)

- Maintain a clear airway:
  - Suction lung secretions if appropriate.
  - Administer therapies.
  - Supplemental oxygen.
  - Chest PT.
  - Provide fluids, especially clean water, to liquefy lung secretions.
  - Elevate bed to Fowler's or high Fowler's position.

Pediatric Respiratory Conditions: Interventions at the Secondary Level (Slide 2)

- Therapies, continued:
  - Administer medications to treat infection, as ordered; monitor and record the patient's response to the medications.
  - Administer medications to relieve shortness of breath and cough (antitussives and expectorants).
  - Assist the patient with coughing using abdominal splinting and deep breathing exercises.
  - Keep the air moving in the patient's room with an oscillating fan or open window.

Pediatric Respiratory Conditions: Interventions at the Secondary Level (Slide 3)

- Therapies, continued:
  - Administer humidifying treatments (fill bowl or pot with very hot water; add eucalyptus or mint leaves if possible; cover the patient's head with a towel and instruct him/her to breathe in vapors deeply for 10 minutes; repeat as ordered).
  - Assist patient with repositioning in bed to move lung secretions, and with ambulation as appropriate.
  - Provide psychological support; shortness of breath can be frightening to children.

Pediatric Diarrhea

- Acute diarrhea is the most common cause of sickness and the leading cause of death in HIV-positive children younger than age 1.
- Chronic diarrhea in HIV-infected children can be complicated by dehydration and malnutrition.
- It can be caused by bacteria that commonly cause diarrhea in HIV-negative children, viruses, or HIV-related complications.

- The overall principles of management of acute or persistent diarrhea in HIV-positive children are the same as HIV-negative children.

Pediatric Diarrhea: Assessment at the Primary Level (Slide 1)

- Assess:
  - onset, duration, and pattern of diarrhea
  - hydration status (skin turgor, urine output)
  - nutrition status
  - recent medication use
  - ability to tolerate oral intake
  - associated symptoms (abdominal discomfort, nausea)
  - other new symptoms

Pediatric Diarrhea: Assessment at the Primary Level (Slide 2)

- Symptoms for referral to the secondary level:
  - dehydration (sunken eyes, poor skin turgor, dry mucous membranes)
  - bloody stools
  - lethargy
  - child unable to tolerate food or drink
  - abdominal pain

Pediatric Diarrhea: Interventions at the Primary Level

- Give ORS if indicated.
- Administer antibiotics when appropriate (bloody diarrhea or shigellosis) per standing orders.
- Administer multivitamins/zinc supplements per standing orders.
- Provide ORS for home use.

- Counsel caregivers to do the following:
  - Administer home ORS at first signs of diarrhea.
  - Continue/increase feeding during and after diarrheal episode.
  - Maintain good hygiene.
  - Return for follow up.

Pediatric Diarrhea: Assessment at the Secondary Level (Slide 1)

- Weigh the patient daily.
- Monitor hydration status, initially every eight hours if patient is being rehydrated:
  - skin turgor
  - mucous membranes
  - tissue perfusion
  - mental status

Pediatric Diarrhea: Assessment at the Secondary Level (Slide 2)

- Monitor for symptoms of electrolyte imbalances:
  - lethargy or weakness
  - muscle cramping
  - mental confusion (in non-infant)
  - irregular heart rhythm
- Monitor stool output and record in patient's chart, including characteristics (e.g., frothy or excessive amount of fat).

Pediatric Diarrhea: Assessment at the Secondary Level (Slide 3)

- Obtain stool samples for laboratory investigations.
- Carefully monitor electrolyte levels.
- Monitor skin integrity.

Pediatric Diarrhea: Interventions for the Secondary Level (Slide 1)

- Replace fluids as ordered.
  - PO fluids
  - IV (monitor electrolyte levels pre- and post-fluid administration)
  - ORS
- Monitor intake and output.
- Administer antibiotics (if the causal organism has been identified) and vitamins/zinc supplements or medications to decrease GI motility, as ordered.

Pediatric Diarrhea: Interventions for the Secondary Level (Slide 2)

- Provide foods high in protein and calories, including foods with soluble fiber.
- Avoid foods and fluids that increase GI motility.
- Perform thorough perineal skin care.
- Teach the caregiver
  - good hygiene
  - skin care
  - nutrition

Pediatric Anemia

- Anemia is common in HIV-positive children.
- Anemia can be caused by illnesses other than HIV (malaria, helminthic infections, malnutrition).
- It may be caused by HIV or as a side effect of certain medications. (For example, co-trimoxazole [Septrim], clarithromycin, ganciclovir or zidovudine.)

Pediatric Anemia: Assessment/Interventions at the Primary or Secondary Levels (Slide 1)

- Assess:
  - pallor
  - lethargy
  - difficulty walking (if child is walking)
  - medication use
  - conduct hemoglobin (Hbg) test

Pediatric Anemia: Assessment/Interventions at the Primary or Secondary Levels (Slide 2)

- Interventions at primary level:
  - Refer to secondary level if Hbg < 8g/dl.
  - Administer iron supplements according to standing orders.
  - Counsel caregiver on foods high in iron (see Session 7) for child who is eating solids.
- Interventions at secondary level:
  - Monitor oxygenation.
  - Administer blood transfusion as ordered.
  - Monitor safety.

Pediatric Oral Candidiasis (Slide 1)

- Both HIV-positive and HIV-negative children can experience oral candidiasis (also called thrush).
- If a child has not been previously suspected of having HIV, oral candidiasis may be indicative of HIV infection if seen
  - after the neonatal period without previous antibiotic treatment, or
  - lasting for more than 30 days, or
  - recurrent

Pediatric Oral Candidiasis (Slide 2)

- Symptoms:
  - reluctance to take food or drink
  - excessive salivation
  - crying while feeding
  - white or red patches in mouth or tongue

Pediatric Oral Candidiasis: Assessment at the Primary Level

- Inspect mouth.
- Assess for recent reluctance to take food/drink, excessive salivation, or crying while feeding.
- Assess hydration and nutritional status.
- Children should be referred to the secondary level if they are dehydrated or cannot swallow or eat.

Pediatric Oral Candidiasis: Interventions at the Primary Level (Slide 1)

- Teach caregivers about infection, medications, (nystatin, fluconazole or ketoconazole) and medication administration.
- Assist caregivers to obtain medications.
- Encourage good mouth care:
  - Brush teeth and gums (if child has teeth) twice daily.
  - Rinse mouth with clean water after meals.
- If child is eating solids, encourage caregiver to offer soft foods including
  - rice, porridge, bananas, yogurt, soups
  - soft, cooked vegetables

Pediatric Oral Candidiasis: Interventions at the Primary Level (Slide 2)

- Teach caregivers to
  - not scrape off white patches in the mouth
  - avoid offering acidic or spicy foods (e.g., oranges, lemons, tomatoes)
  - avoid offering very hot or very cold foods and beverages
  - cut back on sweet foods, which may make candida worse
  - provide a straw for drinking fluids

Pediatric Oral Candidiasis: Assessment/Interventions at the Secondary Level

- Follow same assessment and interventions as at primary level.
- Administer drugs, as ordered.
  - Oral candida
    - nystatin liquid (avoid eating/drinking 30 minutes after medication administration)
  - Esophageal candida
    - fluconazole or ketoconazole
    - amphotericin B

Dermatological Conditions

- Nonspecific dermatitis is common in children with HIV.
- HIV-positive children also experience more skin infections than HIV-negative children, and the infections can be more difficult to treat.
- They may experience rash related to medications.

Pediatric Dermatological Conditions: Assessment at the Primary and Secondary Levels

- Document in the patient's medical record the location, extent, and characteristics of skin.
- Monitor for and document changes.

Pediatric Dermatological Conditions: Interventions at the Primary and Secondary Levels (Slide 1)

- Teach caregivers to
  - use mild, unscented cleansers or oatmeal soaps
  - only bathe babies when necessary
  - protect the skin from sun exposure
  - keep skin moisturized with unscented moisturizers
  - offer liquids to keep child well hydrated
  - cut nails short
- Provide symptomatic treatment.
- Teach caregivers to administer medications to treat infection, underlying conditions, and pain (according to standing orders).

Pediatric Dermatological Conditions: Interventions at the Primary and Secondary Levels (Slide 2)

- Referrals to the secondary level:
  - Refer if condition does not respond to treatment or is worsening.
  - Refer if new skin changes occur with shortness of breath, fever.
  - All cases of herpes zoster should be treated at the secondary level using IV anti-virals and pain management.

Pediatric Neurological Conditions

- Several conditions can affect the neurological system in HIV-positive children.
  - Opportunistic infections can cause encephalitis (CMV, herpes virus), meningitis (candida, aspergillus, cryptococcal).
  - Peripheral neuropathy can be caused by HIV itself or the use of ART drugs.
  - HIV itself can cause encephalopathy.

HIV Encephalopathy: Assessment at the Primary and Secondary Levels (Slide 1)

- Symptoms:
  - failure to attain or loss of developmental milestones (smiling, walking, talking, etc.)
  - motor deficits
- Assessment:
  - Assess milestones and intellectual development according to child's age/developmental level.
  - Ask caregiver about child's development: Does child seem to be progressing? Has child lost skills he or she previously had?
  - Assess gait and reflexes.

HIV Encephalopathy: Interventions at the Primary and Secondary Levels

- Interventions:
  - Counsel caregiver on HIV encephalopathy and that reducing the viral load via ART is the only treatment.
  - Refer to neurologist, physical therapy, and social worker.
  - Teach caregiver about ART.
  - Teach caregiver about maintaining child's safety.

Pediatric Pain Management

- Pain in children is often under treated.
- The same principles of pain management apply for adults and children.
- Nurses need to advocate for proper pain management for children.

Pediatric Pain: Nursing Management (Slide 1)

- Assess pain (according to child's development level) and document results.
  - Use faces scale for younger children.
  - For older children, rate pain on scale of 0–5 as for adults.
- Interventions:
  - Prevent pain when possible.
  - Treat cause.
  - Use medication along with nonpharmacological methods.
  - Administer pain medications "around the clock" (do not wait for patient or family to request it).
  - Assess effectiveness of treatment within 30–45 minutes of administration. If the child reports pain or appears to remain in distress, follow standing orders on pain management protocol or contact prescribing physician for alternative medication.

Pediatric Pain: Nursing Management (Slide 2)

- Interventions continued:
  - Use distracters such as TV or singing songs.
  - Comfort/cuddle child after procedure.
  - More information on nursing management of pain is included in Session 5.

Pediatric Pain Assessment:

- Tool for assessment of pediatric pain:
  - If child cannot talk or describe his/her pain, use faces and descriptions to document your observations of the child's pain. For example "pain level observed to be 3/5 using faces scale."




Infant Feeding: Nursing Management

- See Session 10 for nursing management of infant feeding.

Personal and Food Hygiene: Nursing Management

- See Session 7 for nursing management of food and personal hygiene.

Clinical Follow-Up Schedule for Children with HIV

- For HIV-exposed child:
  - at birth
  - 1–2 weeks (infant feeding)
  - 6, 10, and 14 weeks (immunization and infant feeding)
  - after 14 weeks, monthly for first 12 months
  - after 12 months, every 3 months through 24 months
  - confirmatory HIV test at 18 months
  - if confirmatory HIV test is positive, after 2 years, yearly
  - whenever there is a change in child's status

Clinical Follow-Up Schedule: Nursing Management (Slide 1)

- Assess:
  - age of child
  - developmental milestones
  - last visit
  - any changes since last visit

Clinical Follow-Up Schedule: Nursing Management (Slide 2)

- Interventions:
  - Record visit.
  - Counsel families/caregivers on need for follow-up and when to return (even if child is not sick).
  - Institute reminder or tracking system such as appointment register, contact tracing, etc.

Psychosocial Support

- Nurses can assist families/caregivers with psychosocial support to care for children with HIV, particularly in terms of
  - disclosure
  - adherence
  - giving medications
  - adolescent adherence

What is Disclosure?

- Definitions:
  - to reveal
  - to expose
  - to make known
  - to make public
  - to share

Disclosure Issues (Slide 1)

- Disclosure may start as early as 5 to 7 years of age, but it must be done gradually and in a culturally sensitive manner, with the consent and participation of the parent/caregiver (ANNECA, 2006).

- Basic issues to consider when working with families with HIV-infected children on disclosure issues: needs, feelings, and beliefs of family and child.

Disclosure Issues (Slide 2)

- Benefits of disclosure:
  - It can help patient and family adopt a positive living attitude.
  - A child may cope as well as an adult if he or she is told at a young age.
  - If the community is supportive, disclosing to the community can help parent/caregiver obtain support.
  - A child may suspect his or her status already.
  - Older children and adolescents can more fully participate in their care if they understand it better.
  - Adolescents may need prevention counseling (how to avoid spreading HIV to others).

Disclosure Issues (Slide 3)

- Challenges of disclosure:
  - If transmission was from mother to child, disclosing parents need to face their own positive status and transmission to the child.
  - Stigma may be present in community.
  - Disclosure needs to be done gradually and at the child's level of understanding.

Disclosure Issues (Slide 4)

- Confidentiality and trust must always be maintained between the healthcare staff and the family.

Pediatric Disclosure: Nursing Assessment and Interventions

- Assess:
  - Has the caregiver talked to the child about his or her status?
  - If not, how do they feel about disclosing?

- Interventions:
  - Listen to their concerns.
  - Help them reason through disclosure.
  - Participate in disclosure if the parent/caregiver desires.

Rules for Pediatric Adherence

- Children need to maintain the same 100 percent drug adherence levels as adults.
- Use the same adherence strategies and steps as adults with age-appropriate modifications.
- Educate caregiver on how to give medications to child.
- Involve and educate both caregivers and children at the child's level of understanding.
- Provide family with support for other needs (food, housing, spiritual support, etc.) to strengthen the household and optimize success of adherence.
- Peer education or involvement in PLHA family groups may be helpful.

Pediatric Adherence: Nursing Assessment and Interventions

- Assess:
  - Has child taken all his or her medications since last visit?
  - If not, how many pills/doses have been missed and why?
- Interventions:
  - Teach caregivers about drugs and drug administration.
  - Drug dosages will change as child grows.
- Information needs to be repeated; especially when dosage or form of drug changes (e.g., change from liquid to pill).

Caregiver Education (Slide 1)

- How to give medicines to babies/toddlers (birth through 2 years):
  - Use a syringe or soft plastic dropper, or use a spoon for medicine mixed with food. Carefully label dose on syringe.
  - With the baby on your lap, brace the baby's head close to your body so the head stays still. Tilt the head back a little.
  - Put the medicine in the corner of the baby's mouth toward the back, along the side of the tongue. This makes it more difficult for the baby to spit it out. Give a little at a time to prevent choking and spitting.
  - Gently keep the baby's mouth closed until he or she swallows.
  - Never yell or show anger. Speak softly and say kind things.
  - When all the medicine is finished, hold the baby sitting up for a few minutes and cuddle and comfort him or her. Offer water or juice only after the procedure is finished.

Caregiver Education (Slide 2)

- Tips for giving medicines to older children (older than 2 years):
  - Keep trying different foods to cover the taste (juices, sweets, porridge).
  - Offer your child choices (type of food, spoon, drink).
  - Never ask if they want to take the medicine.
  - Some children do best when encouraged to take a deep breath and drink fast. Others take medicine a step at a time with a drink in between. Sometimes it helps to count for your child while he or she takes it.
  - Offer praise afterward.
  - Connect the medicine to feeling better, to the child's body working better, and to a desired activity or outcome.
  - Involve child in medication administration as appropriate to his or her level of understanding.

Caregiver Education (Slide 3)

- Troubleshooting for parents/caregivers:
  - Vomiting the medicine: Repeat the dose if the child vomits within 2 hours of taking the medicine.
  - Missing a dose: If the child misses a dose, give it as soon as remembered (up to 6 hours after the missed dose time for a twice-per-day medicine) and continue on the regular schedule. Do not give two doses at the same time.
  - Refusing the medicine: Let the child know that you understand that taking medicine is not fun. Do not threaten, punish, or yell. This will only make the situation worse and could make the child feel badly about him or herself.

Caregiver Education (Slide 4)

- Troubleshooting for parents/caregivers:
  - Mixing medicines with food or drinks:
    - Mix medicine in a small amount of food or liquid (porridge, clean water, juice).
    - Do not mix it with food that is essential to the child's diet (e.g., milk). The child may associate the bad taste with milk, and may refuse milk even if it does not contain medicine.
  - Keep trying new methods and don't give up.

Caregiver Education (Slide 5)

- Teach proper storage of drugs; for example:
  - which drugs to store in a cool place out of the sun
  - which drugs require refrigeration

Adolescent Adherence (Slide 1)

- Barriers to adolescent adherence:
  - disclosure issues
  - sexual development

- depression
- active alcohol/substance abuse
- peer pressure

Adolescent Adherence (Slide 2)

- Barriers to adolescent adherence:
  - fear
  - low self-esteem
  - misinformation
  - concrete thought process (thinking in absolute terms)
  - sense of invincibility—feeling that they can do anything and will never be harmed

Adolescent Adherence (Slide 3)

- Strategies to help adolescents with adherence to ART:
  - Help them with self-confidence and positive attitudes toward ART.
  - Help them practice with other drugs (vitamins, CTX) before starting ART.
  - Remind them to take drugs even if they are feeling well.
  - Develop a good, open relationship with them to encourage trust.
  - Be aware of issues of alcohol/substance use and/or depression.
  - Connect them with PLHA support group for their age group or other adolescents facing similar issues.





# SESSION 12: ASSESSING READINESS FOR ART

## SESSION 12: ASSESSING READINESS FOR ART

### PURPOSE

This session explores issues related to assessing patient readiness for ART including why it is important to determine readiness, why a patient may decide not to take ART, and how to respect a patient's decision not to start ART.

### OBJECTIVES

- Discuss why determining patient readiness is important prior to starting ART.
- List some considerations when assessing readiness.
- Determine how to respect a patient's decision not to start ART.
- Apply these concepts in role play about assessing patient readiness to start ART.

### CONTENT

Why Is Determining Patient Readiness Important before Starting ART? (Slide 1)

- ART is a lifelong treatment and we want to optimize the success of ART.
- ARVs have both short- and long-term side effects.

Why Is Determining Patient Readiness Important before Starting ART? (Slide 2)

- Stopping ART has implications for restarting treatment in the future (e.g., drug options, drug resistance).
- The patient may have difficulties or barriers that impact the beginning or restarting of treatment.

Considerations in Assessing Patient Readiness (Slide 1)

- What does the patient know about HIV? ART?
- What are the patient's attitudes and beliefs about HIV infection and ART?
- Has the patient disclosed his or her infection status and does he or she have social support?

- What difficulties or barriers exist for the patient that affect treatment initiation and continuation?
- How can these difficulties or barriers be managed?
- Most importantly, is the patient committed to *lifelong* treatment?

Respecting a Patient's Informed Decision Not to Begin Treatment (Slide 1)

- For patients who are not ready to begin treatment, counsel on the following topics:
  - Patient should make clinical visits, even when feeling well (once every 3 months if asymptomatic).
  - Patient should report new symptoms or any changes in health status as soon as possible.
  - Patient should continue to practice preventive behaviors.
  - Patients can change their mind about starting treatment and should come in for a clinical visit if they do so.
  - Patient can receive referrals to community services, if needed, during clinical visits.
  - Patient can join the activities of a PLHA support group based at the health facility and/or in the community.

Respecting a Patient's Informed Decision Not to Begin Treatment (Slide 2)

- It is important to use a nonjudgmental attitude.
- Give the patient all the information regarding potential consequences of his or her decision.
- Assess the patient's understanding of the information.
- Encourage the patient to make his or her own decision.
- Respect the decisions and assist patients in implementing a plan.
- Assist them when/if they change their mind.





# SESSION 13: NURSING MANAGEMENT OF ARV SIDE EFFECTS

## SESSION 13: NURSING MANAGEMENT OF ARV SIDE EFFECTS

### PURPOSE

This session focuses on the nursing management of the most common mild-to-moderate side effects associated with ARV drugs. It will also include guidance on home management, and which symptoms should be immediately evaluated for possible hospitalization.

### OBJECTIVES

- Understand patient education on side effects of ART.
- List common side effects of ART and patient education on how to manage them.
- Understand symptoms for immediate management and hospital admission.
- Apply nursing assessment and interventions for management of side effects of ART in a case study.

### CONTENT

Side Effects (Slide 1)

- All medicines can potentially cause side effects.
- These are unwanted effects of medicines that can vary from minor (nausea) to major (liver damage) and be temporary, last a long time, or be permanent.
- Not all side effects happen to all patients.
- Side effects are a concern because they can
  - interfere with drug adherence
  - lessen quality of life
  - cause long-term health conditions
  - be life threatening (in rare cases)

Side Effects (Slide 2)

- If patients experience side effects, they may not take their ART drugs appropriately.
- Nurses are a very important part of the clinical team to manage side effects.

Nursing Care of Side Effects

- Nursing care for side effects of ART includes
  - Assessing side effects experienced by the patient including their intensity, frequency, and effect on ADLs.
  - Interventions for side effects, including
    - monitoring patients for side effects
    - managing those side effects along with the patient and the rest of the clinical team
    - teaching patients and families how to manage mild side effects at home and which symptoms to report immediately to the health facility
    - providing immediate referrals for moderate and severe side effects

Monitoring Patient for Side Effects

- At all patient visits, ask about side effects.
- Ask if they are new or ongoing.
- For minor side effects, ask how the patient currently deals with them and suggest ways to manage them.
- For serious side effects, assist patient in getting immediate medical attention and hospital admission if needed.

Patients on ART and TB Drugs

- Patients taking both ART and TB drugs should be monitored for side effects including
  - abdominal pain

  - jaundice (yellowing of the skin)
  - numbness/tingling/pain in the hands and feet
- Patients should be referred for immediate medical attention if they are experiencing any of these symptoms.

Teaching Patients about Side Effects

- Remember: Adherence increases when the patient knows what to expect and how to manage side effects ahead of time, before they happen.
- Teach the patient about what side effects they may experience before they start taking ART.
- Tell them that they will be asked about side effects at each visit.
- Continue to teach about side effects after they start ART.
- Tell the patient and family how to manage minor side effects and how to recognize when they need medical attention.

Messages for Patients

- Side effects are symptoms that can occur when patients start ART.
- They usually become less intense or go away as the body gets used to ART. It may take up to six weeks, but may last longer.
- There are ways to manage many side effects at home, but some should be reported to the health facility.
- You will be asked to report any new side effects at each clinic visit and each meeting.
- Do not stop taking ART, even if you have side effects.

Symptoms for Immediate Management and Possible Hospitalization

- difficulty breathing/shortness of breath
- chest pain
- abdominal pain

- red rash that is intensifying, increasingly generalized, and that may occur with fever, blistering, and mucous membrane involvement (eyes, mouth)
- persistent vomiting (two to three days)
- persistent diarrhea (two to three days) +/– blood
- moderate or severe dehydration
- profound weakness (unable to walk or stand)
- moderate to severe numbness/tingling/burning in hands and feet
- severe headache with neck stiffness
- thoughts of suicide/increasing depression
- seizure

Note: Present the side effect, what the patient can do, and when the patient should seek help. Ask participants to share local home-management practices.

Patient education on mild to moderate side effects (Slide 1)

| Side effect | What a patient can do | When a patient should seek help/go to the clinic |
|---|---|---|
| Fatigue | Get up and go to bed at the same time each day.<br>Exercise.<br>Keep easy-to-prepare foods in the house. | The patient is too tired to eat or move.<br>The patient cannot swallow or eat enough to feel strong. |
| Headache | Rest in a quiet, dark place.<br>Place cold cloths on your eyes.<br>Rub the base of your head and your temples with your thumbs.<br>Take a warm bath.<br>Avoid coffee, tea, soft drinks, and foods with caffeine.<br>Take Paracetamol. | The patient's vision becomes blurry or unfocused.<br>Paracetamol does not relieve the pain.<br>Headaches are frequent or very painful.<br>The patient's neck is stiff. |

Patient education on mild to moderate side effects (Slide 2)

| Side effect | What a patient can do | When a patient should seek help/go to the clinic |
|---|---|---|
| Tingling or pain in feet and hands | Wear loose-fitting shoes and socks.<br>Keep feet uncovered in bed.<br>Walk a little, but not too much.<br>Soak feet in cold water.<br>Rub feet and hands. | The tingling does not go away or gets worse.<br>The pain is so intense the patient cannot walk. |
| Dry mouth | Rinse mouth with clean water and salt.<br>Suck on crushed ice or sip clean water.<br>Avoid sweets, soft drinks, and coffee. | The patient also has white or red spots on the tongue or in the mouth. |

Patient education on mild to moderate side effects (Slide 3)

| Side effect | What a patient can do | When a patient should seek help/go to the clinic |
|---|---|---|
| Diarrhea | Eat frequent, small meals.<br>Eat easy-to-digest foods: bananas, rice, and toast.<br>Avoid milk.<br>Don't eat spicy or greasy foods.<br>Peel fruits and vegetables before eating.<br>Drink lots of clean water and tea.<br>Take oral rehydration salts (ORS). | There is blood in the stool.<br>The patient has a fever.<br>The patient has more than four watery or soft bowel movements per day.<br>The patient is thirsty but cannot eat or drink properly. |
| Nausea, vomiting, and low appetite | Take ART drugs with food.<br>Eat frequent, small meals.<br>Eat bland foods (rice, porridge).<br>Take sips of tea or ORS until vomiting stops.<br>Don't eat greasy or spicy foods. | The patient has sharp stomach pains.<br>The patient also has a fever.<br>The patient is vomiting blood.<br>Vomiting lasts more than one day.<br>The patient is thirsty but cannot drink or eat. |

Patient education on mild to moderate side effects (Slide 4)

| Side effect | What a patient can do | When a patient should seek help/go to the clinic |
|---|---|---|
| Hair loss | Protect hair from damage. Don't dye, straighten, or plait.<br>Don't buy products that promise to grow hair back. | |
| Anemia | Increase foods such as fish, meat, chicken, spinach, asparagus, dark leafy greens, and lima beans. | The patient has been feeling tired for three to four weeks and it is worsening.<br>Both of the patient's feet are swelling. |

Patient education on mild to moderate side effects (Slide 5)

| Side effect | What a patient can do | When a patient should seek help/go to the clinic |
|---|---|---|
| Dizziness | Sit down until it goes away.<br>Avoid lifting anything heavy or moving quickly.<br>Take Efavirenz right before going to sleep.<br>Avoid driving a car, motorcycle, or bicycle when dizzy. | The dizziness lasts more than two weeks. |
| Unusual or bad dreams | Try to do something that makes you happy and calm right before going to sleep.<br>Avoid alcohol and street drugs.<br>Avoid food with a lot of fat. | If patient cannot sleep for three or more nights. |

Patient education on mild to moderate side effects (Slide 6)

| Side effect | What a patient can do | When a patient should seek help/go to the clinic |
|---|---|---|
| Feelings of sadness or worry | Talk about feelings with others (family, friends, or other PLHA). | The patient experiences intense sadness or very worrying thoughts.<br>The patient is thinking of harming himself.<br>The patient feels very aggressive or very scared. |
| Difficulty concentrating | Use reminders (notes to self or help from family members) for important tasks.<br>Allow extra time for activities. | |

Patient education on mild to moderate side effects (Slide 7)

| Side effect | What a patient can do | When a patient should seek help/go to the clinic |
|---|---|---|
| Skin rash | Keep the skin clean and dry.<br>Wash with unscented soap and water.<br>Use calamine lotion for itching.<br>Avoid hot baths or showers.<br>Avoid the sun. | Rash is accompanied by a 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. |





# SESSION 14: HELPING THE PATIENT UNDERSTAND AND ADHERE TO ART

## SESSION 14: HELPING THE PATIENT UNDERSTAND AND ADHERE TO ART

### PURPOSE

This session educates participants on how to help patients understand and adhere to ARVs. It includes guidance and specific messages for patient education before starting ART and throughout the life of the treatment. It also includes general information on adherence to ART including the importance of adherence, factors that affect adherence in terms of patients and healthcare providers, and intervention strategies to help patients achieve and maintain optimal adherence.

### OBJECTIVES

- Describe the importance of optimal adherence and the consequences when adherence is poor.
- Discuss factors affecting adherence in terms of patients and healthcare providers.
- Discuss important topics in patient education before starting ART including
  - goals of therapy
  - importance of practicing prevention
  - continuity of care
  - reasons for combination therapy
  - identification of barriers to care
  - ART drug information to discuss with patient
- Describe some adherence intervention strategies for patients before and after starting ART.

## CONTENT

What Is Adherence? (Slide 1)

- Adherence describe the patient's behavior of taking drugs correctly:
  - the right drug
  - the right dose
  - the right route
  - the right frequency
  - the right time
- Adherence also means the patient attends all scheduled clinical visits/procedures:
  - clinic appointments
  - lab tests
  - prescription refills

What Is Adherence? (Slide 2)

- Adherence involves a partnership between the patient and the healthcare team.
- A critical aspect of adherence is the patient's involvement in deciding whether to take the drugs. It is a decision patients make for their own health.
- Based on current scientific knowledge, ART has to be taken for life.

What Is Nonadherence?

- Nonadherence describes the patient's inability to take his or her drugs or attend scheduled clinical visits (including laboratory) in the prescribed manner.

What Is Special about ART and Adherence?

- Patients need to achieve 100 percent adherence to ART to keep the correct amount of drugs in their body to fight the virus.
- Poor adherence leads to drug resistance, increased viral load, increased sickness, and increased possibility of death.

- As a nurse, you can make a difference in the adherence of the patient by counseling, educating, and providing support for adherence.

Adherence: General Comments (Slide 1)

- Adherence is one of the key determinants of ART treatment success.
- Adherence may vary with life situations. Some patients may do well for a while, then have problems adhering to ART. So, adherence support and monitoring are important throughout the patient's life.
- Patients need to be supported, not blamed, punished, or made to feel guilty.

Adherence: General Comments (Slide 2)

- Working as a team is important: Many different cadres need to be involved including nurses, doctors, adherence counselors, pharmacists, pharmacy techs, adherence support workers (ASWs), and PLHA support group members.
- Several counseling sessions usually are necessary before a patient starts ART. (There is a lot of information for the patient to understand/digest and it is important to reinforce learning.)

Adherence: General Comments (Slide 3)

- It is important to involve a treatment supporter—a friend or family member chosen by the patient to help remember to take the drugs and keep clinic appointments.
- Being involved with a PLHA support group or PLHA treatment supporters can help with adherence.

What Is Resistance?

- If the ART drugs are not taken in the correct way, the virus can change so that it resists the action of the drugs (the drugs no longer stop HIV from reproducing itself):
  - The patient becomes sicker.
  - The resistant virus can be spread to others the same way nonresistant HIV spreads and drugs will not work on them either.

- An example of resistance comes from malaria: chloroquine was used to treat malaria for years, but now the parasite that causes malaria is not killed by choloroquine, and other drugs must be taken.

Why Don't People Take Their Drugs Correctly?

- Many people have studied adherence and found many factors that positively and negatively influence adherence:
  - related to the patient
  - related to the healthcare provider

Factors Affecting Adherence (Slide 1)

- What patient factors negatively influence adherence? These can also be called barriers:
  - side effects from ART (nausea, vomiting)
  - patient has not disclosed HIV status
  - lack of support structure
  - lack of transportation to the health facility
  - patient has difficulty with medication times (employment)
  - underlying depression
  - lack of understanding the need to adhere to ART
  - patient does not believe that ART works
  - lack of financial resources

Factors Affecting Adherence (Slide 2)

- What patient factors positively influence adherence?
  - ability to make pill-taking part of their routine and effective use of reminders
  - belief that the ARV drugs work
  - self-confidence (the patient feels he or she can do it)

- belief in treatment adherence
- patient readiness/commitment
- social support
- having a treatment supporter
- patient feels he or she is a needed part of his or her family or community

Factors Affecting Adherence (Slide 3)

- provider knowledge and skills about ART
- good skills in patient education and counseling
- providing medication alerts (e.g., charts, diaries, etc.)
- provider support for patient
- client comfort with and trust in the clinic healthcare staff
- consistent drug supply

Factors Affecting Adherence (Slide 4)

- What healthcare provider factors negatively affect (hinder) patient adherence?
  - negative attitudes toward patient's ability to adhere (not believing they "can do it")
  - neglecting to discuss and measure adherence

Factors Affecting Adherence (Slide 5)

- What are other factors that negatively affect adherence?
  - large number of pills have to be taken, including drugs for OI that may also have to be taken
  - frequency of doses (2 vs. 3 times per day dosing)
  - side effects (especially nausea/vomiting)
  - food restrictions

- drug interactions
- storage
- cost of services (e.g.,. lab tests, etc.)

Adherence Goals

- The goal is 100 percent adherence.
- Adherence is a learned skill.
- Patients need to be able to
  - commit to long-term treatment
  - understand the regimen
  - believe they can adhere
  - remember to take meds at right time
  - integrate regimen into their own lifestyle (e.g., meal times, prayers)
  - solve problems related to changes in schedule or routine

Patient Education Before Starting ART (Slide 1)

- Patients need some education before starting ART.
- There are important issues about ART that they need to understand to start and adhere to their ART regimen.
- Nurses need to understand these messages as well as know how to educate patients.
- Beginning ART is the just the beginning: the nurse's role in educating the patient about ART starts before treatment begins and continues throughout the patient's life.
  - Education should be continuous.

Patient Education Before Starting ART (Slide 2)

- Tips for educating patients:

- Know your patient's educational level, language, literacy level, and understanding of the topic.
- Ask patient what they know about the topic.
- Speak slowly and in simple terms.
- Check for understanding.
- Repeat information as needed.
- Use tools (charts, patient education materials) as appropriate to language and literacy level.

Pre-ART Messages (Slide 1)

- Goals of therapy:
  - suppressing the virus
  - improving the immune system
- ART is not a cure, but it enables HIV to be managed as a chronic disease and enables the patient to have increased quality of lfe.

Pre-ART Messages (Slide 2)

- Continue preventive behaviors:
  - ART does not prevent transmission of the virus.
  - Ongoing prevention is essential to avoid transmitting the virus to spouse/partner and reinfection.

Pre-ART Messages (Slide 3)

- ARV treatment program, continuity of care:
  - developing a long-term partnership between the patient and the healthcare team
  - regular visits for clinical monitoring
  - adherence: medications, clinical monitoring
  - laboratory investigations

Pre-ART Messages (Slide 4)

- reasons for combination therapy: why at least three drugs are prescribed
- importance of adherence

Pre-ART Messages (Slide 5)

  - Identify any difficulties or barriers that may affect the patient taking the medications consistently and keeping medical appointments.
  - Help them make a plan for success in adherence (e.g., choosing a treatment supporter; joining a PLHA support group).
  - Discuss delay of initiation of ART if appropriate.
  - Discuss benefits of working with a treatment supporter.

Pre-ART Messages (Slide 6)

- Tell them what to do if they miss a dose.
  - Rules for missing doses:
    - If you miss a dose, take the dose as soon as you remember, but not if it is almost time for your next regular dose. *Never take a double dose*.
    - If the drug is taken twice a day: the missed dose can be taken up to, but no more than, 6 hours late.
    - For example, the normal dose is taken at 7 AM; the missed dose can be taken up to 1 PM.

Pre-ART Messages (Slide 7)

- Educate the patient about ART in general.
  - What they should expect after taking the drugs:
    - increase in functional status
    - weight gain
    - increased energy

- decreased infections
- possible side effects
- possible drug interactions

Pre-ART Messages (Slide 8)

- Educate about each of the antiretroviral drugs prescribed:
  - name
  - dose
  - schedule
  - food restrictions
  - major side effects: which ones to report to the health facility immediately and strategies for the ones that they can safely manage at home

After Starting ART: In General (Slide 1)

- Discuss adherence at every visit.
- Ask specifically about new symptoms or a change in health status.
- Reinforce education on HIV and ART.
- Assess adherence.

After Starting ART: In General (Slide 2)

- If patients miss doses:
  - Get specific information about missed doses.
  - Work with patients to determine why they encountered problems and which specific strategies could work for their lifestyle
  - If the patient has a treatment supporter, also work with the treatment supporter to assist the patient in taking the medications as prescribed.
  - Reinforce importance of adherence.

Strategies for Helping Patients with Adherence (Slide 1)

- Create comfortable atmosphere for patients to ask questions.
- Use simple terms and visual aids if available.
- Provide a nonjudgmental, trusting environment, ask questions and listen to answers.

Strategies for Helping Patients with Adherence (Slide 2)

- Make no assumptions: Ask all patients about adherence in the same way.
  - For example, "Sometimes it is difficult to take medications on time. Have you missed any pills since your last appointment?," or "Why do you think you were unable to take your pills on time?"

Strategies for Helping Patients with Adherence (Slide 3)

- Ask open-ended questions such as "Which doses did you miss?"
- Enhance self-confidence of patients: they can be successful in taking ART.
- Help patient identify reminders and strategies (daily activity link, pill box, blister pack, diary, calendar, directly observed [DOT]).

Strategies for Helping Patients with Adherence (Slide 4)

- Discuss the role of social support:
  - participation in a PLHA support group
  - involvement of a treatment supporter (family member, friend, or PLHA support group member selected by the patient to support the patient's adherence)
  - home visits by an adherence support worker (ASW), a layperson who assists the health facility clinical staff by providing psychosocial and adherence support to patients
  - referral to home-based care (HBC)

Strategies for Helping Patients with Adherence (Slide 5)

- Discuss treatment topics with patient and treatment supporter (if involved):
  - goals of treatment, disclosure issues (who will patient disclose to and how will they do it?)
  - ways the treatment supporter will help the patient
  - basic drug information, reason for treatment
  - importance of adherence, consequences of nonadherence
  - timing of medications, drug interactions, side effects

Strategies for Helping Patients with Adherence (Slide 6)

- Identify potential barriers to adherence and support systems.
  - Refer to services to help address barriers (transportation, financial, food support, etc.).
- Tailor treatment to patient's lifestyle and routine.
  - For example, cue ART dosing to regular daily events such as meals or prayers or set out specific places and times for taking medications.

Strategies for Helping Patients with Adherence (Slide 7)

- Plan ahead for changes in routine such as travel.
- Prepare patient for side effects and help the patient learn how to manage side effects.
- Tell patient what to do if he or she misses a dose.

For Patients Who Transfer from Another ART Site

- With patients who have started ART at another site and have transferred to your site to continue ART:
  - Don't assume they know everything about ART and adherence already.
  - Assess their prior adherence and knowledge about ART/adherence just as you would a new patient and educate as appropriate.
  - Assist them in adhering to the strategies previously listed.





# SESSION 15: ARV REGIMEN CHANGE

## SESSION 15: ANTIRETROVIRAL REGIMEN CHANGE

### PURPOSE

This session helps participants understand why an ARV regimen may need to be changed and the appropriate nursing interventions when a regimen is changed including patient education, psychological, and adherence support.

### OBJECTIVES

- List reasons why an ARV regimen may need to be changed.
- Understand the patient education required for a regimen change.
- Discuss adherence and psychological support needed for a regimen change.

### CONTENT

Changing an ARV Regimen

- Why is it necessary to change an ARV regimen?
  - toxicity
  - treatment failure

Toxicity (Slide 1)

- One drug in an ARV drug regimen should be changed when a patient experiences an intolerable, severe, or life-threatening side effect from that drug.
  - One patient may find a side effect tolerable while another patient can tolerate it.
  - For example, fat redistribution may bother some patients and not bother others.
- The offending drug should be stopped and replaced with another drug from the same class (the replacement drug should not have the same side effects).

Toxicity (Slide 2)

- For example, if a patient experiences severe anemia (Hgb <6.5) when on AZT (NRTI), a substitution of TDF, d4T or ABC can be made (all are NRTIs).
- The selection of the new drug is dependent on several variables, including the side effects, drug interactions, and availability of the other drugs in the class.

Nursing Considerations for Toxicity (Slide 1)

- What to do:
  - Stop current regimen.
  - Change offending drug.
  - Educate patient on change.

Nursing Considerations for Toxicity (Slide 2)

- A change of ARV regimen:
  - Stop current regimen.
  - Change offending drug.
- Patient education:
  - name of each drug
  - dose of each drug
  - schedule for each drug
  - food restrictions (if any)
  - side effects of each drug and how to manage

Nursing Considerations for Toxicity (Slide 3)

- Adherence counseling:
  - adhering to the drugs
  - adhering to the clinical monitoring schedule

Treatment Failure

- Treatment failure is defined as when the virus has become resistant to the drugs, which are no longer able to control the replication of the virus. In that instance, the whole regimen will be changed and the patient will be put on "second-line therapy."
  - Treatment failure can be measured three ways:
    - › clinical failure

    - › immunologic failure
    - › virologic failure
  - When resources permit, all three measurements should be considered when deciding to change ART.

Note: Clinical examination, consultation with the patient, and laboratory investigations can determine why the ART regimen is failing (type of failure). The new treatment can be chosen depending on the type of failure.

Types of Treatment Failure (Slide 1)

- Clinical failure:
  - disease progression that occurs even though the ARVs have had sufficient time to promote improvement of the immune system (6–12 months)
  - development of a new or recurrent WHO stage 3 or 4 condition (referred to as T staging, where T refers to the staging event on treatment)

Caution: Immune reconstitution inflammatory syndrome (IRIS) should be ruled out if a patient has been on treatment less than six months. IRIS is caused by the strengthened immune system mounting a response to a previous infection and should be managed by continuing ART, treating the infection, and administering corticosteroids.

Types of Treatment Failure (Slide 2)

- Immunologic failure:
  - a return to, or a fall below, the pre-therapy CD4 baseline after six months of therapy
    OR
  - a 50 percent decline from the on-treatment peak CD4 value (if known)
    OR
  - CD4 count below 100 cells/$mm^3$ after six months of therapy

Types of Treatment Failure (Slide 3)

- Virologic failure:
  - A plasma HIV-1 RNA level (viral load) above 10,000 copies/ml in a person who has been on a regimen for more than six months and in whom drug adherence is determined to be sufficient.
- Testing for viral load is not yet widely available.

Reasons for Treatment Failure

- The strength (potency) of the ARVs is no longer sufficient.
- The amount of drug(s) in the patient's system is not sufficient (inadequate absorption).
- Poor adherence.
- A suboptimal regimen of drugs.
- Interactions with other drugs reduces strength or absorption.

Nursing Considerations (Slide 1)

- A change of ARV regimen:
  - Stop current regimen.
  - The new drugs (possibly from a new class), require more patient education and different monitoring.
- Patient education:
  - name of each drug
  - dose of each drug
  - schedule for each drug
  - food restrictions (if any)
  - side effects of each drug and how to manage

Nursing Considerations (Slide 2)

- Adherence counseling:
  - adhering to the drugs
  - adhering to the clinical monitoring schedule
- Psychological support:
  - the patient's reaction to the failure of the previous regimen, including possible reasons for the failure (e.g., Was it my fault? Did the doses I missed cause the failure?)
  - the need for a combination of new drugs

Nursing Considerations (Slide 3)

- Optimizing the success of the regimen.
  - Work with the patient and family to identify strategies and resources that will support the patient with the new regimen.





# COURSE WRAP-UP AND EVALUATION

## COURSE WRAP-UP AND EVALUATION

### PURPOSE

This session wraps up the training by reviewing the goals and assessing participants' learning with the post-training knowledge assessment.

### OBJECTIVES

- Review goals from beginning of course.
- Assess which goals were and were not met.
- Provide feedback on the training via the training evaluation form.

# REFERENCES


Adler, M.W. *ABC of AIDS*. 5th ed. London: BMJ Books, 2001. Accessed 28 Aug. 2006 at www.geradts.com/anil/ij/vol_003_no_002/reviews/tb/page001.html.

African Network for the Care of Children Affected by AIDS (ANNECA). *Handbook on Paediatric AIDS in Africa*. Kampala: Regional Centre for Quality of Health Care, 2006.

AIDS Institute, New York State Department of Health. Promoting Adherence to Antiretroviral Therapy. 2004. Accessed 4 May 2005 at www.hivguidelines.org/public_html/center/best-practices/best-practices.shtml.

Anderson, J. *A Guide to the Clinical Care of Women with HIV*. Rockville, Md.: AIDS treatment Information Service, 2001.

Bartlett, J. and J. Gallant. *HIV Guide*. Baltimore: Johns Hopkins, 2006. Accessed 18 August 2006 at www.hopkins-hivguide.org/.

Brighton Health Care NHS Trust. HIV Triage Document. 2001. Accessed 10 Aug. 2006 at www.nhivna.org.uk.

Center for Palliative Care Education. *Palliative Care for People with HIV/AIDS*. Seattle: University of Washington, 2005. Accessed at http://depts.washington.edu/pallcare/training.

Family Health International. *Standard Operating Procedures for Antiretroviral Therapy*. Arlington, Va.: Family Health International, 2005–06.

Frank, L., and H. Miramontes. *AIDS Education and Training Center Adherence Curriculum Principles*. 1997. Accessed 4 May 2005 at http://hivinsite.ucsf.edu/InSite?page=md-rr-04&doc=md-rr-04-01.

Holistic Online. *Guided Imagery or Visualization*. 2006. Accessed 3 Aug. 2006 at www.holisticonline.com/Stress/stress_visualization.htm.

Hunt, J., R. Martin, S. Mkwananzi, and C. Horne, eds. *A Home-Based Approach to Helping Seriously Sick Children and Their Families: The Southern Africa Training Guide for Palliative Care of Children Living with HIV and Other Life-Threatening Illnesses*. Arlington, Va.: Family Health International, 2005.

Kalichman, Gueritault-Chalvin, Demi. Sources of Occupational Stress and Coping Strategies Among Nurses Who Work in AIDS Care. *Journal of the Association of Nurses in AIDS* 11 (3): 2000.

Kidd, R., S. Clay. *Understanding and Challenging HIV Stigma: Toolkit for Action*. Washington, DC: CHANGE Project, 2003.

Kirton, C. *ANAC's Core Curriculum for HIV/AIDS Nursing*. Thousand Oaks, Calif.: Sage Publications, 2003.

Kirton, C., D. Talotta, K Zqolski K. *Handbook of HIV Nursing*. Oxford, England: Mosby, 2001.

McGilvray, M. and N. Willis. *All About Antiretrovirals. A Nurse Training Program Trainers Manual*. London: NAM, 2004. Accessed 10 Aug. 2006 at www.aidsmap.com/en/toolkit.

Miramontes, H. *HIV/AIDS Antiretroviral Medications: Train the Trainer Curriculum for Nurses in Low Resource Countries*. Rockville, Md.: US Department of Health and Human Services, 2002.

O'Neill, J., P.A. Selwyn, and H. Schietinger, eds. *A Clinical Guide to Supportive and Palliative Care for HIV/AIDS*. Rockville, Md.: US Department of Health and Human Services, 2003.

Piwoz, E. and E. Preble. *HIV/AIDS and Nutrition: A Review of the Literature and Recommendations for Nutritional Care and Support in Sub-Saharan Africa*. 2000.

US National Institutes of Health (NIH). *Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection*. Rockville, Md.: NIH, 2005. Accessed 5 May 2005 at www.aidsinfo.nih.gov/guidelines/pediatric/PED_032405.pdf.

WHO/UNAIDS/UNICEF. *Infant Feeding Guidelines*. 2006. Accessed 8 Aug. 2006 at www.unicef.org/nutrition/index-24811.html.

WHO. Infant feeding counseling flyers. 2006. Accessed 9 Aug. 2006 at www.who.int/child-adolescent-health/publications/nutrition/HIV_IF-CT.htm.

WHO. Guidelines on Cotrimoxazole Prophylaxis for HIV-Related Infections among Children, Adolescents and Adults in Resource-Limited Settings. Recommendations for a Public Health Approach. Geneva: WHO, 2006.

WHO. Antiretroviral Therapy of HIV Infection in Infants and Children in Resource-Limited Settings: Towards Universal Access. Recommendations for a Public Health Approach. Geneva: WHO, 2006.

WHO. Antiretroviral Therapy of HIV Infection in Adults and Adolescents in Resource-Limited Settings: Towards Universal Access. Recommendations for a Public Health Approach. Geneva: WHO, rev. 2006.

WHO. Antiretroviral Drugs for Treating Pregnant Women and Preventing HIV Infection in Infants in Resource-Limited Settings: Towards Universal Access. Recommendations for a Public Health Approach. Geneva: WHO, rev. 2006.

WHO WHO Definition of Palliative Care. 2002. www.who.int/cancer/palliative/definition/en/.

Wong, D.L. and C.M. Baker. FACES Pain Rating Scale. 1991. Accessed 6 Sept. 2006 at www.mosbysdrugconsult.com/WOW/faces.html.

## Internet Resources for more information

Pediatric HIV news and statistics: www.pedaids.org

Resources for training and practice for women and children with HIV: http://womenchildrenhiv.org/

Treatment and research news: http://aidsinfo.nih.gov

Patient education and drug information: www.aidsmeds.com

Patient education and advocacy information: www.projectinform.org

Treatment guidelines: www.hopkins-hivguide.org, www.who.int/topics/hiv_infections/en/, www.aids-ed.org/

# ESSENTIAL DRUG LIST

Select Essential Drugs for HIV Care of Adult and Children 5 Years and Older

All dosing is oral except where noted

| DRUG | INDICATION | DOSING BY AGE/WEIGHT<br>14 yrs of more 5 yrs to 14 yrs<br>(> 50 kg) (19-50 kg) | |
|---|---|---|---|
| **Respiratory Conditions** | | | |
| Amoxicillin | Respiratory infections/ Pneumonia | 500 mg 8 hourly for 7–10 days | 250 mg 8 hourly for 7-10 days |
| Azithromycin | Respiratory infections/ Pneumonia | 500 mg daily for 5–10 days | 12 mg/kg daily for 5 days |
| Cotrimoxazole (trimethoprim + sulphamethoxazole | Pneumocystis carinii pneumonia | 2 DS tablets (160 mg + 800 mg) every 8 hrs for 21 days | 20 mg/kg of trimethoprim every 6 hrs for 21 days |
| Erythromycin | Respiratory infections/ Pneumonia | 500 mg every 6 hrs for 5 days | 250 mg every 6 hrs for 5 days |
| Penicillin VK (oral) | Pneumonia | 500 mg every 8 hrs for 5 days | 500 mg every 8 hrs for 5 days |
| **Mouth, esophagus, systemic fungal infections** | | | |
| Acyclovir | Herpes simplex | 200 mg 5 times daily for 7 days | |
| Chlorexadine mouthwash | Periodontal disease | | |
| Clotrimazole | Oral candidiasis | 10 mg oral troche 5 times daily for 7–14 days | |

| | | | |
|---|---|---|---|
| Fluconazole<br>*Do not use during pregnancy* | Oropharyngeal candidiasis<br><br>Esophageal candidiasis | 200 mg daily for 10–14 days<br><br>400 mg daily for 14–21 days | <br><br>3–6 mg/kg once daily for 10–14 days |
| Nystatin | Oral candidiasis | 1–2 lozenges 100,000 IU 4 to 5 times daily for 7–14 days (or 4–6 ml of 500,000 IU suspension gargled every 6 hrs for 7–14 days) | 1 million U in divided doses every 6 hrs |
| Promethazine | Nausea, vomiting (also itching) | 12.5 mg every 6 hrs until symptoms are controlled | 5 to 12.5 mg every 8 hrs until symptoms are controlled |
| **GI Conditions** | | | |
| Albendazole | Antihelminth; microsporidiosis | 400 mg every 12 hrs | |
| Ciprofloxacin | Dysentery | 500 mg every 12 hrs for 7–14 days | 250 mg |
| Cotrimoxazole | Diarrhea | 160 mg/800 mg | |
| Loperamide | Diarrhea | 4 mg one time, then 2 mg after each loose stool (up to 16 mg/day) | |
| Metronidazole | Diarrhea | 500 mg every 12 hrs for 7 days | 250 mg |
| Nalidixic acid | Dysentery | | |

| | | | |
|---|---|---|---|
| ORS | Dehydration | (1 litre of clean water + 8 teaspoons of sugar + 1 teaspoon of salt, well mixed) | |
| **Skin Conditions** | | | |
| Acyclovir | Herpes zoster | 800 mg 5 times daily for 10 days | 30 mg/ kg/day in divided doses every 8 hrs for 7 days |
| Benzl benzoate 25% | Scabies | Apply at night, wash off in morning; repeat 3 times | Dilute: 1:1; apply for 12 hrs |
| Diphenhydramine | | | |
| Ketaconazole shampoo | | | |
| Lindane shampoo/lotion | Scabies | | |
| **Sexually Transmitted Infections** | | | |
| Acyclovir | Genital herpes | 400 mg every 8 hrs for 10 days | |
| Amoxicillin | Chlamydia | 500 mg every 8 hrs for 7 days | |
| Benzathine benzylpenicillin | Syphilis<br>Early stage (< 1 yr)<br><br>Latent or > 1 yr | <br>2.4 MU IM single dose<br>2.4 MU IM weekly for 3 wks | |
| Ceftriaxone<br>Safe to use in pregnancy | Gonorrhoea | 125 mg IM | |
| Ciprofloxacin<br>Do not use in pregnancy | Chancroid; gonorrhoea;<br><br><br>GC/chlamydia | 500 mg every 12 hrs for 7 days<br>500 mg 1 dose plus doxyclycline | 250 mg |

| | | | |
|---|---|---|---|
| Clotrimazole | Vulvo-vaginal candidiasis | 500 mg vaginal pessary single dose at night for 7–10 nights | |
| Doxycycline | Lymphogranuloma venereum | 100 mg every 12 hrs for 14 days | 100 mg every 12 hrs for 14 days |
| Erythromycin | Chancroid<br><br>Chlamydia | 500 mg every 6 hrs for 7 days<br><br>500 mg every 6 hrs for 7 days | 250 mg every 6 hrs for 7 days<br><br>250 mg every 6 hrs for 7 days |
| Fluconazole<br>*Do not give during pregnancy* | Candida vaginitis | 200 mg on first day, then 100 mg daily for 10 days | |
| Metronidazole | Bacterial vaginosis or trichomoniasis | 250 mg 2 tabs every 12 hrs for 7 days | |
| Miconazole 2% cream | Vaginal candidiasis; tinea | Apply cream twice daily; best results with 2-4 wks use | Apply cream twice daily; best results with 2–4 wks use |
| **Analgesia** | | | |
| Amitriptylline | Peripheral neuropathy | 25–50 mg at night | Adoles-cents: 20 mg at night, slowly increase to 50 mg as needed |

| | | | |
|---|---|---|---|
| Codeine Sulphate | Moderate pain | 30 mg every 3–6 hrs | 0.5–1 mg/kg every 4 to 6 hrs (up to 4 times daily), max 60 mg/dose |
| Ibuprofen | Mild to moderate pain | 400 mg 3 to 4 times daily (not to exceed 3,600 mg/day) | 200 mg every 6 to 8 hrs; increase to 300 mg for 32–43 kg, then use adult dose |
| Morphine | Moderate to severe pain | 30 mg every 3-4 hrs; increase dose until pain is controlled | 0.3 mg/kg every 3–4 hrs |
| Paracetamol | Mild pain<br>Fever | 500 mg every 4 to 6 hrs (not to exceed 4g per day) | 15 mg/kg/dose every 6 to 8 hrs |

Nurses provide life-saving and life-enriching care throughout the world. Often they are the first provider—or even the primary provider—for patients with HIV. While medically focused trainings provide a valuable service to the doctors in HIV care, nurses need training geared to their competencies and roles. To equip nurses in resource-limited areas with this specialized training, Family Health International has developed Nursing Care of Patients with HIV/AIDS. This curriculum is intended for nurses working in facilities ranging from the primary-level health center to the tertiary-level hospital who work in a variety of roles to provide care to those with HIV. As education levels and experience vary, the curriculum was designed to be comprehensive: it includes 15 modules, a facilitator's guide, and a participant's guide. Thus, the length of the course can be tailored to fit individual needs.

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