Strengthening Interprofessional Education for HIV

Module 22

Advanced HIV Disease (AHD) in the Outpatient Setting

Learner Guide

OVERVIEW

Goal

The goal of this module is to prepare learners to provide high-quality care to patients with advanced HIV disease (AHD) in the outpatient setting.

Objectives

1. By the end of the module, the learner will be able to:
2. Utilize WHO guidelines to provide a package of preventative medications to patients with AHD
3. Diagnose and treat malnutrition in a patient with AHD
4. Provide psychosocial support to a patient with AHD who has been newly diagnosed
5. Manage a patient with AHD and respiratory symptoms within the scope of your profession
6. Describe the referral process for a patient with AHD who needs to be transferred to a higher level of care
7. Describe an approach to renal impairment in a patient with AHD
8. Conduct a gap analysis to outline a plan for improving care transitions from a hospital to a clinic in your setting (QI)

PEPFAR HRSA Health Resources & Services Administration UCSF Institute for Global Health Sciences AFRE health African Forum for Research and Education in Health

Workshop Roadmap

Duration: 120 minutes

Duration	Activity	Content
5 min.	Introduction	Ice-breaker activity
20 min.	1. Small group discussion / Teach back	Preventative medicine in AHD
15 min.	2. Small group discussion	Malnutrition in AHD
15 min.	3. Role play	Psychosocial support in AHD and new HIV diagnoses
15 min.	4. Small group discussion	Initial management of a patient with AHD and respiratory symptoms
15 min.	5. Partner work / Discussion	Initiating the referral process of a patient with AHD that needs higher level of care
20 min.	6. Small group discussion	Approach to renal impairment in a patient with AHD
15 min.	7. Large group work	Gap analysis (QI)
5 min.	Conclusion	

Workshop Setup

Additional learner materials

- Advanced HIV Disease Section excerpts from the 2021 WHO Consolidated HIV Guidelines
- Module 22 - Pre-reading intro
    - WHO 2021 Consolidated HIV Guidelines - Package of Services Excerpt
    - WHO Fact Sheet – Malnutrition
    - SAHCS 2022 Adult AHD Guidelines - Chapter 2

Abbreviations

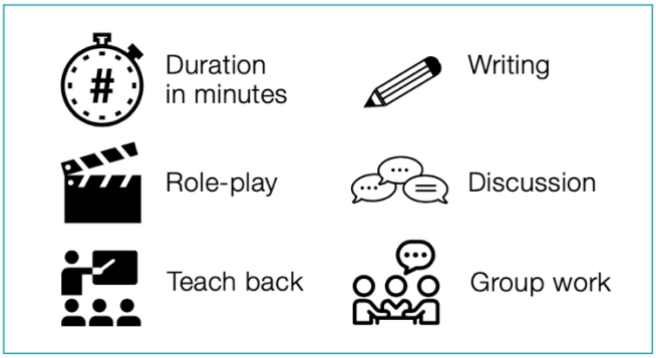
AIDS Acquired Immune Deficiency Syndrome
ABC Abacavir
AFB Acid fast bacilli
AHD Advance HIV Disease
ALM Additional learner material AIDS Acquired Immune Deficiency Syndrome
ART Anti-retroviral therapy
AZT Zidovudine
BMI Body mass index
BPH Benign prostatic hypertrophy
C Celsius
CBC Complete blood count
CCM Cryptococcal meningitis
CMV Pulmonary cytomegalovirus
Cr Creatinine
CrCl Creatinine clearance
DTG Dolutegravir
eGFR estimated glomerular filtration rate FENa fractional excretion of sodium
HIV Human immunodeficiency virus HIV-AN HIV-associated nephropathy
RZE Isoniazid, ridampicin, pyrazinamide, erhambutol
HSV Herpes simplex virus
IPC Interprofessional collaboration
IRIS Immune reconstitution inflammatory syndrome
IV Intravenous fluid
LDH lactate dehydrogenase
MAC Mycobacterium avium-intracellulaire O2 Oxygen
OI Opportunistic infection
PCC Post COVID-19 Condition or Long COVID
QI Quality improvement
RBCs Red blood cells
SBAR Situation, Background, Assessment, Recommendations
TB Tuberculosis
TLD Co-formulated tenofovir, lamivudine, and dolutegravir
VZV Varicella zoster
WBCs White blood cells
WHO World health organization

TEACHING CONTENT WITH OBJECTIVES & ANSWER KEY

Introduction

Welcome to Module 22 - Advanced HIV Disease in the Outpatient Setting. The goal of this module is to prepare learners to provide high-quality care to patients with advanced HIV disease in the outpatient setting, through a case and a series of activities. These activities cover the common scenarios you may encounter while taking care of outpatient adults with advanced HIV disease (AHD).

Activity Components



Case: Makena is 25-year-old woman, recently diagnosed with HIV, who is establishing care at your clinic. On review of laboratory data, she has a CD4 cell count of 65 cells/mm3, an HIV viral load of 150,000 copies/mL. She does not seem to be in distress or have signs/symptoms of opportunistic infections, but she does appear malnourished

ACTIVITY 1

Utilize WHO guidelines to provide a package of preventative medications to patients with AHD.

What TB treatment should adults receive if they have no signs or symptoms of TB? Use Figure 5.1 and the last four pages of excerpt from the 2021 WHO guidelines in Additional Learner Materials to answer this question.

How should patients be evaluated for cryptococcal disease if they have no signs or symptoms of cryptococcal meningitis? What is the approach if cryptococcal antigen testing is available? What if it is not available? Use Figure 5.1, Box 5.1 and Table 5.4 in the Additional Learner Materials to answer this question.

Who should start cotrimoxazole prophylaxis? When can prophylaxis be stopped? Use Figure 5.1 and Table 5.4 to answer this question.

Who should be offered rapid ART initiation or re-initiation? Who should not be offered immediate ART? How does the approach differ if a patient has been previously treated but then stopped? Use Figure 5.1 to answer this question.

ACTIVITY 2

Diagnose and treat malnutrition in a patient with AHD.

On your exam, Makena is evidently malnourished. Her height is 160cm and her weight is 44.9kg. On further questioning, she tells you that she has been unintentionally losing weight. She notes that her appetite is poor and she does not always have access to food.

Does Makena have malnutrition, specifically undernutrition? How do you make a diagnosis of undernutrition? What are some of the causes of undernutrition in AHD?

How do you manage undernutrition in adults with AHD?

ACTIVITY 3

15

Provide psychosocial support to a patient with AHD who has been newly diagnosed.

Makena mentions that she has been feeling quite depressed in the setting of her new HIV diagnosis which she thinks may have affected her appetite. She has occasional loose stools but no diarrhea, and she struggles financially to afford enough food for her and her family. She is screened for Ois, which are not detected. She is prescribed tenofovir-lamivudine-dolutegravir (TLD) for HIV and—based on the WHO package of services for AHD—isoniazid for TB prevention, fluconazole for cryptococcosis prevention (no Cryptococcus antigen testing is available), and co-trimoxazole for Pneumocystis and bacterial infection prevention.

Makena mentions that she feels particularly concerned for her health upon hearing that she has advanced disease and is afraid for her future. She also discloses to you that she is worried about sharing her diagnosis with her family and friends because she is concerned about the stigma around HIV and AIDS. Makena asks you if she should disclose her diagnosis to others and how she should do this.

How would you address Makena's questions about disclosure and stigma?

ACTIVITY 4

15

Manage a patient with AHD and respiratory symptoms within the scope of your profession

Five weeks after your initial encounter with Makena, she returns to your clinic for follow up. She tells you that since then she has started ART and isoniazid, but she was unable to obtain fluconazole and co-trimoxazole due to a pharmacy stockout. Her appetite initially improved and her weight is now 45.8kg. Over the last 10 days, however, she has been feeling short of breath and fatigued, and she has a new dry cough that is worsening. Her oxygen saturation on pulse oximetry is 89% on room air and her temperature is 38.1C. Her exam is notable for difficulty speaking in full sentences due to shortness of breath and bilateral crackles over the lung fields.

In small groups, list the differential diagnoses for respiratory distress and AHD (infectious and non-infectious).

ACTIVITY 5

Describe the referral process for a patient with AHD who needs to be transferred to a higher level of care.

Given the concern for Makena's respiratory status, her healthcare team decides to transfer her to the regional hospital for further evaluation and management. While awaiting transfer, Makena is started on co-trimoxazole for possible Pneumocystis, as well as additional antibiotics for bacterial pneumonia. Pulmonary TB and COVID-19 are also strong diagnostic considerations and respiratory precautions are initiated to try to prevent the spread of any respiratory infection to other patients and healthcare workers. Corticosteroids are considered for Pneumocystis pneumonia and HRZE for TB are also considered, but the decision is made to delay further therapies until a chest x-ray and further diagnostic studies can be performed.

How would you communicate with the receiving hospital so that they can best care for Makena when she arrives? Organize your communication around the SBAR (Situation, Background, Assessment, Recommendations) model for handoffs.

Describe an approach to renal impairment in a patient with AHD.

ACTIVITY 6

Upon arrival at the regional hospital, Makena is kept on supplemental oxygen, co-trimoxazole, and antibiotics for bacterial pneumonia. A diagnostic work up for respiratory distress is initiated with a chest x-ray, CBC, chemistries, LDH, TB tests (sputum for AFB stains and Gene Xpert), and testing for COVID-19. Makena's initial labs reveal an elevated creatinine to 2.1 mg/dL (from a baseline of 0.90 mg/dL).

In small groups, describe a differential diagnosis for renal dysfunction based on the three main categories of renal failure: pre-renal, renal, and post-renal. What causes may be most likely in Makena's case?

How would you calculate Makena's creatinine clearance (CrCl)? What diagnostic studies could you request to determine the cause and what initial management steps would you take?

ACTIVITY 7

Conduct a gap analysis to outline a plan for improving care transitions between clinics and hospitals in your setting (QI)

Makena's tuberculosis sputum tests are negative, her LDH is elevated and her chest x-ray returns with symmetric bilateral opacities consistent with Pneumocystis pneumonia. She is treated with co-trimoxazole and a prednisone taper. After 10 days in the hospital her oxygen levels normalize. Her CrCl worsened during the first few days in the hospital but is now improved to 50 mL/min. Makena is ready to be discharged back to her community with plans to complete a total of 21 days of co-trimoxazole (followed by continued prophylactic dosing) and a prednisone taper. Her ART was changed to abacavir (ABC), lamivudine (3TC), and dolutegravir (DTG) and this is continued with plans to follow her CrCl as an outpatient. Makena is also instructed to resume fluconazole and isoniazid prophylaxis. She is feeling overwhelmed by all of the medications and is worried about managing them at home.

Transitions in care (when patients move from a community clinic to the hospital or from the hospital back to community clinics) can lead to compromised care and medical errors. As a large group, conduct a gap analysis to identify 1) best practices, 2) current practices, and 3) barriers to best practice implementation for patient transitions from the hospital to community clinics for each of the topics below.

Topic	Best practice	Current practice	Barriers to best practice implementation
Securing medications	Giving patient meds and instructions before leaving the hospital		
Arranging follow-up appointments	Securing appointment before leaving the hospital and giving patient written info		
Communicating plan of care with clinic [also list what information should be communicated]	Written information +/- verbal signout		
Educating patient and/or family	Verbal explanation and written information in patient's preferred language		
Providing psychosocial support as needed	Will depend on identified needs		
Other:			

Conclusion 

References/Resources

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3. World Health Organization (WHO). Malnutrition Fact Sheet. https://www.who.int/news-room/ fact-sheets/detail/malnutrition. Accessed June 30, 2023.
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6. Nel J. South African HIV Clinicians Society Clinical Guidelines for Hospitalised Adults with Advanced HIV Disease 2022: Renal Impairment, pages 7-10.
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